API Reference

Amazon Elastic Compute Cloud

API Version 2016-11-15

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Amazon Elastic Compute Cloud: API Reference

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# Table of Contents

**Welcome** .............................................................................................................................................. 1  
**Actions by service** ................................................................................................................................. 3  
  Amazon EC2 actions ................................................................................................................................. 3  
  Amazon EBS actions ................................................................................................................................. 12  
  Amazon VPC actions ............................................................................................................................... 14  
  Amazon IPAM actions ............................................................................................................................. 19  
  AWS Network Manager actions ................................................................................................................ 20  
  AWS Transit Gateway actions ................................................................................................................ 21  
  AWS PrivateLink actions ......................................................................................................................... 24  
  AWS Client VPN actions ......................................................................................................................... 25  
  AWS Site-to-Site VPN actions ................................................................................................................. 26  
  AWS Verified Access actions .................................................................................................................. 27  
  AWS Outposts actions ............................................................................................................................ 29  
  AWS Wavelength actions ......................................................................................................................... 30  
  VM Import/Export actions .................................................................................................................... 30  
  AWS Nitro Enclaves ................................................................................................................................ 31  
  Recycle Bin ............................................................................................................................................ 31  
**Actions** .................................................................................................................................................. 32  
  AcceptAddressTransfer ........................................................................................................................... 53  
    Request Parameters ............................................................................................................................... 53  
    Response Elements ............................................................................................................................... 53  
    Errors .................................................................................................................................................... 54  
    See Also ............................................................................................................................................... 54  
  AcceptReservedInstancesExchangeQuote .............................................................................................. 55  
    Request Parameters ............................................................................................................................. 55  
    Response Elements ............................................................................................................................. 55  
    Errors .................................................................................................................................................... 56  
    See Also ............................................................................................................................................... 56  
  AcceptTransitGatewayMulticastDomainAssociations ............................................................................ 57  
    Request Parameters ............................................................................................................................. 57  
    Response Elements ............................................................................................................................. 58  
    Errors .................................................................................................................................................... 58  
    See Also ............................................................................................................................................... 58  
  AcceptTransitGatewayPeeringAttachment ............................................................................................. 59
<table>
<thead>
<tr>
<th>Function</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>AllocateNetworkCidr</td>
<td>84</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>84</td>
</tr>
<tr>
<td>Response Elements</td>
<td>86</td>
</tr>
<tr>
<td>Errors</td>
<td>86</td>
</tr>
<tr>
<td>See Also</td>
<td>87</td>
</tr>
<tr>
<td>ApplySecurityGroupsToClientVpnTargetNetwork</td>
<td>88</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>88</td>
</tr>
<tr>
<td>Response Elements</td>
<td>89</td>
</tr>
<tr>
<td>Errors</td>
<td>89</td>
</tr>
<tr>
<td>Examples</td>
<td>89</td>
</tr>
<tr>
<td>See Also</td>
<td>90</td>
</tr>
<tr>
<td>AssignIpv6Addresses</td>
<td>91</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>91</td>
</tr>
<tr>
<td>Response Elements</td>
<td>92</td>
</tr>
<tr>
<td>Errors</td>
<td>93</td>
</tr>
<tr>
<td>Examples</td>
<td>93</td>
</tr>
<tr>
<td>See Also</td>
<td>94</td>
</tr>
<tr>
<td>AssignPrivateIpAddresses</td>
<td>96</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>96</td>
</tr>
<tr>
<td>Response Elements</td>
<td>97</td>
</tr>
<tr>
<td>Errors</td>
<td>98</td>
</tr>
<tr>
<td>Examples</td>
<td>98</td>
</tr>
<tr>
<td>See Also</td>
<td>100</td>
</tr>
<tr>
<td>AssignPrivateNatGatewayAddress</td>
<td>101</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>101</td>
</tr>
<tr>
<td>Response Elements</td>
<td>102</td>
</tr>
<tr>
<td>Errors</td>
<td>102</td>
</tr>
<tr>
<td>See Also</td>
<td>102</td>
</tr>
<tr>
<td>AssociateAddress</td>
<td>104</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>104</td>
</tr>
<tr>
<td>Response Elements</td>
<td>106</td>
</tr>
<tr>
<td>Errors</td>
<td>106</td>
</tr>
<tr>
<td>Examples</td>
<td>106</td>
</tr>
</tbody>
</table>
See Also ................................................................................................................. 107
AssociateClientVpnTargetNetwork ................................................................. 108
   Request Parameters ......................................................................................... 108
   Response Elements ......................................................................................... 109
   Errors .............................................................................................................. 109
   Examples .......................................................................................................... 109
See Also ................................................................................................................. 110
AssociateDhcpOptions ....................................................................................... 111
   Request Parameters ......................................................................................... 111
   Response Elements ......................................................................................... 112
   Errors .............................................................................................................. 112
   Examples .......................................................................................................... 112
See Also ................................................................................................................. 113
AssociateEnclaveCertificateIamRole ................................................................. 114
   Request Parameters ......................................................................................... 114
   Response Elements ......................................................................................... 115
   Errors .............................................................................................................. 115
   See Also .......................................................................................................... 116
AssociateIamInstanceProfile ........................................................................... 117
   Request Parameters ......................................................................................... 117
   Response Elements ......................................................................................... 117
   Errors .............................................................................................................. 118
   Examples .......................................................................................................... 118
   See Also .......................................................................................................... 118
AssociateInstanceEventWindow ....................................................................... 120
   Request Parameters ......................................................................................... 120
   Response Elements ......................................................................................... 120
   Errors .............................................................................................................. 121
   See Also .......................................................................................................... 121
AssociatePamByoasn ......................................................................................... 122
   Request Parameters ......................................................................................... 122
   Response Elements ......................................................................................... 122
   Errors .............................................................................................................. 123
   See Also .......................................................................................................... 123
AssociatePamResourceDiscovery ................................................................. 124
   Request Parameters ......................................................................................... 124
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Elements</td>
<td>125</td>
</tr>
<tr>
<td>Errors</td>
<td>125</td>
</tr>
<tr>
<td>See Also</td>
<td>125</td>
</tr>
<tr>
<td>AssociateNatGatewayAddress</td>
<td>127</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>127</td>
</tr>
<tr>
<td>Response Elements</td>
<td>128</td>
</tr>
<tr>
<td>Errors</td>
<td>128</td>
</tr>
<tr>
<td>See Also</td>
<td>129</td>
</tr>
<tr>
<td>AssociateRouteTable</td>
<td>130</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>130</td>
</tr>
<tr>
<td>Response Elements</td>
<td>131</td>
</tr>
<tr>
<td>Errors</td>
<td>131</td>
</tr>
<tr>
<td>Examples</td>
<td>131</td>
</tr>
<tr>
<td>See Also</td>
<td>132</td>
</tr>
<tr>
<td>AssociateSubnetCidrBlock</td>
<td>133</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>133</td>
</tr>
<tr>
<td>Response Elements</td>
<td>133</td>
</tr>
<tr>
<td>Errors</td>
<td>134</td>
</tr>
<tr>
<td>Examples</td>
<td>134</td>
</tr>
<tr>
<td>See Also</td>
<td>135</td>
</tr>
<tr>
<td>AssociateTransitGatewayMulticastDomain</td>
<td>136</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>136</td>
</tr>
<tr>
<td>Response Elements</td>
<td>137</td>
</tr>
<tr>
<td>Errors</td>
<td>137</td>
</tr>
<tr>
<td>Examples</td>
<td>137</td>
</tr>
<tr>
<td>See Also</td>
<td>138</td>
</tr>
<tr>
<td>AssociateTransitGatewayPolicyTable</td>
<td>139</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>139</td>
</tr>
<tr>
<td>Response Elements</td>
<td>139</td>
</tr>
<tr>
<td>Errors</td>
<td>140</td>
</tr>
<tr>
<td>See Also</td>
<td>140</td>
</tr>
<tr>
<td>AssociateTransitGatewayRouteTable</td>
<td>141</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>141</td>
</tr>
<tr>
<td>Response Elements</td>
<td>141</td>
</tr>
<tr>
<td>Errors</td>
<td>142</td>
</tr>
<tr>
<td>See Also</td>
<td>142</td>
</tr>
</tbody>
</table>
Errors ........................................................................................................ 191
Examples ...................................................................................................... 191
See Also ........................................................................................................ 191
CancelReservedInstancesListing ................................................................. 193
Request Parameters ..................................................................................... 193
Response Elements ...................................................................................... 193
Errors ........................................................................................................... 194
See Also ........................................................................................................ 194
CancelCapacityReservationFleets ............................................................... 195
Request Parameters ..................................................................................... 195
Response Elements ...................................................................................... 195
Errors ........................................................................................................... 196
See Also ........................................................................................................ 196
CancelConversionTask .................................................................................... 197
Request Parameters ..................................................................................... 197
Response Elements ...................................................................................... 197
Errors ........................................................................................................... 198
Examples ...................................................................................................... 198
See Also ........................................................................................................ 198
CancelExportTask .......................................................................................... 200
Request Parameters ..................................................................................... 200
Response Elements ...................................................................................... 200
Errors ........................................................................................................... 200
Examples ...................................................................................................... 201
See Also ........................................................................................................ 201
CancellImageLaunchPermission ................................................................. 202
Request Parameters ..................................................................................... 202
Response Elements ...................................................................................... 202
Errors ........................................................................................................... 203
See Also ........................................................................................................ 203
CancelImportTask .......................................................................................... 204
Request Parameters ..................................................................................... 204
Response Elements ...................................................................................... 204
Errors ........................................................................................................... 205
See Also ........................................................................................................ 205
CancelReservedInstancesListing ................................................................. 206
Request Parameters ................................................................. 206
Response Elements ............................................................... 206
Errors ..................................................................................... 206
Examples ................................................................................. 207
See Also .................................................................................. 208
CancelSpotFleetRequests ......................................................... 210
Request Parameters ............................................................... 210
Response Elements ............................................................... 211
Errors ..................................................................................... 211
Examples ................................................................................. 211
See Also .................................................................................. 212
CancelSpotInstanceRequests .................................................... 213
Request Parameters ............................................................... 213
Response Elements ............................................................... 213
Errors ..................................................................................... 214
Examples ................................................................................. 214
See Also .................................................................................. 214
ConfirmProductInstance .......................................................... 216
Request Parameters ............................................................... 216
Response Elements ............................................................... 216
Errors ..................................................................................... 217
Examples ................................................................................. 217
See Also .................................................................................. 218
CopyFpgaImage ........................................................................ 219
Request Parameters ............................................................... 219
Response Elements ............................................................... 220
Errors ..................................................................................... 220
Examples ................................................................................. 220
See Also .................................................................................. 221
CopyImage ............................................................................... 222
Request Parameters ............................................................... 222
Response Elements ............................................................... 225
Errors ..................................................................................... 225
Examples ................................................................................. 225
See Also .................................................................................. 226
CopySnapshot ........................................................................ 227
<table>
<thead>
<tr>
<th>Method</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>CreateFleet</td>
<td>278</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>278</td>
</tr>
<tr>
<td>Response Elements</td>
<td>281</td>
</tr>
<tr>
<td>Errors</td>
<td>282</td>
</tr>
<tr>
<td>See Also</td>
<td>282</td>
</tr>
<tr>
<td>CreateFlowLogs</td>
<td>283</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>283</td>
</tr>
<tr>
<td>Response Elements</td>
<td>287</td>
</tr>
<tr>
<td>Errors</td>
<td>287</td>
</tr>
<tr>
<td>Examples</td>
<td>287</td>
</tr>
<tr>
<td>See Also</td>
<td>289</td>
</tr>
<tr>
<td>CreateFpgalImage</td>
<td>290</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>290</td>
</tr>
<tr>
<td>Response Elements</td>
<td>291</td>
</tr>
<tr>
<td>Errors</td>
<td>292</td>
</tr>
<tr>
<td>Examples</td>
<td>292</td>
</tr>
<tr>
<td>See Also</td>
<td>292</td>
</tr>
<tr>
<td>CreateImage</td>
<td>294</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>294</td>
</tr>
<tr>
<td>Response Elements</td>
<td>296</td>
</tr>
<tr>
<td>Errors</td>
<td>296</td>
</tr>
<tr>
<td>Examples</td>
<td>297</td>
</tr>
<tr>
<td>See Also</td>
<td>298</td>
</tr>
<tr>
<td>CreateInstanceConnectEndpoint</td>
<td>300</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>300</td>
</tr>
<tr>
<td>Response Elements</td>
<td>301</td>
</tr>
<tr>
<td>Errors</td>
<td>302</td>
</tr>
<tr>
<td>Examples</td>
<td>302</td>
</tr>
<tr>
<td>See Also</td>
<td>303</td>
</tr>
<tr>
<td>CreateInstanceEventWindow</td>
<td>304</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>304</td>
</tr>
<tr>
<td>Response Elements</td>
<td>306</td>
</tr>
<tr>
<td>Errors</td>
<td>306</td>
</tr>
<tr>
<td>See Also</td>
<td>306</td>
</tr>
<tr>
<td>CreateInstanceExportTask</td>
<td>308</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>308</td>
</tr>
<tr>
<td>API Call</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>CreateLaunchTemplate</td>
<td>335</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>335</td>
</tr>
<tr>
<td>Response Elements</td>
<td>336</td>
</tr>
<tr>
<td>Errors</td>
<td>337</td>
</tr>
<tr>
<td>Examples</td>
<td>337</td>
</tr>
<tr>
<td>See Also</td>
<td>338</td>
</tr>
<tr>
<td>CreateLaunchTemplateVersion</td>
<td>340</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>340</td>
</tr>
<tr>
<td>Response Elements</td>
<td>342</td>
</tr>
<tr>
<td>Errors</td>
<td>342</td>
</tr>
<tr>
<td>Examples</td>
<td>343</td>
</tr>
<tr>
<td>See Also</td>
<td>343</td>
</tr>
<tr>
<td>CreateLocalGatewayRoute</td>
<td>345</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>345</td>
</tr>
<tr>
<td>Response Elements</td>
<td>346</td>
</tr>
<tr>
<td>Errors</td>
<td>346</td>
</tr>
<tr>
<td>See Also</td>
<td>347</td>
</tr>
<tr>
<td>CreateLocalGatewayRouteTable</td>
<td>348</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>348</td>
</tr>
<tr>
<td>Response Elements</td>
<td>349</td>
</tr>
<tr>
<td>Errors</td>
<td>349</td>
</tr>
<tr>
<td>See Also</td>
<td>349</td>
</tr>
<tr>
<td>CreateLocalGatewayRouteTableVirtualInterfaceGroupAssociation</td>
<td>350</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>350</td>
</tr>
<tr>
<td>Response Elements</td>
<td>351</td>
</tr>
<tr>
<td>Errors</td>
<td>351</td>
</tr>
<tr>
<td>See Also</td>
<td>351</td>
</tr>
<tr>
<td>CreateLocalGatewayRouteTableVpcAssociation</td>
<td>352</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>352</td>
</tr>
<tr>
<td>Response Elements</td>
<td>353</td>
</tr>
<tr>
<td>Errors</td>
<td>353</td>
</tr>
<tr>
<td>See Also</td>
<td>353</td>
</tr>
<tr>
<td>CreateManagedPrefixList</td>
<td>354</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>354</td>
</tr>
<tr>
<td>Response Elements</td>
<td>355</td>
</tr>
<tr>
<td>Errors</td>
<td>356</td>
</tr>
</tbody>
</table>
CreateNetworkInterfacePermission .................................................................... 390
  Request Parameters .................................................................................. 390
  Response Elements .................................................................................. 391
  Errors ........................................................................................................ 391
  Examples ..................................................................................................... 391
  See Also ..................................................................................................... 392
CreatePlacementGroup .................................................................................. 393
  Request Parameters .................................................................................. 393
  Response Elements .................................................................................. 394
  Errors ........................................................................................................ 395
  Examples ..................................................................................................... 395
  See Also ..................................................................................................... 396
CreatePublicIpv4Pool ..................................................................................... 398
  Request Parameters .................................................................................. 398
  Response Elements .................................................................................. 398
  Errors ........................................................................................................ 399
  See Also ..................................................................................................... 399
CreateReplaceRootVolumeTask ...................................................................... 400
  Request Parameters .................................................................................. 400
  Response Elements .................................................................................. 401
  Errors ........................................................................................................ 402
  See Also ..................................................................................................... 402
CreateReservedInstancesListing ..................................................................... 403
  Request Parameters .................................................................................. 403
  Response Elements .................................................................................. 404
  Errors ........................................................................................................ 405
  Examples ..................................................................................................... 405
  See Also ..................................................................................................... 408
CreateRestoreImageTask ............................................................................... 409
  Request Parameters .................................................................................. 409
  Response Elements .................................................................................. 410
  Errors ........................................................................................................ 410
  See Also ..................................................................................................... 411
CreateRoute .................................................................................................... 412
  Request Parameters .................................................................................. 412
  Response Elements .................................................................................. 415
See Also .......................................................... 440
CreateSubnet .................................................. 442
  Request Parameters ........................................ 442
  Response Elements ....................................... 445
  Errors ...................................................... 445
  Examples .................................................. 445
  See Also .................................................. 448
CreateSubnetCidrReservation ............................. 450
  Request Parameters ........................................ 450
  Response Elements ....................................... 451
  Errors ...................................................... 451
  See Also .................................................. 452
CreateTags .................................................... 453
  Request Parameters ........................................ 453
  Response Elements ....................................... 454
  Errors ...................................................... 454
  Examples .................................................. 454
  See Also .................................................. 455
CreateTrafficMirrorFilter ................................. 456
  Request Parameters ........................................ 456
  Response Elements ....................................... 457
  Errors ...................................................... 457
  See Also .................................................. 457
CreateTrafficMirrorFilterRule ............................. 459
  Request Parameters ........................................ 459
  Response Elements ....................................... 461
  Errors ...................................................... 462
  See Also .................................................. 462
CreateTrafficMirrorSession ............................... 463
  Request Parameters ........................................ 463
  Response Elements ....................................... 465
  Errors ...................................................... 466
  See Also .................................................. 466
CreateTrafficMirrorTarget ................................. 467
  Request Parameters ........................................ 467
  Response Elements ....................................... 468
<table>
<thead>
<tr>
<th>API</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Elements</td>
<td>551</td>
</tr>
<tr>
<td>Errors</td>
<td>551</td>
</tr>
<tr>
<td>Examples</td>
<td>551</td>
</tr>
<tr>
<td>See Also</td>
<td>553</td>
</tr>
<tr>
<td>CreateVpcPeeringConnection</td>
<td>555</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>555</td>
</tr>
<tr>
<td>Response Elements</td>
<td>556</td>
</tr>
<tr>
<td>Errors</td>
<td>557</td>
</tr>
<tr>
<td>Examples</td>
<td>557</td>
</tr>
<tr>
<td>See Also</td>
<td>559</td>
</tr>
<tr>
<td>CreateVpnConnection</td>
<td>560</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>560</td>
</tr>
<tr>
<td>Response Elements</td>
<td>562</td>
</tr>
<tr>
<td>Errors</td>
<td>562</td>
</tr>
<tr>
<td>Examples</td>
<td>562</td>
</tr>
<tr>
<td>See Also</td>
<td>565</td>
</tr>
<tr>
<td>CreateVpnConnectionRoute</td>
<td>566</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>566</td>
</tr>
<tr>
<td>Response Elements</td>
<td>566</td>
</tr>
<tr>
<td>Errors</td>
<td>567</td>
</tr>
<tr>
<td>Examples</td>
<td>567</td>
</tr>
<tr>
<td>See Also</td>
<td>567</td>
</tr>
<tr>
<td>CreateVpnGateway</td>
<td>569</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>569</td>
</tr>
<tr>
<td>Response Elements</td>
<td>570</td>
</tr>
<tr>
<td>Errors</td>
<td>570</td>
</tr>
<tr>
<td>Examples</td>
<td>570</td>
</tr>
<tr>
<td>See Also</td>
<td>572</td>
</tr>
<tr>
<td>DeleteCarrierGateway</td>
<td>573</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>573</td>
</tr>
<tr>
<td>Response Elements</td>
<td>573</td>
</tr>
<tr>
<td>Errors</td>
<td>574</td>
</tr>
<tr>
<td>See Also</td>
<td>574</td>
</tr>
<tr>
<td>DeleteClientVpnEndpoint</td>
<td>575</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>575</td>
</tr>
<tr>
<td>Response Elements</td>
<td>575</td>
</tr>
</tbody>
</table>
Request Parameters ............................................................................. 662
Response Elements ............................................................................. 662
Errors ........................................................................................................... 663
Examples ..................................................................................................... 663
See Also ....................................................................................................... 663
DeletePlacementGroup ........................................................................... 665
Request Parameters ................................................................................. 665
Response Elements ................................................................................. 665
Errors ........................................................................................................... 666
Examples ..................................................................................................... 666
See Also ....................................................................................................... 666
DeletePublicIpv4Pool ............................................................................... 668
Request Parameters ................................................................................. 668
Response Elements ................................................................................. 668
Errors ........................................................................................................... 669
See Also ....................................................................................................... 669
DeleteQueuedReservedInstances ............................................................... 670
Request Parameters ................................................................................. 670
Response Elements ................................................................................. 670
Errors ........................................................................................................... 671
See Also ....................................................................................................... 671
DeleteRoute ................................................................................................. 672
Request Parameters ................................................................................. 672
Response Elements ................................................................................. 673
Errors ........................................................................................................... 673
Examples ..................................................................................................... 673
See Also ....................................................................................................... 674
DeleteRouteTable ....................................................................................... 675
Request Parameters ................................................................................. 675
Response Elements ................................................................................. 675
Errors ........................................................................................................... 676
Examples ..................................................................................................... 676
See Also ....................................................................................................... 676
DeleteSecurityGroup ............................................................................... 678
Request Parameters ................................................................................. 678
Response Elements ................................................................................. 678
See Also ................................................................................................................................. 710
DeleteTransitGatewayPeeringAttachment ........................................................................... 712
  Request Parameters ........................................................................................................... 712
  Response Elements .......................................................................................................... 712
  Errors ............................................................................................................................... 713
  Examples ........................................................................................................................... 713
  See Also ............................................................................................................................. 713
DeleteTransitGatewayPolicyTable ......................................................................................... 714
  Request Parameters ......................................................................................................... 714
  Response Elements ......................................................................................................... 714
  Errors ............................................................................................................................... 715
  See Also ............................................................................................................................. 715
DeleteTransitGatewayPrefixListReference .......................................................................... 716
  Request Parameters ......................................................................................................... 716
  Response Elements ......................................................................................................... 716
  Errors ............................................................................................................................... 717
  Examples ........................................................................................................................... 717
  See Also ............................................................................................................................. 717
DeleteTransitGatewayRoute ................................................................................................. 719
  Request Parameters ......................................................................................................... 719
  Response Elements ......................................................................................................... 719
  Errors ............................................................................................................................... 720
  See Also ............................................................................................................................. 720
DeleteTransitGatewayRouteTable ......................................................................................... 721
  Request Parameters ......................................................................................................... 721
  Response Elements ......................................................................................................... 721
  Errors ............................................................................................................................... 722
  See Also ............................................................................................................................. 722
DeleteTransitGatewayRouteTableAnnouncement ................................................................. 723
  Request Parameters ......................................................................................................... 723
  Response Elements ......................................................................................................... 723
  Errors ............................................................................................................................... 724
  See Also ............................................................................................................................. 724
DeleteTransitGatewayVpcAttachment ................................................................................... 725
  Request Parameters ......................................................................................................... 725
  Response Elements ......................................................................................................... 725
Errors ......................................................................................................................... 726
See Also ..................................................................................................................... 726
DeleteVerifiedAccessEndpoint ..................................................................................... 727
  Request Parameters ................................................................................................. 727
  Response Elements ................................................................................................. 727
  Errors ......................................................................................................................... 728
  See Also ...................................................................................................................... 728
DeleteVerifiedAccessGroup ......................................................................................... 729
  Request Parameters ................................................................................................. 729
  Response Elements ................................................................................................. 729
  Errors ......................................................................................................................... 730
  See Also ...................................................................................................................... 730
DeleteVerifiedAccessInstance ...................................................................................... 731
  Request Parameters ................................................................................................. 731
  Response Elements ................................................................................................. 731
  Errors ......................................................................................................................... 732
  See Also ...................................................................................................................... 732
DeleteVerifiedAccessTrustProvider ............................................................................. 733
  Request Parameters ................................................................................................. 733
  Response Elements ................................................................................................. 733
  Errors ......................................................................................................................... 734
  See Also ...................................................................................................................... 734
DeleteVolume ............................................................................................................... 735
  Request Parameters ................................................................................................. 735
  Response Elements ................................................................................................. 735
  Errors ......................................................................................................................... 736
  Examples ...................................................................................................................... 736
  See Also ...................................................................................................................... 736
DeleteVpc ...................................................................................................................... 738
  Request Parameters ................................................................................................. 738
  Response Elements ................................................................................................. 738
  Errors ......................................................................................................................... 739
  Examples ...................................................................................................................... 739
  See Also ...................................................................................................................... 739
DeleteVpcEndpointConnectionNotifications ................................................................. 741
  Request Parameters ................................................................................................. 741
Response Elements ................................................................. 741
Errors .................................................................................. 742
Examples ................................................................................. 742
See Also .................................................................................. 742
DeleteVpcEndpoints ............................................................... 744
Request Parameters ............................................................. 744
Response Elements ............................................................... 744
Errors .................................................................................. 745
Examples ................................................................................. 745
See Also .................................................................................. 745
DeleteVpcEndpointServiceConfigurations ............................... 747
Request Parameters ............................................................. 747
Response Elements ............................................................... 747
Errors .................................................................................. 748
Examples ................................................................................. 748
See Also .................................................................................. 748
DeleteVpcPeeringConnection .................................................. 750
Request Parameters ............................................................. 750
Response Elements ............................................................... 750
Errors .................................................................................. 751
Examples ................................................................................. 751
See Also .................................................................................. 751
DeleteVpnConnection .............................................................. 753
Request Parameters ............................................................. 753
Response Elements ............................................................... 753
Errors .................................................................................. 754
Examples ................................................................................. 754
See Also .................................................................................. 754
DeleteVpnConnectionRoute ...................................................... 756
Request Parameters ............................................................. 756
Response Elements ............................................................... 756
Errors .................................................................................. 757
Examples ................................................................................. 757
See Also .................................................................................. 757
DeleteVpnGateway ................................................................. 759
Request Parameters ............................................................. 759
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Elements</td>
<td>759</td>
</tr>
<tr>
<td>Errors</td>
<td>760</td>
</tr>
<tr>
<td>Examples</td>
<td>760</td>
</tr>
<tr>
<td>See Also</td>
<td>760</td>
</tr>
<tr>
<td>DeprovisionByoipCidr</td>
<td>762</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>762</td>
</tr>
<tr>
<td>Response Elements</td>
<td>762</td>
</tr>
<tr>
<td>Errors</td>
<td>763</td>
</tr>
<tr>
<td>See Also</td>
<td>763</td>
</tr>
<tr>
<td>DeprovisionIpamByoasn</td>
<td>764</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>764</td>
</tr>
<tr>
<td>Response Elements</td>
<td>764</td>
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<td>Errors</td>
<td>765</td>
</tr>
<tr>
<td>See Also</td>
<td>765</td>
</tr>
<tr>
<td>DeprovisionIpamPoolCidr</td>
<td>766</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>766</td>
</tr>
<tr>
<td>Response Elements</td>
<td>766</td>
</tr>
<tr>
<td>Errors</td>
<td>767</td>
</tr>
<tr>
<td>See Also</td>
<td>767</td>
</tr>
<tr>
<td>DeprovisionPublicIpv4PoolCidr</td>
<td>768</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>768</td>
</tr>
<tr>
<td>Response Elements</td>
<td>768</td>
</tr>
<tr>
<td>Errors</td>
<td>769</td>
</tr>
<tr>
<td>See Also</td>
<td>769</td>
</tr>
<tr>
<td>DeregisterImage</td>
<td>770</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>770</td>
</tr>
<tr>
<td>Response Elements</td>
<td>770</td>
</tr>
<tr>
<td>Errors</td>
<td>771</td>
</tr>
<tr>
<td>Examples</td>
<td>771</td>
</tr>
<tr>
<td>See Also</td>
<td>771</td>
</tr>
<tr>
<td>DeregisterInstanceEventNotificationAttributes</td>
<td>773</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>773</td>
</tr>
<tr>
<td>Response Elements</td>
<td>773</td>
</tr>
<tr>
<td>Errors</td>
<td>774</td>
</tr>
<tr>
<td>See Also</td>
<td>774</td>
</tr>
<tr>
<td>DeregisterTransitGatewayMulticastGroupMembers</td>
<td>775</td>
</tr>
<tr>
<td>API</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Amazon Elastic Compute Cloud</td>
<td></td>
</tr>
<tr>
<td>DescribeAvailabilityZones</td>
<td>798</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>798</td>
</tr>
<tr>
<td>Response Elements</td>
<td>800</td>
</tr>
<tr>
<td>Errors</td>
<td>800</td>
</tr>
<tr>
<td>Examples</td>
<td>800</td>
</tr>
<tr>
<td>See Also</td>
<td>802</td>
</tr>
<tr>
<td>DescribeAwsNetworkPerformanceMetricSubscriptions</td>
<td>803</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>803</td>
</tr>
<tr>
<td>Response Elements</td>
<td>804</td>
</tr>
<tr>
<td>Errors</td>
<td>804</td>
</tr>
<tr>
<td>See Also</td>
<td>804</td>
</tr>
<tr>
<td>DescribeBundleTasks</td>
<td>806</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>806</td>
</tr>
<tr>
<td>Response Elements</td>
<td>807</td>
</tr>
<tr>
<td>Errors</td>
<td>807</td>
</tr>
<tr>
<td>Examples</td>
<td>807</td>
</tr>
<tr>
<td>See Also</td>
<td>809</td>
</tr>
<tr>
<td>DescribeByoipCidrs</td>
<td>810</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>810</td>
</tr>
<tr>
<td>Response Elements</td>
<td>810</td>
</tr>
<tr>
<td>Errors</td>
<td>811</td>
</tr>
<tr>
<td>See Also</td>
<td>811</td>
</tr>
<tr>
<td>DescribeCapacityBlockOfferings</td>
<td>812</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>812</td>
</tr>
<tr>
<td>Response Elements</td>
<td>813</td>
</tr>
<tr>
<td>Errors</td>
<td>814</td>
</tr>
<tr>
<td>See Also</td>
<td>814</td>
</tr>
<tr>
<td>DescribeCapacityReservationFleets</td>
<td>815</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>815</td>
</tr>
<tr>
<td>Response Elements</td>
<td>816</td>
</tr>
<tr>
<td>Errors</td>
<td>816</td>
</tr>
<tr>
<td>See Also</td>
<td>817</td>
</tr>
<tr>
<td>DescribeCapacityReservations</td>
<td>818</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>818</td>
</tr>
<tr>
<td>Function</td>
<td>Request Parameters</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>DescribeCarrierGateways</td>
<td></td>
</tr>
<tr>
<td>DescribeClassicLinkInstances</td>
<td></td>
</tr>
<tr>
<td>DescribeClientVpnAuthorizationRules</td>
<td></td>
</tr>
<tr>
<td>DescribeClientVpnConnections</td>
<td></td>
</tr>
<tr>
<td>DescribeClientVpnEndpoints</td>
<td></td>
</tr>
<tr>
<td>DescribeClientVpnRoutes</td>
<td></td>
</tr>
</tbody>
</table>
See Also .................................................................................................................. 843
DescribeClientVpnTargetNetworks ........................................................................ 844
  Request Parameters ............................................................................................ 844
  Response Elements ............................................................................................ 845
  Errors .................................................................................................................. 846
  Examples .............................................................................................................. 846
  See Also .............................................................................................................. 846
DescribeCoipPools ............................................................................................... 848
  Request Parameters ............................................................................................ 848
  Response Elements ............................................................................................ 849
  Errors .................................................................................................................. 849
  See Also .............................................................................................................. 849
DescribeConversionTasks ...................................................................................... 851
  Request Parameters ............................................................................................ 851
  Response Elements ............................................................................................ 851
  Errors .................................................................................................................. 852
  Examples .............................................................................................................. 852
  See Also .............................................................................................................. 853
DescribeCustomerGateways .................................................................................. 854
  Request Parameters ............................................................................................ 854
  Response Elements ............................................................................................ 855
  Errors .................................................................................................................. 855
  Examples .............................................................................................................. 855
  See Also .............................................................................................................. 856
DescribeDhcpOptions ............................................................................................ 858
  Request Parameters ............................................................................................ 858
  Response Elements ............................................................................................ 859
  Errors .................................................................................................................. 860
  Examples .............................................................................................................. 860
  See Also .............................................................................................................. 862
DescribeEgressOnlyInternetGateways ................................................................. 863
  Request Parameters ............................................................................................ 863
  Response Elements ............................................................................................ 864
  Errors .................................................................................................................. 865
  Examples .............................................................................................................. 865
  See Also .............................................................................................................. 865

API Version 2016-11-15 xl
<table>
<thead>
<tr>
<th>Function</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>DescribeElasticGpus</td>
<td>867</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>867</td>
</tr>
<tr>
<td>Response Elements</td>
<td>868</td>
</tr>
<tr>
<td>Errors</td>
<td>869</td>
</tr>
<tr>
<td>Examples</td>
<td>869</td>
</tr>
<tr>
<td>See Also</td>
<td>869</td>
</tr>
<tr>
<td>DescribeExportImageTasks</td>
<td>871</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>871</td>
</tr>
<tr>
<td>Response Elements</td>
<td>872</td>
</tr>
<tr>
<td>Errors</td>
<td>872</td>
</tr>
<tr>
<td>See Also</td>
<td>872</td>
</tr>
<tr>
<td>DescribeExportTasks</td>
<td>874</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>874</td>
</tr>
<tr>
<td>Response Elements</td>
<td>874</td>
</tr>
<tr>
<td>Errors</td>
<td>874</td>
</tr>
<tr>
<td>Examples</td>
<td>875</td>
</tr>
<tr>
<td>See Also</td>
<td>875</td>
</tr>
<tr>
<td>DescribeFastLaunchImages</td>
<td>877</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>877</td>
</tr>
<tr>
<td>Response Elements</td>
<td>878</td>
</tr>
<tr>
<td>Errors</td>
<td>878</td>
</tr>
<tr>
<td>See Also</td>
<td>879</td>
</tr>
<tr>
<td>DescribeFastSnapshotRestores</td>
<td>880</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>880</td>
</tr>
<tr>
<td>Response Elements</td>
<td>881</td>
</tr>
<tr>
<td>Errors</td>
<td>881</td>
</tr>
<tr>
<td>See Also</td>
<td>881</td>
</tr>
<tr>
<td>DescribeFleetHistory</td>
<td>883</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>883</td>
</tr>
<tr>
<td>Response Elements</td>
<td>884</td>
</tr>
<tr>
<td>Errors</td>
<td>885</td>
</tr>
<tr>
<td>See Also</td>
<td>885</td>
</tr>
<tr>
<td>DescribeFleetInstances</td>
<td>887</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>887</td>
</tr>
<tr>
<td>Response Elements</td>
<td>888</td>
</tr>
<tr>
<td>Errors</td>
<td>888</td>
</tr>
<tr>
<td>Method</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td>DescribeHosts</td>
<td>Request Parameters</td>
</tr>
<tr>
<td></td>
<td>Response Elements</td>
</tr>
<tr>
<td></td>
<td>Errors</td>
</tr>
<tr>
<td></td>
<td>Examples</td>
</tr>
<tr>
<td></td>
<td>See Also</td>
</tr>
<tr>
<td>DescribeInstanceProfileAssociations</td>
<td>Request Parameters</td>
</tr>
<tr>
<td></td>
<td>Response Elements</td>
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<tr>
<td></td>
<td>Errors</td>
</tr>
<tr>
<td></td>
<td>Examples</td>
</tr>
<tr>
<td></td>
<td>See Also</td>
</tr>
<tr>
<td>DescribeIdentityIdFormat</td>
<td>Request Parameters</td>
</tr>
<tr>
<td></td>
<td>Response Elements</td>
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<tr>
<td></td>
<td>Errors</td>
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<tr>
<td></td>
<td>Examples</td>
</tr>
<tr>
<td></td>
<td>See Also</td>
</tr>
<tr>
<td>DescribeIdFormat</td>
<td>Request Parameters</td>
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<td>Response Elements</td>
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<td>Errors</td>
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<tr>
<td></td>
<td>Examples</td>
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<tr>
<td></td>
<td>See Also</td>
</tr>
<tr>
<td>DescribeImageAttribute</td>
<td>Request Parameters</td>
</tr>
<tr>
<td></td>
<td>Response Elements</td>
</tr>
<tr>
<td></td>
<td>Errors</td>
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<td></td>
<td>Examples</td>
</tr>
<tr>
<td></td>
<td>See Also</td>
</tr>
<tr>
<td>DescribeImages</td>
<td>Request Parameters</td>
</tr>
<tr>
<td></td>
<td>Response Elements</td>
</tr>
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<td></td>
<td>Errors</td>
</tr>
<tr>
<td></td>
<td>Examples</td>
</tr>
<tr>
<td></td>
<td>See Also</td>
</tr>
</tbody>
</table>
DescribeImportImageTasks ............................................................................. 948
Request Parameters .................................................................................... 948
Response Elements .................................................................................... 949
Errors ........................................................................................................ 949
See Also ...................................................................................................... 949
DescribeImportSnapshotTasks ...................................................................... 951
Request Parameters .................................................................................... 951
Response Elements .................................................................................... 952
Errors ........................................................................................................ 952
See Also ...................................................................................................... 952
DescribeInstanceAttribute .......................................................................... 954
Request Parameters .................................................................................... 954
Response Elements .................................................................................... 955
Errors ........................................................................................................ 957
Examples .................................................................................................... 957
See Also ...................................................................................................... 959
DescribeInstanceConnectEndpoints ................................................................. 960
Request Parameters .................................................................................... 960
Response Elements .................................................................................... 961
Errors ........................................................................................................ 962
See Also ...................................................................................................... 962
DescribeInstanceCreditSpecifications ............................................................. 963
Request Parameters .................................................................................... 963
Response Elements .................................................................................... 964
Errors ........................................................................................................ 965
Examples .................................................................................................... 965
See Also ...................................................................................................... 966
DescribeInstanceEventNotificationAttributes ................................................. 967
Request Parameters .................................................................................... 967
Response Elements .................................................................................... 967
Errors ........................................................................................................ 967
See Also ...................................................................................................... 968
DescribeInstanceEventWindows .................................................................... 969
Request Parameters .................................................................................... 969
Response Elements .................................................................................... 970
Errors ........................................................................................................ 971
<table>
<thead>
<tr>
<th>Function</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request Parameters</td>
<td>1066</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1067</td>
</tr>
<tr>
<td>Errors</td>
<td>1067</td>
</tr>
<tr>
<td>See Also</td>
<td>1067</td>
</tr>
<tr>
<td>DescribeLocalGatewayVirtualInterfaces</td>
<td>1069</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1069</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1070</td>
</tr>
<tr>
<td>Errors</td>
<td>1071</td>
</tr>
<tr>
<td>See Also</td>
<td>1071</td>
</tr>
<tr>
<td>DescribeLockedSnapshots</td>
<td>1072</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1072</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1073</td>
</tr>
<tr>
<td>Errors</td>
<td>1073</td>
</tr>
<tr>
<td>See Also</td>
<td>1073</td>
</tr>
<tr>
<td>DescribeManagedPrefixLists</td>
<td>1075</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1075</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1076</td>
</tr>
<tr>
<td>Errors</td>
<td>1076</td>
</tr>
<tr>
<td>Examples</td>
<td>1077</td>
</tr>
<tr>
<td>See Also</td>
<td>1078</td>
</tr>
<tr>
<td>DescribeMovingAddresses</td>
<td>1079</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1079</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1080</td>
</tr>
<tr>
<td>Errors</td>
<td>1081</td>
</tr>
<tr>
<td>See Also</td>
<td>1081</td>
</tr>
<tr>
<td>DescribeNatGateways</td>
<td>1082</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1082</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1083</td>
</tr>
<tr>
<td>Errors</td>
<td>1084</td>
</tr>
<tr>
<td>Examples</td>
<td>1084</td>
</tr>
<tr>
<td>See Also</td>
<td>1085</td>
</tr>
<tr>
<td>DescribeNetworkAcls</td>
<td>1086</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1086</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1088</td>
</tr>
<tr>
<td>Errors</td>
<td>1088</td>
</tr>
<tr>
<td>Examples</td>
<td>1088</td>
</tr>
</tbody>
</table>
## Errors

---

## Examples

---

## See Also

---

### DescribePlacementGroups

---

**Request Parameters**

---

**Response Elements**

---

**Errors**

---

**Examples**

---

**See Also**

---

### DescribePrefixLists

---

**Request Parameters**

---

**Response Elements**

---

**Errors**

---

**Examples**

---

**See Also**

---

### DescribePrincipalIdFormat

---

**Request Parameters**

---

**Response Elements**

---

**Errors**

---

**Examples**

---

**See Also**

---

### DescribePublicIpv4Pools

---

**Request Parameters**

---

**Response Elements**

---

**Errors**

---

**See Also**

---

### DescribeRegions

---

**Request Parameters**

---

**Response Elements**

---

**Errors**

---

**See Also**

---

### DescribeReplaceRootVolumeTasks

---

**Request Parameters**

---

**Response Elements**

---

**Errors**

---

---
Response Elements .................................................................................................................. 1216
Errors ........................................................................................................................................ 1216
See Also ...................................................................................................................................... 1216
DescribeSpotDatafeedSubscription .......................................................................................... 1218
Request Parameters .................................................................................................................... 1218
Response Elements .................................................................................................................... 1218
Errors ........................................................................................................................................ 1218
Examples .................................................................................................................................... 1219
See Also ...................................................................................................................................... 1219
DescribeSpotFleetInstances ......................................................................................................... 1221
Request Parameters .................................................................................................................... 1221
Response Elements .................................................................................................................... 1222
Errors ........................................................................................................................................ 1222
Examples .................................................................................................................................... 1222
See Also ...................................................................................................................................... 1223
DescribeSpotFleetRequestHistory .............................................................................................. 1225
Request Parameters .................................................................................................................... 1225
Response Elements .................................................................................................................... 1226
Errors ........................................................................................................................................ 1227
Examples .................................................................................................................................... 1227
See Also ...................................................................................................................................... 1229
DescribeSpotFleetRequests ......................................................................................................... 1231
Request Parameters .................................................................................................................... 1231
Response Elements .................................................................................................................... 1232
Errors ........................................................................................................................................ 1232
Examples .................................................................................................................................... 1232
See Also ...................................................................................................................................... 1234
DescribeSpotInstanceRequests .................................................................................................... 1235
Request Parameters .................................................................................................................... 1235
Response Elements .................................................................................................................... 1238
Errors ........................................................................................................................................ 1239
Examples .................................................................................................................................... 1239
See Also ...................................................................................................................................... 1241
DescribeSpotPriceHistory ............................................................................................................ 1242
Request Parameters .................................................................................................................... 1242
Response Elements .................................................................................................................... 1248
DescribeTrafficMirrorSessions
Request Parameters ................................................................................. 1277
Response Elements .................................................................................... 1278
Errors .......................................................................................................... 1279
See Also ....................................................................................................... 1279
DescribeStaleSecurityGroups ........................................................................ 1252
Request Parameters ...................................................................................... 1252
Response Elements ....................................................................................... 1253
Errors .......................................................................................................... 1253
Examples ...................................................................................................... 1253
See Also ....................................................................................................... 1250
DescribeStoreImageTasks ............................................................................. 1256
Request Parameters ...................................................................................... 1256
Response Elements ....................................................................................... 1257
Errors .......................................................................................................... 1258
See Also ....................................................................................................... 1258
DescribeSubnets ............................................................................................ 1259
Request Parameters ...................................................................................... 1259
Response Elements ....................................................................................... 1261
Errors .......................................................................................................... 1262
Examples ...................................................................................................... 1262
See Also ....................................................................................................... 1264
DescribeTags ................................................................................................. 1266
Request Parameters ...................................................................................... 1266
Response Elements ....................................................................................... 1267
Errors .......................................................................................................... 1268
Examples ...................................................................................................... 1268
See Also ....................................................................................................... 1273
DescribeTrafficMirrorFilters ....................................................................... 1274
Request Parameters ...................................................................................... 1274
Response Elements ....................................................................................... 1275
Errors .......................................................................................................... 1275
See Also ....................................................................................................... 1275
DescribeTrafficMirrorSessions ...................................................................... 1277
Request Parameters ...................................................................................... 1277
Response Elements ....................................................................................... 1278
Errors .......................................................................................................... 1279
See Also ....................................................................................................... 1279
DescribeTrafficMirrorTargets

Request Parameters ................................................................. 1280
Response Elements ...................................................................... 1281
Errors ......................................................................................... 1281
See Also ..................................................................................... 1282

DescribeTransitGatewayAttachments

Request Parameters ................................................................. 1283
Response Elements ...................................................................... 1284
Errors ......................................................................................... 1285
See Also ..................................................................................... 1285

DescribeTransitGatewayConnectPeers

Request Parameters ................................................................. 1286
Response Elements ...................................................................... 1287
Errors ......................................................................................... 1287
See Also ..................................................................................... 1287

DescribeTransitGatewayConnects

Request Parameters ................................................................. 1289
Response Elements ...................................................................... 1290
Errors ......................................................................................... 1291
See Also ..................................................................................... 1291

DescribeTransitGatewayMulticastDomains

Request Parameters ................................................................. 1292
Response Elements ...................................................................... 1293
Errors ......................................................................................... 1293
Examples ..................................................................................... 1294
See Also ..................................................................................... 1294

DescribeTransitGatewayPeeringAttachments

Request Parameters ................................................................. 1296
Response Elements ...................................................................... 1297
Errors ......................................................................................... 1298
Examples ..................................................................................... 1298
See Also ..................................................................................... 1299

DescribeTransitGatewayPolicyTables

Request Parameters ................................................................. 1300
Response Elements ...................................................................... 1301
Errors ......................................................................................... 1301
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>See Also</td>
<td>1301</td>
</tr>
<tr>
<td>DescribeTransitGatewayRouteTableAnnouncements</td>
<td>1303</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1303</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1304</td>
</tr>
<tr>
<td>Errors</td>
<td>1304</td>
</tr>
<tr>
<td>See Also</td>
<td>1304</td>
</tr>
<tr>
<td>DescribeTransitGatewayRouteTables</td>
<td>1306</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1306</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1307</td>
</tr>
<tr>
<td>Errors</td>
<td>1308</td>
</tr>
<tr>
<td>See Also</td>
<td>1308</td>
</tr>
<tr>
<td>DescribeTransitGateways</td>
<td>1309</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1309</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1310</td>
</tr>
<tr>
<td>Errors</td>
<td>1311</td>
</tr>
<tr>
<td>Examples</td>
<td>1311</td>
</tr>
<tr>
<td>See Also</td>
<td>1312</td>
</tr>
<tr>
<td>DescribeTransitGatewayVpcAttachments</td>
<td>1313</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1313</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1314</td>
</tr>
<tr>
<td>Errors</td>
<td>1314</td>
</tr>
<tr>
<td>Examples</td>
<td>1315</td>
</tr>
<tr>
<td>See Also</td>
<td>1315</td>
</tr>
<tr>
<td>DescribeTrunkInterfaceAssociations</td>
<td>1317</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1317</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1318</td>
</tr>
<tr>
<td>Errors</td>
<td>1318</td>
</tr>
<tr>
<td>See Also</td>
<td>1318</td>
</tr>
<tr>
<td>DescribeVerifiedAccessEndpoints</td>
<td>1320</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1320</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1321</td>
</tr>
<tr>
<td>Errors</td>
<td>1322</td>
</tr>
<tr>
<td>See Also</td>
<td>1322</td>
</tr>
<tr>
<td>DescribeVerifiedAccessGroups</td>
<td>1323</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1323</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1324</td>
</tr>
</tbody>
</table>
Request Parameters ........................................................................................................ 1349
Response Elements ....................................................................................................... 1351
Errors ............................................................................................................................. 1352
Examples ....................................................................................................................... 1352
See Also ......................................................................................................................... 1354
DescribeVpcAttribute ................................................................................................. 1355
Request Parameters ....................................................................................................... 1355
Response Elements ....................................................................................................... 1355
Errors ............................................................................................................................. 1356
Examples ....................................................................................................................... 1356
See Also ......................................................................................................................... 1358
DescribeVpcClassicLink ............................................................................................... 1359
Request Parameters ....................................................................................................... 1359
Response Elements ....................................................................................................... 1360
Errors ............................................................................................................................. 1360
See Also ......................................................................................................................... 1360
DescribeVpcClassicLinkDnsSupport ............................................................................. 1362
Request Parameters ....................................................................................................... 1362
Response Elements ....................................................................................................... 1363
Errors ............................................................................................................................. 1363
See Also ......................................................................................................................... 1363
DescribeVpcEndpointConnectionNotifications ............................................................. 1365
Request Parameters ....................................................................................................... 1365
Response Elements ....................................................................................................... 1366
Errors ............................................................................................................................. 1366
Examples ....................................................................................................................... 1367
See Also ......................................................................................................................... 1367
DescribeVpcEndpointConnections ............................................................................... 1369
Request Parameters ....................................................................................................... 1369
Response Elements ....................................................................................................... 1370
Errors ............................................................................................................................. 1370
Examples ....................................................................................................................... 1370
See Also ......................................................................................................................... 1371
DescribeVpcEndpoints ................................................................................................. 1373
Request Parameters ....................................................................................................... 1373
Response Elements ....................................................................................................... 1374
See Also .................................................................................................................. 1431
DetachVpnGateway ................................................................................................. 1432
  Request Parameters ............................................................................................ 1432
  Response Elements ............................................................................................. 1433
  Errors .................................................................................................................. 1433
  Examples ............................................................................................................. 1433
  See Also ............................................................................................................. 1434
DisableAddressTransfer ....................................................................................... 1435
  Request Parameters ............................................................................................ 1435
  Response Elements ............................................................................................. 1435
  Errors .................................................................................................................. 1436
  See Also ............................................................................................................. 1436
DisableAwsNetworkPerformanceMetricSubscription ......................................... 1437
  Request Parameters ............................................................................................ 1437
  Response Elements ............................................................................................. 1438
  Errors .................................................................................................................. 1438
  See Also ............................................................................................................. 1438
DisableEbsEncryptionByDefault ........................................................................... 1440
  Request Parameters ............................................................................................ 1440
  Response Elements ............................................................................................. 1440
  Errors .................................................................................................................. 1441
  See Also ............................................................................................................. 1441
DisableFastLaunch ............................................................................................... 1442
  Request Parameters ............................................................................................ 1442
  Response Elements ............................................................................................. 1443
  Errors .................................................................................................................. 1444
  See Also ............................................................................................................. 1444
DisableFastSnapshotRestores ............................................................................... 1446
  Request Parameters ............................................................................................ 1446
  Response Elements ............................................................................................. 1446
  Errors .................................................................................................................. 1447
  See Also ............................................................................................................. 1447
DisableImage ......................................................................................................... 1448
  Request Parameters ............................................................................................ 1448
  Response Elements ............................................................................................. 1448
  Errors .................................................................................................................. 1449
Response Elements ................................................................. 1465
Errors .................................................................................... 1466
Examples ................................................................................. 1466
See Also .................................................................................. 1466
DisableVpcClassicLink ............................................................ 1468
Request Parameters ............................................................... 1468
Response Elements ................................................................. 1468
Errors .................................................................................... 1469
See Also .................................................................................. 1469
DisableVpcClassicLinkDnsSupport ........................................... 1470
Request Parameters ............................................................... 1470
Response Elements ................................................................. 1470
Errors .................................................................................... 1471
Examples ................................................................................. 1471
See Also .................................................................................. 1471
DisassociateAddress ............................................................... 1473
Request Parameters ............................................................... 1473
Response Elements ................................................................. 1473
Errors .................................................................................... 1474
Examples ................................................................................. 1474
See Also .................................................................................. 1474
DisassociateClientVpnTargetNetwork ....................................... 1476
Request Parameters ............................................................... 1476
Response Elements ................................................................. 1477
Errors .................................................................................... 1477
Examples ................................................................................. 1477
See Also .................................................................................. 1478
DisassociateEnclaveCertificateIamRole .................................... 1479
Request Parameters ............................................................... 1479
Response Elements ................................................................. 1479
Errors .................................................................................... 1480
See Also .................................................................................. 1480
DisassociateIamInstanceProfile ................................................. 1481
Request Parameters ............................................................... 1481
Response Elements ................................................................. 1481
Errors .................................................................................... 1481
Examples ................................................................................................................. 1482
See Also .................................................................................................................. 1482
DisassociateInstanceEventWindow ........................................................................... 1484
  Request Parameters .............................................................................................. 1484
  Response Elements ............................................................................................... 1484
  Errors .................................................................................................................... 1485
  See Also ................................................................................................................ 1485
DisassociatePamByaasn .......................................................................................... 1486
  Request Parameters .............................................................................................. 1486
  Response Elements ............................................................................................... 1486
  Errors .................................................................................................................... 1487
  See Also ................................................................................................................ 1487
DisassociatePamResourceDiscovery ........................................................................ 1488
  Request Parameters .............................................................................................. 1488
  Response Elements ............................................................................................... 1488
  Errors .................................................................................................................... 1489
  See Also ................................................................................................................ 1489
DisassociateNatGatewayAddress ............................................................................ 1490
  Request Parameters .............................................................................................. 1490
  Response Elements ............................................................................................... 1491
  Errors .................................................................................................................... 1491
  See Also ................................................................................................................ 1491
DisassociateRouteTable .......................................................................................... 1493
  Request Parameters .............................................................................................. 1493
  Response Elements ............................................................................................... 1493
  Errors .................................................................................................................... 1494
  Examples ................................................................................................................ 1494
  See Also ................................................................................................................ 1494
DisassociateSubnetCidrBlock .................................................................................. 1496
  Request Parameters .............................................................................................. 1496
  Response Elements ............................................................................................... 1496
  Errors .................................................................................................................... 1497
  Examples ................................................................................................................ 1497
  See Also ................................................................................................................ 1497
DisassociateTransitGatewayMulticastDomain ......................................................... 1499
  Request Parameters .............................................................................................. 1499
Response Elements ......................................................................................................................... 1500
Errors ........................................................................................................................................... 1500
Examples ......................................................................................................................................... 1500
See Also ......................................................................................................................................... 1501
DisassociateTransitGatewayPolicyTable ......................................................................................... 1502
Request Parameters ....................................................................................................................... 1502
Response Elements ....................................................................................................................... 1502
Errors ............................................................................................................................................. 1503
See Also ......................................................................................................................................... 1503
DisassociateTransitGatewayRouteTable ......................................................................................... 1504
Request Parameters ....................................................................................................................... 1504
Response Elements ....................................................................................................................... 1504
Errors ............................................................................................................................................. 1505
See Also ......................................................................................................................................... 1505
DisassociateTrunkInterface ............................................................................................................. 1506
Request Parameters ....................................................................................................................... 1506
Response Elements ....................................................................................................................... 1506
Errors ............................................................................................................................................. 1507
See Also ......................................................................................................................................... 1507
DisassociateVpcCidrBlock ............................................................................................................... 1508
Request Parameters ....................................................................................................................... 1508
Response Elements ....................................................................................................................... 1508
Errors ............................................................................................................................................. 1509
Examples ......................................................................................................................................... 1509
See Also ......................................................................................................................................... 1509
EnableAddressTransfer .................................................................................................................. 1511
Request Parameters ....................................................................................................................... 1511
Response Elements ....................................................................................................................... 1511
Errors ............................................................................................................................................. 1512
See Also ......................................................................................................................................... 1512
EnableAwsNetworkPerformanceMetricSubscription ................................................................. 1513
Request Parameters ....................................................................................................................... 1513
Response Elements ....................................................................................................................... 1514
Errors ............................................................................................................................................. 1514
See Also ......................................................................................................................................... 1514
EnableEbsEncryptionByDefault ....................................................................................................... 1516
<table>
<thead>
<tr>
<th>Function</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request Parameters</td>
<td>1592</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1592</td>
</tr>
<tr>
<td>Errors</td>
<td>1593</td>
</tr>
<tr>
<td>See Also</td>
<td>1593</td>
</tr>
<tr>
<td>GetEbsEncryptionByDefault</td>
<td>1594</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1594</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1594</td>
</tr>
<tr>
<td>Errors</td>
<td>1595</td>
</tr>
<tr>
<td>See Also</td>
<td>1595</td>
</tr>
<tr>
<td>GetFlowLogsIntegrationTemplate</td>
<td>1596</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1596</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1597</td>
</tr>
<tr>
<td>Errors</td>
<td>1597</td>
</tr>
<tr>
<td>See Also</td>
<td>1597</td>
</tr>
<tr>
<td>GetGroupsForCapacityReservation</td>
<td>1599</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1599</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1600</td>
</tr>
<tr>
<td>Errors</td>
<td>1600</td>
</tr>
<tr>
<td>See Also</td>
<td>1600</td>
</tr>
<tr>
<td>GetHostReservationPurchasePreview</td>
<td>1602</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1602</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1602</td>
</tr>
<tr>
<td>Errors</td>
<td>1603</td>
</tr>
<tr>
<td>Examples</td>
<td>1603</td>
</tr>
<tr>
<td>See Also</td>
<td>1604</td>
</tr>
<tr>
<td>GetImageBlockPublicAccessState</td>
<td>1605</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1605</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1605</td>
</tr>
<tr>
<td>Errors</td>
<td>1606</td>
</tr>
<tr>
<td>Examples</td>
<td>1606</td>
</tr>
<tr>
<td>See Also</td>
<td>1606</td>
</tr>
<tr>
<td>GetInstanceTypesFromInstanceRequirements</td>
<td>1608</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1608</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1609</td>
</tr>
<tr>
<td>Errors</td>
<td>1610</td>
</tr>
<tr>
<td>See Also</td>
<td>1610</td>
</tr>
<tr>
<td>Operation</td>
<td>Request Parameters</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------------</td>
</tr>
<tr>
<td>GetInstanceUefiData</td>
<td>1611</td>
</tr>
<tr>
<td>GetIpamAddressHistory</td>
<td>1613</td>
</tr>
<tr>
<td>GetIpamDiscoveredAccounts</td>
<td>1616</td>
</tr>
<tr>
<td>GetIpamDiscoveredPublicAddresses</td>
<td>1619</td>
</tr>
<tr>
<td>GetIpamDiscoveredResourceCidrs</td>
<td>1622</td>
</tr>
<tr>
<td>GetIpamPoolAllocations</td>
<td>1625</td>
</tr>
<tr>
<td>GetIpamPoolCidrs</td>
<td>1628</td>
</tr>
<tr>
<td>GetIpamResourceCidrs</td>
<td>1631</td>
</tr>
</tbody>
</table>
Request Parameters ................................................................. 1631
Response Elements .................................................................. 1633
Errors ..................................................................................... 1633
See Also .................................................................................. 1633
GetLaunchTemplateData ....................................................... 1635
Request Parameters ................................................................ 1635
Response Elements ................................................................ 1635
Errors ..................................................................................... 1636
Examples ............................................................................... 1636
See Also .................................................................................. 1638
GetManagedPrefixListAssociations .......................................... 1639
Request Parameters ................................................................ 1639
Response Elements ................................................................ 1640
Errors ..................................................................................... 1640
Examples ............................................................................... 1640
See Also .................................................................................. 1641
GetManagedPrefixListEntries .................................................. 1642
Request Parameters ................................................................ 1642
Response Elements ................................................................ 1643
Errors ..................................................................................... 1643
Examples ............................................................................... 1643
See Also .................................................................................. 1644
GetNetworkInsightsAccessScopeAnalysisFindings ................. 1645
Request Parameters ................................................................ 1645
Response Elements ................................................................ 1646
Errors ..................................................................................... 1646
See Also .................................................................................. 1646
GetNetworkInsightsAccessScopeContent .................................. 1648
Request Parameters ................................................................ 1648
Response Elements ................................................................ 1648
Errors ..................................................................................... 1649
See Also .................................................................................. 1649
GetPasswordData ................................................................. 1650
Request Parameters ................................................................ 1650
Response Elements ................................................................ 1651
Errors ..................................................................................... 1651
Errors ................................................................................................................................. 1673
See Also ............................................................................................................................. 1673
Get Transit Gateway Multicast Domain Associations ....................................................... 1675
Request Parameters .......................................................................................................... 1675
Response Elements .......................................................................................................... 1676
Errors ................................................................................................................................. 1676
Examples ............................................................................................................................ 1677
See Also .................................................................................................................................. 1678
Get Transit Gateway Policy Table Associations .............................................................. 1680
Request Parameters .......................................................................................................... 1680
Response Elements .......................................................................................................... 1681
Errors ................................................................................................................................. 1681
See Also .................................................................................................................................. 1681
Get Transit Gateway Policy Table Entries .......................................................................... 1683
Request Parameters .......................................................................................................... 1683
Response Elements .......................................................................................................... 1684
Errors .................................................................................................................................. 1684
See Also .................................................................................................................................. 1684
Get Transit Gateway Prefix List References ...................................................................... 1686
Request Parameters .......................................................................................................... 1686
Response Elements .......................................................................................................... 1687
Errors .................................................................................................................................. 1688
Examples ............................................................................................................................ 1688
See Also .................................................................................................................................. 1689
Get Transit Gateway Route Table Associations .............................................................. 1690
Request Parameters .......................................................................................................... 1690
Response Elements .......................................................................................................... 1691
Errors .................................................................................................................................. 1691
See Also .................................................................................................................................. 1692
Get Transit Gateway Route Table Propagations .............................................................. 1693
Request Parameters .......................................................................................................... 1693
Response Elements .......................................................................................................... 1694
Errors .................................................................................................................................. 1694
See Also .................................................................................................................................. 1695
Get Verified Access Endpoint Policy ................................................................................. 1696
Request Parameters .......................................................................................................... 1696
<table>
<thead>
<tr>
<th>Function</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ModifyEbsDefaultKmsKeyId</td>
<td>1745</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1745</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1745</td>
</tr>
<tr>
<td>Errors</td>
<td>1746</td>
</tr>
<tr>
<td>See Also</td>
<td>1746</td>
</tr>
<tr>
<td>ModifyAvailabilityZoneGroup</td>
<td>1747</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1747</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1747</td>
</tr>
<tr>
<td>Errors</td>
<td>1748</td>
</tr>
<tr>
<td>See Also</td>
<td>1748</td>
</tr>
<tr>
<td>ModifyCapacityReservation</td>
<td>1749</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1749</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1751</td>
</tr>
<tr>
<td>Errors</td>
<td>1751</td>
</tr>
<tr>
<td>See Also</td>
<td>1751</td>
</tr>
<tr>
<td>ModifyCapacityReservationFleet</td>
<td>1752</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1752</td>
</tr>
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<td>Response Elements</td>
<td>1753</td>
</tr>
<tr>
<td>Errors</td>
<td>1754</td>
</tr>
<tr>
<td>See Also</td>
<td>1754</td>
</tr>
<tr>
<td>ModifyClientVpnEndpoint</td>
<td>1755</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1755</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1758</td>
</tr>
<tr>
<td>Errors</td>
<td>1758</td>
</tr>
<tr>
<td>Examples</td>
<td>1759</td>
</tr>
<tr>
<td>See Also</td>
<td>1759</td>
</tr>
<tr>
<td>ModifyDefaultCreditSpecification</td>
<td>1760</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1760</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1761</td>
</tr>
<tr>
<td>Errors</td>
<td>1761</td>
</tr>
<tr>
<td>Examples</td>
<td>1762</td>
</tr>
<tr>
<td>See Also</td>
<td>1762</td>
</tr>
<tr>
<td>ModifyEbsDefaultKmsKeyId</td>
<td>1764</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>1764</td>
</tr>
<tr>
<td>Response Elements</td>
<td>1765</td>
</tr>
<tr>
<td>Errors</td>
<td>1765</td>
</tr>
<tr>
<td>See Also</td>
<td>1765</td>
</tr>
</tbody>
</table>
Request Parameters .............................................................................. 1793
Response Elements ............................................................................. 1797
Errors ................................................................................................. 1797
Examples ............................................................................................. 1798
See Also ............................................................................................... 1799

ModifyInstanceCapacityReservationAttributes ................................. 1800
Request Parameters ............................................................................. 1800
Response Elements ............................................................................. 1800
Errors ................................................................................................. 1801
See Also ............................................................................................... 1801

ModifyInstanceCreditSpecification .................................................... 1802
Request Parameters ............................................................................. 1802
Response Elements ............................................................................. 1802
Errors ................................................................................................. 1803
Examples ............................................................................................. 1803
See Also ............................................................................................... 1804

ModifyInstanceEventStartTime ......................................................... 1805
Request Parameters ............................................................................. 1805
Response Elements ............................................................................. 1806
Errors ................................................................................................. 1806
Examples ............................................................................................. 1806
See Also ............................................................................................... 1806

ModifyInstanceEventWindow ............................................................ 1808
Request Parameters ............................................................................. 1808
Response Elements ............................................................................. 1809
Errors ................................................................................................. 1810
See Also ............................................................................................... 1810

ModifyInstanceMaintenanceOptions ............................................... 1811
Request Parameters ............................................................................. 1811
Response Elements ............................................................................. 1811
Errors ................................................................................................. 1812
See Also ............................................................................................... 1812

ModifyInstanceMetadataOptions ..................................................... 1813
Request Parameters ............................................................................. 1813
Response Elements ............................................................................. 1815
Errors ................................................................................................. 1815
Amazon Elastic Compute Cloud

Errors .......................................................................................................................... 1839
Examples ..................................................................................................................... 1839
See Also ....................................................................................................................... 1840
ModifyLocalGatewayRoute ...................................................................................... 1841
  Request Parameters ................................................................................................. 1841
  Response Elements ................................................................................................. 1842
  Errors ....................................................................................................................... 1842
  See Also ................................................................................................................... 1842
ModifyManagedPrefixList ......................................................................................... 1844
  Request Parameters ................................................................................................. 1844
  Response Elements ................................................................................................. 1845
  Errors ....................................................................................................................... 1845
  Examples .................................................................................................................. 1846
  See Also ................................................................................................................... 1847
ModifyNetworkInterfaceAttribute .............................................................................. 1848
  Request Parameters ................................................................................................. 1848
  Response Elements ................................................................................................. 1850
  Errors ....................................................................................................................... 1850
  Examples .................................................................................................................. 1850
  See Also ................................................................................................................... 1851
ModifyPrivateDnsNameOptions .................................................................................. 1852
  Request Parameters ................................................................................................. 1852
  Response Elements ................................................................................................. 1853
  Errors ....................................................................................................................... 1853
  See Also ................................................................................................................... 1853
ModifyReservedInstances ............................................................................................ 1855
  Request Parameters ................................................................................................. 1855
  Response Elements ................................................................................................. 1855
  Errors ....................................................................................................................... 1856
  Examples .................................................................................................................. 1856
  See Also ................................................................................................................... 1857
ModifySecurityGroupRules ......................................................................................... 1858
  Request Parameters ................................................................................................. 1858
  Response Elements ................................................................................................. 1858
  Errors ....................................................................................................................... 1859
  See Also ................................................................................................................... 1859
ModifySnapshotAttribute ................................................................. 1860
  Request Parameters ................................................................. 1860
  Response Elements ....................................................................... 1861
  Errors ............................................................................................. 1862
  Examples ......................................................................................... 1862
  See Also .......................................................................................... 1863
ModifySnapshotTier ................................................................. 1864
  Request Parameters ................................................................. 1864
  Response Elements ....................................................................... 1864
  Errors ............................................................................................. 1865
  See Also .......................................................................................... 1865
ModifySpotFleetRequest ........................................................ 1866
  Request Parameters ................................................................. 1866
  Response Elements ....................................................................... 1868
  Errors ............................................................................................. 1868
  See Also .......................................................................................... 1868
ModifySubnetAttribute ............................................................ 1870
  Request Parameters ................................................................. 1870
  Response Elements ....................................................................... 1873
  Errors ............................................................................................. 1873
  Examples ......................................................................................... 1873
  See Also .......................................................................................... 1874
ModifyTrafficMirrorFilterNetworkServices ................................ 1875
  Request Parameters ................................................................. 1875
  Response Elements ....................................................................... 1876
  Errors ............................................................................................. 1876
  See Also .......................................................................................... 1876
ModifyTrafficMirrorFilterRule ..................................................... 1878
  Request Parameters ................................................................. 1878
  Response Elements ....................................................................... 1880
  Errors ............................................................................................. 1880
  See Also .......................................................................................... 1881
ModifyTrafficMirrorSession ......................................................... 1882
  Request Parameters ................................................................. 1882
  Response Elements ....................................................................... 1884
  Errors ............................................................................................. 1884
See Also ........................................................................................................................................ 1884
ModifyTransitGateway .................................................................................................................. 1886
  Request Parameters .................................................................................................................... 1886
  Response Elements ..................................................................................................................... 1887
  Errors ........................................................................................................................................ 1887
  See Also ..................................................................................................................................... 1887
ModifyTransitGatewayPrefixListReference .............................................................................. 1888
  Request Parameters ................................................................................................................... 1888
  Response Elements .................................................................................................................... 1889
  Errors ........................................................................................................................................ 1889
  Examples ..................................................................................................................................... 1889
  See Also ..................................................................................................................................... 1890
ModifyTransitGatewayVpcAttachment ....................................................................................... 1891
  Request Parameters ................................................................................................................... 1891
  Response Elements .................................................................................................................... 1892
  Errors ........................................................................................................................................ 1892
  See Also ..................................................................................................................................... 1892
ModifyVerifiedAccessEndpoint ................................................................................................. 1894
  Request Parameters ................................................................................................................... 1894
  Response Elements .................................................................................................................... 1895
  Errors ........................................................................................................................................ 1895
  See Also ..................................................................................................................................... 1896
ModifyVerifiedAccessEndpointPolicy ....................................................................................... 1897
  Request Parameters ................................................................................................................... 1897
  Response Elements .................................................................................................................... 1898
  Errors ........................................................................................................................................ 1899
  See Also ..................................................................................................................................... 1899
ModifyVerifiedAccessGroup ...................................................................................................... 1900
  Request Parameters ................................................................................................................... 1900
  Response Elements .................................................................................................................... 1901
  Errors ........................................................................................................................................ 1901
  See Also ..................................................................................................................................... 1901
ModifyVerifiedAccessGroupPolicy ........................................................................................... 1903
  Request Parameters ................................................................................................................... 1903
  Response Elements .................................................................................................................... 1904
  Errors ........................................................................................................................................ 1905
ModifyVpnConnection

Request Parameters ......................................................... 1948
Response Elements .......................................................... 1949
Errors .................................................................................. 1950
See Also ............................................................................... 1950

ModifyVpnConnectionOptions .................................................... 1951
Request Parameters ............................................................ 1951
Response Elements ............................................................. 1952
Errors .................................................................................. 1953
See Also ............................................................................... 1953

ModifyVpnTunnelCertificate ...................................................... 1954
Request Parameters ............................................................ 1954
Response Elements ............................................................. 1954
Errors .................................................................................. 1955
See Also ............................................................................... 1955

ModifyVpnTunnelOptions .......................................................... 1956
Request Parameters ............................................................ 1956
Response Elements ............................................................. 1957
Errors .................................................................................. 1957
See Also ............................................................................... 1957

MonitorInstances ...................................................................... 1959
Request Parameters ............................................................ 1959
Response Elements ............................................................. 1959
Errors .................................................................................. 1960
Examples .............................................................................. 1960
See Also ............................................................................... 1961

MoveAddressToVpc ................................................................... 1962
Request Parameters ............................................................ 1962
Response Elements ............................................................. 1962
Errors .................................................................................. 1963
See Also ............................................................................... 1963

MoveByoipCidrToPam ............................................................... 1964
Request Parameters ............................................................ 1964
Response Elements ................................................................. 1965
Errors ................................................................................ 1965
See Also ................................................................................ 1965
ProvisionByoipCidr .................................................................. 1966
  Request Parameters ................................................................ 1966
  Response Elements ................................................................ 1968
  Errors ................................................................................ 1968
  See Also ................................................................................ 1968
ProvisionIpamByoasn ............................................................... 1970
  Request Parameters ................................................................ 1970
  Response Elements ................................................................ 1971
  Errors ................................................................................ 1971
  See Also ................................................................................ 1971
ProvisionIpamPoolCidr ............................................................... 1972
  Request Parameters ................................................................ 1972
  Response Elements ................................................................ 1973
  Errors ................................................................................ 1973
  See Also ................................................................................ 1974
ProvisionPublicIpv4PoolCidr ..................................................... 1975
  Request Parameters ................................................................ 1975
  Response Elements ................................................................ 1976
  Errors ................................................................................ 1976
  See Also ................................................................................ 1976
PurchaseCapacityBlock ............................................................ 1978
  Request Parameters ................................................................ 1978
  Response Elements ................................................................ 1979
  Errors ................................................................................ 1979
  See Also ................................................................................ 1979
PurchaseHostReservation .......................................................... 1981
  Request Parameters ................................................................ 1981
  Response Elements ................................................................ 1982
  Errors ................................................................................ 1982
  Examples ............................................................................... 1983
  See Also ................................................................................ 1984
PurchaseReservedInstancesOffering ............................................ 1985
  Request Parameters ................................................................ 1985
Response Elements ........................................................................................................ 1986
Errors .......................................................................................................................... 1986
Examples ....................................................................................................................... 1987
See Also ......................................................................................................................... 1988
PurchaseScheduledInstances ................................................................. 1989
Request Parameters ....................................................................................................... 1989
Response Elements ....................................................................................................... 1990
Errors .......................................................................................................................... 1990
See Also ......................................................................................................................... 1990
RebootInstances ............................................................................................................ 1992
Request Parameters ....................................................................................................... 1992
Response Elements ....................................................................................................... 1992
Errors .......................................................................................................................... 1993
Examples ....................................................................................................................... 1993
See Also ......................................................................................................................... 1993
RegisterImage ................................................................................................................. 1995
Request Parameters ....................................................................................................... 1996
Response Elements ....................................................................................................... 2000
Errors .......................................................................................................................... 2001
Examples ....................................................................................................................... 2001
See Also ......................................................................................................................... 2002
RegisterInstanceEventNotificationAttributes ....................................................... 2004
Request Parameters ....................................................................................................... 2004
Response Elements ....................................................................................................... 2004
Errors .......................................................................................................................... 2005
See Also ......................................................................................................................... 2005
RegisterTransitGatewayMulticastGroupMembers ................................................... 2006
Request Parameters ....................................................................................................... 2006
Response Elements ....................................................................................................... 2007
Errors .......................................................................................................................... 2007
Examples ....................................................................................................................... 2007
See Also ......................................................................................................................... 2008
RegisterTransitGatewayMulticastGroupSources ...................................................... 2009
Request Parameters ....................................................................................................... 2009
Response Elements ....................................................................................................... 2010
Errors .......................................................................................................................... 2010
<table>
<thead>
<tr>
<th>API Method</th>
<th>Description</th>
<th>API Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>RejectTransitGatewayMulticastDomainAssociations</td>
<td>Reject Transit Gateway Multicast Domain Associations</td>
<td>2012</td>
</tr>
<tr>
<td>Request Parameters</td>
<td></td>
<td>2012</td>
</tr>
<tr>
<td>Response Elements</td>
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<td>2013</td>
</tr>
<tr>
<td>Errors</td>
<td></td>
<td>2013</td>
</tr>
<tr>
<td>See Also</td>
<td></td>
<td>2013</td>
</tr>
<tr>
<td>RejectTransitGatewayPeeringAttachment</td>
<td>Reject Transit Gateway Peering Attachment</td>
<td>2014</td>
</tr>
<tr>
<td>Request Parameters</td>
<td></td>
<td>2014</td>
</tr>
<tr>
<td>Response Elements</td>
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<td>2014</td>
</tr>
<tr>
<td>Errors</td>
<td></td>
<td>2015</td>
</tr>
<tr>
<td>Examples</td>
<td></td>
<td>2015</td>
</tr>
<tr>
<td>See Also</td>
<td></td>
<td>2015</td>
</tr>
<tr>
<td>RejectTransitGatewayVpcAttachment</td>
<td>Reject Transit Gateway Vpc Attachment</td>
<td>2016</td>
</tr>
<tr>
<td>Request Parameters</td>
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<td>2016</td>
</tr>
<tr>
<td>Response Elements</td>
<td></td>
<td>2016</td>
</tr>
<tr>
<td>Errors</td>
<td></td>
<td>2017</td>
</tr>
<tr>
<td>See Also</td>
<td></td>
<td>2017</td>
</tr>
<tr>
<td>RejectVpcEndpointConnections</td>
<td>Reject Vpc Endpoint Connections</td>
<td>2018</td>
</tr>
<tr>
<td>Request Parameters</td>
<td></td>
<td>2018</td>
</tr>
<tr>
<td>Response Elements</td>
<td></td>
<td>2018</td>
</tr>
<tr>
<td>Errors</td>
<td></td>
<td>2019</td>
</tr>
<tr>
<td>Examples</td>
<td></td>
<td>2019</td>
</tr>
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<td>See Also</td>
<td></td>
<td>2019</td>
</tr>
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<td>RejectVpcPeeringConnection</td>
<td>Reject Vpc Peering Connection</td>
<td>2021</td>
</tr>
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<td>Request Parameters</td>
<td></td>
<td>2021</td>
</tr>
<tr>
<td>Response Elements</td>
<td></td>
<td>2021</td>
</tr>
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<td>Errors</td>
<td></td>
<td>2022</td>
</tr>
<tr>
<td>Examples</td>
<td></td>
<td>2022</td>
</tr>
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<td>See Also</td>
<td></td>
<td>2022</td>
</tr>
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<td>ReleaseAddress</td>
<td>Release Address</td>
<td>2024</td>
</tr>
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<td>Request Parameters</td>
<td></td>
<td>2024</td>
</tr>
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<td>Response Elements</td>
<td></td>
<td>2025</td>
</tr>
<tr>
<td>Errors</td>
<td></td>
<td>2025</td>
</tr>
<tr>
<td>Examples</td>
<td></td>
<td>2025</td>
</tr>
<tr>
<td>See Also</td>
<td></td>
<td>2025</td>
</tr>
</tbody>
</table>
Request Parameters ........................................................................................................... 2049
Response Elements ........................................................................................................... 2050
Errors ................................................................................................................................. 2050
Examples ............................................................................................................................ 2050
See Also .............................................................................................................................. 2051
ReplaceTransitGatewayRoute ......................................................................................... 2052
Request Parameters ........................................................................................................... 2052
Response Elements ........................................................................................................... 2053
Errors ................................................................................................................................. 2053
See Also .............................................................................................................................. 2053
ReplaceVpnTunnel ............................................................................................................... 2055
Request Parameters ........................................................................................................... 2055
Response Elements ........................................................................................................... 2056
Errors ................................................................................................................................. 2056
See Also .............................................................................................................................. 2056
ReportInstanceState .......................................................................................................... 2057
Request Parameters ........................................................................................................... 2057
Response Elements ........................................................................................................... 2059
Errors ................................................................................................................................. 2059
Examples ............................................................................................................................ 2059
See Also .............................................................................................................................. 2060
RequestSpotFleet .............................................................................................................. 2061
Request Parameters ........................................................................................................... 2061
Response Elements ........................................................................................................... 2062
Errors ................................................................................................................................. 2062
Examples ............................................................................................................................ 2062
See Also .............................................................................................................................. 2063
RequestSpotInstances ........................................................................................................ 2064
Request Parameters ........................................................................................................... 2064
Response Elements ........................................................................................................... 2067
Errors ................................................................................................................................. 2068
Examples ............................................................................................................................ 2068
See Also .............................................................................................................................. 2069
ResetAddressAttribute .................................................................................................... 2071
Request Parameters ........................................................................................................... 2071
Response Elements ........................................................................................................... 2071
Errors ................................................................. 2072
See Also .............................................................. 2072
ResetEbsDefaultKmsKeyId ........................................... 2073
  Request Parameters .............................................. 2073
  Response Elements .............................................. 2073
  Errors .................................................................. 2074
  See Also .............................................................. 2074
ResetFpgaImageAttribute ............................................. 2075
  Request Parameters .............................................. 2075
  Response Elements .............................................. 2075
  Errors .................................................................. 2076
  Examples ................................................................ 2076
  See Also .............................................................. 2076
ResetImageAttribute ................................................... 2078
  Request Parameters .............................................. 2078
  Response Elements .............................................. 2078
  Errors .................................................................. 2079
  Examples ................................................................ 2079
  See Also .............................................................. 2079
ResetInstanceAttribute .............................................. 2081
  Request Parameters .............................................. 2081
  Response Elements .............................................. 2082
  Errors .................................................................. 2082
  Examples ................................................................ 2082
  See Also .............................................................. 2083
ResetNetworkInterfaceAttribute .................................. 2084
  Request Parameters .............................................. 2084
  Response Elements .............................................. 2084
  Errors .................................................................. 2085
  See Also .............................................................. 2085
ResetSnapshotAttribute .............................................. 2086
  Request Parameters .............................................. 2086
  Response Elements .............................................. 2086
  Errors .................................................................. 2087
  Examples ................................................................ 2087
  See Also .............................................................. 2087
Amazon Elastic Compute Cloud

RestoreAddressToClassic ................................................................. 2089
  Request Parameters ................................................................. 2089
  Response Elements ...................................................................... 2089
  Errors ......................................................................................... 2090
  See Also ...................................................................................... 2090
RestoreImageFromRecycleBin ................................................................. 2091
  Request Parameters ...................................................................... 2091
  Response Elements ...................................................................... 2091
  Errors ......................................................................................... 2092
  See Also ...................................................................................... 2092
RestoreManagedPrefixListVersion ......................................................... 2093
  Request Parameters ...................................................................... 2093
  Response Elements ...................................................................... 2094
  Errors ......................................................................................... 2094
  Examples ...................................................................................... 2094
  See Also ...................................................................................... 2095
RestoreSnapshotFromRecycleBin .............................................................. 2096
  Request Parameters ...................................................................... 2096
  Response Elements ...................................................................... 2096
  Errors ......................................................................................... 2098
  See Also ...................................................................................... 2098
RestoreSnapshotTier ............................................................................ 2099
  Request Parameters ...................................................................... 2099
  Response Elements ...................................................................... 2100
  Errors ......................................................................................... 2101
  See Also ...................................................................................... 2101
RevokeClientVpnIngress ......................................................................... 2102
  Request Parameters ...................................................................... 2102
  Response Elements ...................................................................... 2103
  Errors ......................................................................................... 2103
  Examples ...................................................................................... 2103
  See Also ...................................................................................... 2104
RevokeSecurityGroupEgress ................................................................. 2105
  Request Parameters ...................................................................... 2105
  Response Elements ...................................................................... 2107
  Errors ......................................................................................... 2107
Examples ........................................................................................................... 2108
See Also ........................................................................................................... 2109
RevokeSecurityGroupIngress ........................................................................... 2110
Request Parameters ......................................................................................... 2110
Response Elements ......................................................................................... 2112
Errors ............................................................................................................... 2113
Examples ........................................................................................................... 2113
See Also ........................................................................................................... 2114
RunInstances ................................................................................................. 2116
Request Parameters ......................................................................................... 2116
Response Elements ......................................................................................... 2132
Errors ............................................................................................................... 2133
Examples ........................................................................................................... 2133
See Also ........................................................................................................... 2139
RunScheduledInstances .................................................................................. 2141
Request Parameters ......................................................................................... 2141
Response Elements ......................................................................................... 2142
Errors ............................................................................................................... 2142
See Also ........................................................................................................... 2142
SearchLocalGatewayRoutes ............................................................................ 2144
Request Parameters ......................................................................................... 2144
Response Elements ......................................................................................... 2145
Errors ............................................................................................................... 2146
See Also ........................................................................................................... 2146
SearchTransitGatewayMulticastGroups .......................................................... 2147
Request Parameters ......................................................................................... 2147
Response Elements ......................................................................................... 2148
Errors ............................................................................................................... 2149
Examples ........................................................................................................... 2149
See Also ........................................................................................................... 2150
SearchTransitGatewayRoutes .......................................................................... 2151
Request Parameters ......................................................................................... 2151
Response Elements ......................................................................................... 2152
Errors ............................................................................................................... 2153
See Also ........................................................................................................... 2153
SendDiagnosticInterrupt .................................................................................. 2154
<table>
<thead>
<tr>
<th>Method</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>AssignIpv6Addresses</td>
<td>2174</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>2175</td>
</tr>
<tr>
<td>Response Elements</td>
<td>2175</td>
</tr>
<tr>
<td>Errors</td>
<td>2176</td>
</tr>
<tr>
<td>Examples</td>
<td>2176</td>
</tr>
<tr>
<td>See Also</td>
<td>2177</td>
</tr>
<tr>
<td>TerminateInstances</td>
<td>2178</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>2178</td>
</tr>
<tr>
<td>Response Elements</td>
<td>2178</td>
</tr>
<tr>
<td>Errors</td>
<td>2179</td>
</tr>
<tr>
<td>Examples</td>
<td>2179</td>
</tr>
<tr>
<td>See Also</td>
<td>2180</td>
</tr>
<tr>
<td>UnassignIpv6Addresses</td>
<td>2181</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>2181</td>
</tr>
<tr>
<td>Response Elements</td>
<td>2181</td>
</tr>
<tr>
<td>Errors</td>
<td>2182</td>
</tr>
<tr>
<td>Examples</td>
<td>2182</td>
</tr>
<tr>
<td>See Also</td>
<td>2182</td>
</tr>
<tr>
<td>UnassignPrivateIpAddress</td>
<td>2184</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>2184</td>
</tr>
<tr>
<td>Response Elements</td>
<td>2185</td>
</tr>
<tr>
<td>Errors</td>
<td>2185</td>
</tr>
<tr>
<td>See Also</td>
<td>2186</td>
</tr>
<tr>
<td>UnassignPrivateNatGatewayAddress</td>
<td>2187</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>2187</td>
</tr>
<tr>
<td>Response Elements</td>
<td>2187</td>
</tr>
<tr>
<td>Errors</td>
<td>2188</td>
</tr>
<tr>
<td>See Also</td>
<td>2188</td>
</tr>
<tr>
<td>UnlockSnapshot</td>
<td>2189</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>2189</td>
</tr>
<tr>
<td>Response Elements</td>
<td>2189</td>
</tr>
<tr>
<td>Errors</td>
<td>2190</td>
</tr>
<tr>
<td>Examples</td>
<td>2190</td>
</tr>
<tr>
<td>See Also</td>
<td>2190</td>
</tr>
</tbody>
</table>
UpdateSecurityGroupRuleDescriptionsEgress .......................................................... 2192
  Request Parameters ........................................................................................................ 2192
  Response Elements ......................................................................................................... 2193
  Errors ............................................................................................................................... 2193
  Examples .......................................................................................................................... 2193
  See Also ............................................................................................................................ 2194
UpdateSecurityGroupRuleDescriptionsIngress .......................................................... 2195
  Request Parameters ........................................................................................................ 2195
  Response Elements ......................................................................................................... 2196
  Errors ............................................................................................................................... 2196
  Examples .......................................................................................................................... 2197
  See Also ............................................................................................................................ 2198
WithdrawByoipCidr .......................................................................................................... 2199
  Request Parameters ........................................................................................................ 2199
  Response Elements ......................................................................................................... 2199
  Errors ............................................................................................................................... 2200
  See Also ............................................................................................................................ 2200

Data Types ......................................................................................................................... 2201
AcceleratorCount .............................................................................................................. 2226
  Contents ............................................................................................................................ 2226
  See Also ............................................................................................................................ 2226
AcceleratorCountRequest ................................................................................................. 2227
  Contents ............................................................................................................................ 2227
  See Also ............................................................................................................................ 2227
AcceleratorTotalMemoryMiB ............................................................................................. 2228
  Contents ............................................................................................................................ 2228
  See Also ............................................................................................................................ 2228
AcceleratorTotalMemoryMiBRequest ................................................................................ 2229
  Contents ............................................................................................................................ 2229
  See Also ............................................................................................................................ 2229
AccessScopeAnalysisFinding ............................................................................................ 2230
  Contents ............................................................................................................................ 2230
  See Also ............................................................................................................................ 2230
AccessScopePath ................................................................................................................ 2232
  Contents ............................................................................................................................ 2232
  See Also ............................................................................................................................ 2232
<table>
<thead>
<tr>
<th>Class</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>BaselineEbsBandwidthMbpsRequest</td>
<td>2290</td>
</tr>
<tr>
<td>Contents</td>
<td>2290</td>
</tr>
<tr>
<td>See Also</td>
<td>2290</td>
</tr>
<tr>
<td>BlobAttributeValue</td>
<td>2291</td>
</tr>
<tr>
<td>Contents</td>
<td>2291</td>
</tr>
<tr>
<td>See Also</td>
<td>2291</td>
</tr>
<tr>
<td>BlockDeviceMapping</td>
<td>2292</td>
</tr>
<tr>
<td>Contents</td>
<td>2292</td>
</tr>
<tr>
<td>See Also</td>
<td>2293</td>
</tr>
<tr>
<td>BundleTask</td>
<td>2294</td>
</tr>
<tr>
<td>Contents</td>
<td>2294</td>
</tr>
<tr>
<td>See Also</td>
<td>2295</td>
</tr>
<tr>
<td>BundleTaskError</td>
<td>2296</td>
</tr>
<tr>
<td>Contents</td>
<td>2296</td>
</tr>
<tr>
<td>See Also</td>
<td>2296</td>
</tr>
<tr>
<td>Byoasn</td>
<td>2297</td>
</tr>
<tr>
<td>Contents</td>
<td>2297</td>
</tr>
<tr>
<td>See Also</td>
<td>2297</td>
</tr>
<tr>
<td>ByoipCidr</td>
<td>2299</td>
</tr>
<tr>
<td>Contents</td>
<td>2299</td>
</tr>
<tr>
<td>See Also</td>
<td>2300</td>
</tr>
<tr>
<td>CancelCapacityReservationFleetError</td>
<td>2301</td>
</tr>
<tr>
<td>Contents</td>
<td>2301</td>
</tr>
<tr>
<td>See Also</td>
<td>2301</td>
</tr>
<tr>
<td>CancelledSpotInstanceRequest</td>
<td>2302</td>
</tr>
<tr>
<td>Contents</td>
<td>2302</td>
</tr>
<tr>
<td>See Also</td>
<td>2302</td>
</tr>
<tr>
<td>CancelSpotFleetRequestsError</td>
<td>2303</td>
</tr>
<tr>
<td>Contents</td>
<td>2303</td>
</tr>
<tr>
<td>See Also</td>
<td>2303</td>
</tr>
<tr>
<td>CancelSpotFleetRequestsErrorItem</td>
<td>2304</td>
</tr>
<tr>
<td>Contents</td>
<td>2304</td>
</tr>
<tr>
<td>See Also</td>
<td>2304</td>
</tr>
<tr>
<td>CancelSpotFleetRequestsSuccessItem</td>
<td>2305</td>
</tr>
<tr>
<td>Contents</td>
<td>2305</td>
</tr>
<tr>
<td>See Also</td>
<td>2305</td>
</tr>
<tr>
<td>CapacityAllocation</td>
<td>2307</td>
</tr>
<tr>
<td>Class</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Contents</td>
<td>2307</td>
</tr>
<tr>
<td>See Also</td>
<td>2307</td>
</tr>
<tr>
<td>CapacityBlockOffering</td>
<td>2308</td>
</tr>
<tr>
<td>Contents</td>
<td>2308</td>
</tr>
<tr>
<td>See Also</td>
<td>2309</td>
</tr>
<tr>
<td>CapacityReservation</td>
<td>2311</td>
</tr>
<tr>
<td>Contents</td>
<td>2311</td>
</tr>
<tr>
<td>See Also</td>
<td>2316</td>
</tr>
<tr>
<td>CapacityReservationFleet</td>
<td>2318</td>
</tr>
<tr>
<td>Contents</td>
<td>2318</td>
</tr>
<tr>
<td>See Also</td>
<td>2321</td>
</tr>
<tr>
<td>CapacityReservationFleetCancellationState</td>
<td>2322</td>
</tr>
<tr>
<td>Contents</td>
<td>2322</td>
</tr>
<tr>
<td>See Also</td>
<td>2322</td>
</tr>
<tr>
<td>CapacityReservationGroup</td>
<td>2324</td>
</tr>
<tr>
<td>Contents</td>
<td>2324</td>
</tr>
<tr>
<td>See Also</td>
<td>2324</td>
</tr>
<tr>
<td>CapacityReservationOptions</td>
<td>2325</td>
</tr>
<tr>
<td>Contents</td>
<td>2325</td>
</tr>
<tr>
<td>See Also</td>
<td>2325</td>
</tr>
<tr>
<td>CapacityReservationOptionsRequest</td>
<td>2327</td>
</tr>
<tr>
<td>Contents</td>
<td>2327</td>
</tr>
<tr>
<td>See Also</td>
<td>2327</td>
</tr>
<tr>
<td>CapacityReservationSpecification</td>
<td>2329</td>
</tr>
<tr>
<td>Contents</td>
<td>2329</td>
</tr>
<tr>
<td>See Also</td>
<td>2329</td>
</tr>
<tr>
<td>CapacityReservationSpecificationResponse</td>
<td>2331</td>
</tr>
<tr>
<td>Contents</td>
<td>2331</td>
</tr>
<tr>
<td>See Also</td>
<td>2331</td>
</tr>
<tr>
<td>CapacityReservationTarget</td>
<td>2333</td>
</tr>
<tr>
<td>Contents</td>
<td>2333</td>
</tr>
<tr>
<td>See Also</td>
<td>2333</td>
</tr>
<tr>
<td>CapacityReservationTargetResponse</td>
<td>2334</td>
</tr>
<tr>
<td>Contents</td>
<td>2334</td>
</tr>
<tr>
<td>See Also</td>
<td>2334</td>
</tr>
<tr>
<td>CarrierGateway</td>
<td>2335</td>
</tr>
<tr>
<td>Topic</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>CertificateAuthentication</td>
<td>2337</td>
</tr>
<tr>
<td>CertificateAuthenticationRequest</td>
<td>2338</td>
</tr>
<tr>
<td>CidrAuthorizationContext</td>
<td>2339</td>
</tr>
<tr>
<td>CidrBlock</td>
<td>2340</td>
</tr>
<tr>
<td>ClassicLinkDnsSupport</td>
<td>2341</td>
</tr>
<tr>
<td>ClassicLinkInstance</td>
<td>2342</td>
</tr>
<tr>
<td>ClassicLoadBalancer</td>
<td>2343</td>
</tr>
<tr>
<td>ClassicLoadBalancersConfig</td>
<td>2344</td>
</tr>
<tr>
<td>ClientCertificateRevocationListStatus</td>
<td>2345</td>
</tr>
<tr>
<td>ClientConnectOptions</td>
<td>2346</td>
</tr>
<tr>
<td>ClientConnectResponseOptions</td>
<td>2347</td>
</tr>
<tr>
<td>ClientData</td>
<td>2348</td>
</tr>
</tbody>
</table>
Amazon Elastic Compute Cloud

Contents .............................................................................................................. 2349
See Also ............................................................................................................. 2349
ClientLoginBannerOptions .............................................................................. 2351
  Contents .......................................................................................................... 2351
  See Also .......................................................................................................... 2351
ClientLoginBannerResponseOptions .............................................................. 2352
  Contents .......................................................................................................... 2352
  See Also .......................................................................................................... 2352
ClientVpnAuthentication ................................................................................. 2353
  Contents .......................................................................................................... 2353
  See Also .......................................................................................................... 2354
ClientVpnAuthenticationRequest ................................................................. 2355
  Contents .......................................................................................................... 2355
  See Also .......................................................................................................... 2356
ClientVpnAuthorizationRuleStatus ............................................................... 2357
  Contents .......................................................................................................... 2357
  See Also .......................................................................................................... 2357
ClientVpnConnection ..................................................................................... 2358
  Contents .......................................................................................................... 2358
  See Also .......................................................................................................... 2360
ClientVpnConnectionStatus .......................................................................... 2361
  Contents .......................................................................................................... 2361
  See Also .......................................................................................................... 2361
ClientVpnEndpoint .......................................................................................... 2362
  Contents .......................................................................................................... 2362
  See Also .......................................................................................................... 2366
ClientVpnEndpointAttributeStatus ............................................................... 2367
  Contents .......................................................................................................... 2367
  See Also .......................................................................................................... 2367
ClientVpnEndpointStatus .............................................................................. 2368
  Contents .......................................................................................................... 2368
  See Also .......................................................................................................... 2368
ClientVpnRoute .............................................................................................. 2370
  Contents .......................................................................................................... 2370
  See Also .......................................................................................................... 2371
ClientVpnRouteStatus .................................................................................... 2372
<table>
<thead>
<tr>
<th>Contents</th>
<th>2419</th>
</tr>
</thead>
<tbody>
<tr>
<td>See Also</td>
<td>2419</td>
</tr>
<tr>
<td>CreateVerifiedAccessTrustProviderOidcOptions</td>
<td>2420</td>
</tr>
<tr>
<td>Contents</td>
<td>2420</td>
</tr>
<tr>
<td>See Also</td>
<td>2421</td>
</tr>
<tr>
<td>CreateVolumePermission</td>
<td>2422</td>
</tr>
<tr>
<td>Contents</td>
<td>2422</td>
</tr>
<tr>
<td>See Also</td>
<td>2422</td>
</tr>
<tr>
<td>CreateVolumePermissionModifications</td>
<td>2423</td>
</tr>
<tr>
<td>Contents</td>
<td>2423</td>
</tr>
<tr>
<td>See Also</td>
<td>2423</td>
</tr>
<tr>
<td>CreditSpecification</td>
<td>2424</td>
</tr>
<tr>
<td>Contents</td>
<td>2424</td>
</tr>
<tr>
<td>See Also</td>
<td>2424</td>
</tr>
<tr>
<td>CreditSpecificationRequest</td>
<td>2425</td>
</tr>
<tr>
<td>Contents</td>
<td>2425</td>
</tr>
<tr>
<td>See Also</td>
<td>2425</td>
</tr>
<tr>
<td>CustomerGateway</td>
<td>2426</td>
</tr>
<tr>
<td>Contents</td>
<td>2426</td>
</tr>
<tr>
<td>See Also</td>
<td>2427</td>
</tr>
<tr>
<td>DataQuery</td>
<td>2428</td>
</tr>
<tr>
<td>Contents</td>
<td>2428</td>
</tr>
<tr>
<td>See Also</td>
<td>2429</td>
</tr>
<tr>
<td>DataResponse</td>
<td>2430</td>
</tr>
<tr>
<td>Contents</td>
<td>2430</td>
</tr>
<tr>
<td>See Also</td>
<td>2431</td>
</tr>
<tr>
<td>DeleteFleetError</td>
<td>2432</td>
</tr>
<tr>
<td>Contents</td>
<td>2432</td>
</tr>
<tr>
<td>See Also</td>
<td>2432</td>
</tr>
<tr>
<td>DeleteFleetErrorItem</td>
<td>2433</td>
</tr>
<tr>
<td>Contents</td>
<td>2433</td>
</tr>
<tr>
<td>See Also</td>
<td>2433</td>
</tr>
<tr>
<td>DeleteFleetSuccessItem</td>
<td>2434</td>
</tr>
<tr>
<td>Contents</td>
<td>2434</td>
</tr>
<tr>
<td>See Also</td>
<td>2434</td>
</tr>
<tr>
<td>DeleteLaunchTemplateVersionsResponseErrorResponseItem</td>
<td>2436</td>
</tr>
</tbody>
</table>
Amazon Elastic Compute Cloud

Contents .............................................................................................................................. 2436
See Also ............................................................................................................................. 2436
DeleteLaunchTemplateVersionsResponseSuccessItem ..................................................... 2438
  Contents ........................................................................................................................... 2438
  See Also .......................................................................................................................... 2438
DeleteQueuedReservedInstancesError ................................................................................ 2439
  Contents ........................................................................................................................... 2439
  See Also .......................................................................................................................... 2439
DeregisterInstanceTagAttributeRequest ............................................................................ 2440
  Contents ........................................................................................................................... 2440
  See Also .......................................................................................................................... 2440
DescribeFastLaunchImagesSuccessItem ............................................................................. 2441
  Contents ........................................................................................................................... 2441
  See Also .......................................................................................................................... 2442
DescribeFastSnapshotRestoreSuccessItem ......................................................................... 2444
  Contents ........................................................................................................................... 2444
  See Also .......................................................................................................................... 2446
DescribeFleetError ............................................................................................................... 2447
  Contents ........................................................................................................................... 2447
  See Also .......................................................................................................................... 2448
DescribeFleetsInstances ...................................................................................................... 2449
  Contents ........................................................................................................................... 2449
  See Also .......................................................................................................................... 2454
DestinationOptionsRequest ................................................................................................. 2455
  Contents ........................................................................................................................... 2455
  See Also .......................................................................................................................... 2455
DestinationOptionsResponse ............................................................................................... 2457
  Contents ........................................................................................................................... 2457
  See Also .......................................................................................................................... 2457
DeviceOptions ..................................................................................................................... 2459
  Contents ........................................................................................................................... 2459
  See Also .......................................................................................................................... 2459
DhcpConfiguration ............................................................................................................... 2460
  Contents ........................................................................................................................... 2460
  See Also .......................................................................................................................... 2460
DhcpOptions ......................................................................................................................... 2461
<p>| Contents | 2461 |
| See Also | 2461 |
| DirectoryServiceAuthentication | 2463 |
| Contents | 2463 |
| See Also | 2463 |
| DirectoryServiceAuthenticationRequest | 2464 |
| Contents | 2464 |
| See Also | 2464 |
| DisableFastSnapshotrestoreErrorItem | 2465 |
| Contents | 2465 |
| See Also | 2465 |
| DisableFastSnapshotRestoreStateError | 2466 |
| Contents | 2466 |
| See Also | 2466 |
| DisableFastSnapshotRestoreStateErrorItem | 2467 |
| Contents | 2467 |
| See Also | 2467 |
| DisableFastSnapshotRestoreSuccessItem | 2468 |
| Contents | 2468 |
| See Also | 2470 |
| DiskImage | 2471 |
| Contents | 2471 |
| See Also | 2471 |
| DiskImageDescription | 2472 |
| Contents | 2472 |
| See Also | 2473 |
| DiskImageDetail | 2474 |
| Contents | 2474 |
| See Also | 2474 |
| DiskImageVolumeDescription | 2476 |
| Contents | 2476 |
| See Also | 2476 |
| DiskInfo | 2477 |
| Contents | 2477 |
| See Also | 2477 |
| DnsEntry | 2479 |</p>
<table>
<thead>
<tr>
<th>Class</th>
<th>Contents</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ElasticGpuHealth</td>
<td></td>
<td>2502</td>
</tr>
<tr>
<td>ElasticGpus</td>
<td></td>
<td>2503</td>
</tr>
<tr>
<td>ElasticGpuSpecification</td>
<td></td>
<td>2505</td>
</tr>
<tr>
<td>ElasticGpuSpecificationResponse</td>
<td></td>
<td>2506</td>
</tr>
<tr>
<td>ElasticInferenceAccelerator</td>
<td></td>
<td>2507</td>
</tr>
<tr>
<td>ElasticInferenceAcceleratorAssociation</td>
<td></td>
<td>2508</td>
</tr>
<tr>
<td>EnableFastSnapshotRestoreErrorItem</td>
<td></td>
<td>2510</td>
</tr>
<tr>
<td>EnableFastSnapshotRestoreStateError</td>
<td></td>
<td>2511</td>
</tr>
<tr>
<td>EnableFastSnapshotRestoreStateErrorItem</td>
<td></td>
<td>2512</td>
</tr>
<tr>
<td>EnableFastSnapshotRestoreSuccessItem</td>
<td></td>
<td>2513</td>
</tr>
<tr>
<td>EnaSrdSpecification</td>
<td></td>
<td>2516</td>
</tr>
<tr>
<td>EnaSrdSpecificationRequest</td>
<td></td>
<td>2518</td>
</tr>
</tbody>
</table>
Contents .................................................................................................................. 2518
See Also .................................................................................................................. 2518
EnaSrdUdpSpecification .......................................................................................... 2519
  Contents .................................................................................................................. 2519
  See Also .................................................................................................................. 2519
EnaSrdUdpSpecificationRequest .............................................................................. 2520
  Contents .................................................................................................................. 2520
  See Also .................................................................................................................. 2520
EnclaveOptions .......................................................................................................... 2521
  Contents .................................................................................................................. 2521
  See Also .................................................................................................................. 2521
EnclaveOptionsRequest ............................................................................................ 2522
  Contents .................................................................................................................. 2522
  See Also .................................................................................................................. 2522
EventInformation ..................................................................................................... 2523
  Contents .................................................................................................................. 2523
  See Also .................................................................................................................. 2525
Explanation ............................................................................................................... 2526
  Contents .................................................................................................................. 2526
  See Also .................................................................................................................. 2535
ExportImageTask ....................................................................................................... 2536
  Contents .................................................................................................................. 2536
  See Also .................................................................................................................. 2537
ExportTask ................................................................................................................ 2538
  Contents .................................................................................................................. 2538
  See Also .................................................................................................................. 2539
ExportTaskS3Location .............................................................................................. 2540
  Contents .................................................................................................................. 2540
  See Also .................................................................................................................. 2540
ExportTaskS3LocationRequest ................................................................................... 2541
  Contents .................................................................................................................. 2541
  See Also .................................................................................................................. 2541
ExportToS3Task ......................................................................................................... 2542
  Contents .................................................................................................................. 2542
  See Also .................................................................................................................. 2543
ExportToS3TaskSpecification .................................................................................... 2544
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contents</td>
<td>2560</td>
</tr>
<tr>
<td>See Also</td>
<td>2561</td>
</tr>
<tr>
<td>FleetCapacityReservation</td>
<td>2562</td>
</tr>
<tr>
<td>Contents</td>
<td>2562</td>
</tr>
<tr>
<td>See Also</td>
<td>2569</td>
</tr>
<tr>
<td>FleetData</td>
<td>2570</td>
</tr>
<tr>
<td>Contents</td>
<td>2570</td>
</tr>
<tr>
<td>See Also</td>
<td>2574</td>
</tr>
<tr>
<td>FleetLaunchTemplateConfig</td>
<td>2575</td>
</tr>
<tr>
<td>Contents</td>
<td>2575</td>
</tr>
<tr>
<td>See Also</td>
<td>2575</td>
</tr>
<tr>
<td>FleetLaunchTemplateConfigRequest</td>
<td>2576</td>
</tr>
<tr>
<td>Contents</td>
<td>2576</td>
</tr>
<tr>
<td>See Also</td>
<td>2576</td>
</tr>
<tr>
<td>FleetLaunchTemplateOverrides</td>
<td>2577</td>
</tr>
<tr>
<td>Contents</td>
<td>2577</td>
</tr>
<tr>
<td>See Also</td>
<td>2584</td>
</tr>
<tr>
<td>FleetLaunchTemplateOverridesRequest</td>
<td>2585</td>
</tr>
<tr>
<td>Contents</td>
<td>2585</td>
</tr>
<tr>
<td>See Also</td>
<td>2592</td>
</tr>
<tr>
<td>FleetLaunchTemplateSpecification</td>
<td>2593</td>
</tr>
<tr>
<td>Contents</td>
<td>2593</td>
</tr>
<tr>
<td>See Also</td>
<td>2594</td>
</tr>
<tr>
<td>FleetLaunchTemplateSpecificationRequest</td>
<td>2595</td>
</tr>
<tr>
<td>Contents</td>
<td>2595</td>
</tr>
<tr>
<td>See Also</td>
<td>2596</td>
</tr>
<tr>
<td>FleetSpotCapacityRebalance</td>
<td>2597</td>
</tr>
<tr>
<td>Contents</td>
<td>2597</td>
</tr>
<tr>
<td>See Also</td>
<td>2598</td>
</tr>
<tr>
<td>FleetSpotCapacityRebalanceRequest</td>
<td>2599</td>
</tr>
<tr>
<td>Contents</td>
<td>2599</td>
</tr>
<tr>
<td>See Also</td>
<td>2600</td>
</tr>
<tr>
<td>FleetSpotMaintenanceStrategies</td>
<td>2601</td>
</tr>
<tr>
<td>Contents</td>
<td>2601</td>
</tr>
<tr>
<td>See Also</td>
<td>2601</td>
</tr>
<tr>
<td>FleetSpotMaintenanceStrategiesRequest</td>
<td>2602</td>
</tr>
</tbody>
</table>
Amazon Elastic Compute Cloud

Contents ................................................................................................................. 2823
See Also ................................................................................................................... 2825
IpamCidrAuthorizationContext .............................................................................. 2826
    Contents ............................................................................................................. 2826
    See Also ............................................................................................................. 2826
IpamDiscoveredAccount .......................................................................................... 2827
    Contents ............................................................................................................. 2827
    See Also ............................................................................................................. 2828
IpamDiscoveredPublicAddress ................................................................................ 2829
    Contents ............................................................................................................. 2829
    See Also ............................................................................................................. 2832
IpamDiscoveredResourceCidr ................................................................................ 2833
    Contents ............................................................................................................. 2833
    See Also ............................................................................................................. 2835
IpamDiscoveryFailureReason .................................................................................. 2836
    Contents ............................................................................................................. 2836
    See Also ............................................................................................................. 2836
IpamOperatingRegion ............................................................................................. 2838
    Contents ............................................................................................................. 2838
    See Also ............................................................................................................. 2838
IpamPool .................................................................................................................. 2839
    Contents ............................................................................................................. 2839
    See Also ............................................................................................................. 2844
IpamPoolAllocation ................................................................................................. 2846
    Contents ............................................................................................................. 2846
    See Also ............................................................................................................. 2847
IpamPoolCidr ............................................................................................................ 2848
    Contents ............................................................................................................. 2848
    See Also ............................................................................................................. 2849
IpamPoolCidrFailureReason .................................................................................... 2850
    Contents ............................................................................................................. 2850
    See Also ............................................................................................................. 2850
IpamPoolSourceResource ....................................................................................... 2851
    Contents ............................................................................................................. 2851
    See Also ............................................................................................................. 2851
IpamPoolSourceResourceRequest ........................................................................... 2853
See Also

IpamPublicAddressSecurityGroup

Contents

See Also

IpamPublicAddressTag

Contents

See Also

IpamPublicAddressTags

Contents

See Also

IpamResourceCidr

Contents

See Also

IpamResourceDiscovery

Contents

See Also

IpamResourceDiscoveryAssociation

Contents

See Also

IpamResourceTag

Contents

See Also

IpamScope

Contents

See Also

IpPermission

Contents

See Also

IpRange

Contents

See Also

Ipv4PrefixSpecification

Contents

See Also

Ipv4PrefixSpecificationRequest
Contents .......................................................................................................................... 2877
See Also ......................................................................................................................... 2877
Ipv4PrefixSpecificationResponse ..................................................................................... 2878
Contents .......................................................................................................................... 2878
See Also ......................................................................................................................... 2878
Ipv6CidrAssociation ......................................................................................................... 2879
Contents .......................................................................................................................... 2879
See Also ......................................................................................................................... 2879
Ipv6CidrBlock ................................................................................................................ 2880
Contents .......................................................................................................................... 2880
See Also ......................................................................................................................... 2880
Ipv6Pool .......................................................................................................................... 2881
Contents .......................................................................................................................... 2881
See Also ......................................................................................................................... 2881
Ipv6PrefixSpecification ................................................................................................. 2883
Contents .......................................................................................................................... 2883
See Also ......................................................................................................................... 2883
Ipv6PrefixSpecificationRequest ....................................................................................... 2884
Contents .......................................................................................................................... 2884
See Also ......................................................................................................................... 2884
Ipv6PrefixSpecificationResponse ...................................................................................... 2885
Contents .......................................................................................................................... 2885
See Also ......................................................................................................................... 2885
Ipv6Range ........................................................................................................................ 2886
Contents .......................................................................................................................... 2886
See Also ......................................................................................................................... 2886
KeyPairInfo ..................................................................................................................... 2887
Contents .......................................................................................................................... 2887
See Also ......................................................................................................................... 2888
LastError ........................................................................................................................ 2890
Contents .......................................................................................................................... 2890
See Also ......................................................................................................................... 2890
LaunchPermission .......................................................................................................... 2891
Contents .......................................................................................................................... 2891
See Also ......................................................................................................................... 2891
LaunchPermissionModifications ....................................................................................... 2893
Amazon Elastic Compute Cloud

LaunchTemplateInstanceMaintenanceOptionsRequest ........................................ 2923
  Contents ........................................................................................................... 2923
  See Also ............................................................................................................. 2923
LaunchTemplateInstanceMaintenanceOptionsResponse ........................................ 2924
  Contents ........................................................................................................... 2924
  See Also ............................................................................................................. 2924
LaunchTemplateEnaSrdSpecification .................................................................. 2925
  Contents ........................................................................................................... 2925
  See Also ............................................................................................................. 2925
LaunchTemplateEnaSrdUdpSpecification ................................................................ 2926
  Contents ........................................................................................................... 2926
  See Also ............................................................................................................. 2926
LaunchTemplateEnclaveOptions ........................................................................... 2927
  Contents ........................................................................................................... 2927
  See Also ............................................................................................................. 2927
LaunchTemplateEnclaveOptionsRequest ............................................................... 2928
  Contents ........................................................................................................... 2928
  See Also ............................................................................................................. 2928
LaunchTemplateHibernationOptions .................................................................... 2929
  Contents ........................................................................................................... 2929
  See Also ............................................................................................................. 2929
LaunchTemplateHibernationOptionsRequest ......................................................... 2930
  Contents ........................................................................................................... 2930
  See Also ............................................................................................................. 2930
LaunchTemplateIAMInstanceProfileSpecification .............................................. 2931
  Contents ........................................................................................................... 2931
  See Also ............................................................................................................. 2931
LaunchTemplateIAMInstanceProfileSpecificationRequest ................................... 2932
  Contents ........................................................................................................... 2932
  See Also ............................................................................................................. 2932
LaunchTemplateInstanceMaintenanceOptions .................................................... 2933
  Contents ........................................................................................................... 2933
  See Also ............................................................................................................. 2933
LaunchTemplateInstanceMaintenanceOptionsRequest ....................................... 2934
  Contents ........................................................................................................... 2934
  See Also ............................................................................................................. 2934
Amazon Elastic Compute Cloud

ManagedPrefixList

Contents

See Also

3012

MemoryGiBPerVCpu

Contents

See Also

3014

MemoryGiBPerVCpuRequest

Contents

See Also

MemoryInfo

Contents

See Also

MemoryMiB

Contents

See Also

MemoryMiBRequest

Contents

See Also

MetricPoint

Contents

See Also

ModifyTransitGatewayOptions

Contents

See Also

3024

ModifyTransitGatewayVpcAttachmentRequestOptions

Contents

See Also

ModifyVerifiedAccessEndpointEniOptions

Contents

See Also

ModifyVerifiedAccessEndpointLoadBalancerOptions

Contents

See Also

ModifyVerifiedAccessTrustProviderDeviceOptions

Contents

See Also

API Version 2016-11-15 cxxi
Contents .................................................................................................................. 3030
See Also .................................................................................................................. 3030
ModifyVerifiedAccessTrustProviderOidcOptions .............................................. 3031
  Contents ................................................................................................................. 3031
  See Also ................................................................................................................. 3032
ModifyVpnTunnelOptionsSpecification ................................................................. 3033
  Contents ................................................................................................................. 3033
  See Also ................................................................................................................. 3038
Monitoring ............................................................................................................... 3039
  Contents ................................................................................................................. 3039
  See Also ................................................................................................................. 3039
MovingAddressStatus ............................................................................................ 3040
  Contents ................................................................................................................. 3040
  See Also ................................................................................................................. 3040
NatGateway .............................................................................................................. 3041
  Contents ................................................................................................................. 3041
  See Also ................................................................................................................. 3044
NatGatewayAddress ................................................................................................... 3045
  Contents ................................................................................................................. 3045
  See Also ................................................................................................................. 3046
NetworkAcl ............................................................................................................... 3047
  Contents ................................................................................................................. 3047
  See Also ................................................................................................................. 3048
NetworkAclAssociation ............................................................................................. 3049
  Contents ................................................................................................................. 3049
  See Also ................................................................................................................. 3049
NetworkAclEntry ........................................................................................................ 3050
  Contents ................................................................................................................. 3050
  See Also ................................................................................................................. 3051
NetworkBandwidthGbps .......................................................................................... 3052
  Contents ................................................................................................................. 3052
  See Also ................................................................................................................. 3052
NetworkBandwidthGbpsRequest ............................................................................. 3054
  Contents ................................................................................................................. 3054
  See Also ................................................................................................................. 3054
NetworkCardInfo ..................................................................................................... 3056
<table>
<thead>
<tr>
<th>Contents</th>
<th>3056</th>
</tr>
</thead>
<tbody>
<tr>
<td>See Also</td>
<td>3057</td>
</tr>
<tr>
<td>NetworkInfo</td>
<td>3058</td>
</tr>
<tr>
<td>Contents</td>
<td>3058</td>
</tr>
<tr>
<td>See Also</td>
<td>3060</td>
</tr>
<tr>
<td>NetworkInsightsAccessScope</td>
<td>3061</td>
</tr>
<tr>
<td>Contents</td>
<td>3061</td>
</tr>
<tr>
<td>See Also</td>
<td>3062</td>
</tr>
<tr>
<td>NetworkInsightsAccessScopeAnalysis</td>
<td>3063</td>
</tr>
<tr>
<td>Contents</td>
<td>3063</td>
</tr>
<tr>
<td>See Also</td>
<td>3065</td>
</tr>
<tr>
<td>NetworkInsightsAccessScopeContent</td>
<td>3066</td>
</tr>
<tr>
<td>Contents</td>
<td>3066</td>
</tr>
<tr>
<td>See Also</td>
<td>3066</td>
</tr>
<tr>
<td>NetworkInsightsAnalysis</td>
<td>3067</td>
</tr>
<tr>
<td>Contents</td>
<td>3067</td>
</tr>
<tr>
<td>See Also</td>
<td>3070</td>
</tr>
<tr>
<td>NetworkInsightsPath</td>
<td>3071</td>
</tr>
<tr>
<td>Contents</td>
<td>3071</td>
</tr>
<tr>
<td>See Also</td>
<td>3073</td>
</tr>
<tr>
<td>NetworkInterface</td>
<td>3075</td>
</tr>
<tr>
<td>Contents</td>
<td>3075</td>
</tr>
<tr>
<td>See Also</td>
<td>3080</td>
</tr>
<tr>
<td>NetworkInterfaceAssociation</td>
<td>3081</td>
</tr>
<tr>
<td>Contents</td>
<td>3081</td>
</tr>
<tr>
<td>See Also</td>
<td>3082</td>
</tr>
<tr>
<td>NetworkInterfaceAttachment</td>
<td>3083</td>
</tr>
<tr>
<td>Contents</td>
<td>3083</td>
</tr>
<tr>
<td>See Also</td>
<td>3084</td>
</tr>
<tr>
<td>NetworkInterfaceAttachmentChanges</td>
<td>3086</td>
</tr>
<tr>
<td>Contents</td>
<td>3086</td>
</tr>
<tr>
<td>See Also</td>
<td>3086</td>
</tr>
<tr>
<td>NetworkInterfaceCount</td>
<td>3087</td>
</tr>
<tr>
<td>Contents</td>
<td>3087</td>
</tr>
<tr>
<td>See Also</td>
<td>3087</td>
</tr>
<tr>
<td>NetworkInterfaceCountRequest</td>
<td>3088</td>
</tr>
<tr>
<td>Topic</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Amazon Elastic Compute Cloud</td>
<td>3193</td>
</tr>
<tr>
<td>Contents</td>
<td>3205</td>
</tr>
<tr>
<td>RequestSpotLaunchSpecification</td>
<td>3207</td>
</tr>
<tr>
<td>Contents</td>
<td>3207</td>
</tr>
<tr>
<td>See Also</td>
<td>3214</td>
</tr>
<tr>
<td>Reservation</td>
<td>3215</td>
</tr>
<tr>
<td>Contents</td>
<td>3215</td>
</tr>
<tr>
<td>See Also</td>
<td>3216</td>
</tr>
<tr>
<td>ReservationFleetInstanceSpecification</td>
<td>3217</td>
</tr>
<tr>
<td>Contents</td>
<td>3217</td>
</tr>
<tr>
<td>See Also</td>
<td>3223</td>
</tr>
<tr>
<td>ReservationValue</td>
<td>3224</td>
</tr>
<tr>
<td>Contents</td>
<td>3224</td>
</tr>
<tr>
<td>See Also</td>
<td>3224</td>
</tr>
<tr>
<td>ReservedInstanceLimitPrice</td>
<td>3225</td>
</tr>
<tr>
<td>Contents</td>
<td>3225</td>
</tr>
<tr>
<td>See Also</td>
<td>3225</td>
</tr>
<tr>
<td>ReservedInstanceReservationValue</td>
<td>3226</td>
</tr>
<tr>
<td>Contents</td>
<td>3226</td>
</tr>
<tr>
<td>See Also</td>
<td>3226</td>
</tr>
<tr>
<td>ReservedInstances</td>
<td>3227</td>
</tr>
<tr>
<td>Contents</td>
<td>3227</td>
</tr>
<tr>
<td>See Also</td>
<td>3235</td>
</tr>
<tr>
<td>ReservedInstancesConfiguration</td>
<td>3236</td>
</tr>
<tr>
<td>Contents</td>
<td>3236</td>
</tr>
<tr>
<td>See Also</td>
<td>3241</td>
</tr>
<tr>
<td>ReservedInstancesId</td>
<td>3243</td>
</tr>
<tr>
<td>Contents</td>
<td>3243</td>
</tr>
<tr>
<td>See Also</td>
<td>3243</td>
</tr>
<tr>
<td>ReservedInstancesListing</td>
<td>3244</td>
</tr>
<tr>
<td>Contents</td>
<td>3244</td>
</tr>
<tr>
<td>See Also</td>
<td>3245</td>
</tr>
<tr>
<td>ReservedInstancesModification</td>
<td>3247</td>
</tr>
<tr>
<td>Contents</td>
<td>3247</td>
</tr>
<tr>
<td>See Also</td>
<td>3248</td>
</tr>
<tr>
<td>ReservedInstancesModificationResult</td>
<td>3249</td>
</tr>
</tbody>
</table>
Contents .................................................................................................................. 3329
See Also .................................................................................................................. 3329
ServiceConfiguration ............................................................................................. 3330
Contents .................................................................................................................. 3330
See Also .................................................................................................................. 3332
ServiceDetail .......................................................................................................... 3334
Contents .................................................................................................................. 3334
See Also .................................................................................................................. 3337
ServiceTypeDetail ................................................................................................... 3338
Contents .................................................................................................................. 3338
See Also .................................................................................................................. 3338
SlotDateTimeRangeRequest ....................................................................................... 3339
Contents .................................................................................................................. 3339
See Also .................................................................................................................. 3339
SlotStartTimeRangeRequest ..................................................................................... 3340
Contents .................................................................................................................. 3340
See Also .................................................................................................................. 3340
Snapshot .................................................................................................................. 3341
Contents .................................................................................................................. 3341
See Also .................................................................................................................. 3344
SnapshotDetail ........................................................................................................ 3345
Contents .................................................................................................................. 3345
See Also .................................................................................................................. 3346
SnapshotDiskContainer ........................................................................................... 3348
Contents .................................................................................................................. 3348
See Also .................................................................................................................. 3348
SnapshotInfo ............................................................................................................ 3350
Contents .................................................................................................................. 3350
See Also .................................................................................................................. 3352
SnapshotRecycleBinInfo .......................................................................................... 3353
Contents .................................................................................................................. 3353
See Also .................................................................................................................. 3354
SnapshotTaskDetail ................................................................................................. 3355
Contents .................................................................................................................. 3355
See Also .................................................................................................................. 3357
SnapshotTierStatus ................................................................................................. 3358
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SpotCapacityRebalance</td>
<td>3361</td>
</tr>
<tr>
<td>SpotDatafeedSubscription</td>
<td>3363</td>
</tr>
<tr>
<td>SpotFleetLaunchSpecification</td>
<td>3365</td>
</tr>
<tr>
<td>SpotFleetMonitoring</td>
<td>3375</td>
</tr>
<tr>
<td>SpotFleetRequestConfig</td>
<td>3376</td>
</tr>
<tr>
<td>SpotFleetRequestConfigData</td>
<td>3378</td>
</tr>
<tr>
<td>SpotFleetTagSpecification</td>
<td>3387</td>
</tr>
<tr>
<td>SpotInstanceRequest</td>
<td>3389</td>
</tr>
<tr>
<td>SpotInstanceStateFault</td>
<td>3394</td>
</tr>
<tr>
<td>SpotInstanceStatus</td>
<td>3395</td>
</tr>
<tr>
<td>SpotMaintenanceStrategies</td>
<td>3397</td>
</tr>
<tr>
<td>SpotMarketOptions</td>
<td>3398</td>
</tr>
<tr>
<td>API Reference</td>
<td>Page</td>
</tr>
<tr>
<td>---------------</td>
<td>------</td>
</tr>
<tr>
<td>Contents</td>
<td>3398</td>
</tr>
<tr>
<td>See Also</td>
<td>3399</td>
</tr>
<tr>
<td>SpotOptions</td>
<td>3401</td>
</tr>
<tr>
<td>Contents</td>
<td>3401</td>
</tr>
<tr>
<td>See Also</td>
<td>3404</td>
</tr>
<tr>
<td>SpotOptionsRequest</td>
<td>3405</td>
</tr>
<tr>
<td>Contents</td>
<td>3405</td>
</tr>
<tr>
<td>See Also</td>
<td>3408</td>
</tr>
<tr>
<td>SpotPlacement</td>
<td>3409</td>
</tr>
<tr>
<td>Contents</td>
<td>3409</td>
</tr>
<tr>
<td>See Also</td>
<td>3409</td>
</tr>
<tr>
<td>SpotPlacementScore</td>
<td>3411</td>
</tr>
<tr>
<td>Contents</td>
<td>3411</td>
</tr>
<tr>
<td>See Also</td>
<td>3411</td>
</tr>
<tr>
<td>StaleIpPermission</td>
<td>3413</td>
</tr>
<tr>
<td>Contents</td>
<td>3413</td>
</tr>
<tr>
<td>See Also</td>
<td>3419</td>
</tr>
<tr>
<td>StaleSecurityGroup</td>
<td>3420</td>
</tr>
<tr>
<td>Contents</td>
<td>3420</td>
</tr>
<tr>
<td>See Also</td>
<td>3421</td>
</tr>
<tr>
<td>StateReason</td>
<td>3422</td>
</tr>
<tr>
<td>Contents</td>
<td>3422</td>
</tr>
<tr>
<td>See Also</td>
<td>3423</td>
</tr>
<tr>
<td>Storage</td>
<td>3424</td>
</tr>
<tr>
<td>Contents</td>
<td>3424</td>
</tr>
<tr>
<td>See Also</td>
<td>3425</td>
</tr>
<tr>
<td>StorageLocation</td>
<td>3426</td>
</tr>
<tr>
<td>Contents</td>
<td>3426</td>
</tr>
<tr>
<td>See Also</td>
<td>3426</td>
</tr>
<tr>
<td>StoreImageTaskResult</td>
<td>3427</td>
</tr>
<tr>
<td>Contents</td>
<td>3427</td>
</tr>
<tr>
<td>See Also</td>
<td>3427</td>
</tr>
<tr>
<td>Subnet</td>
<td>3430</td>
</tr>
<tr>
<td>Topic</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Contents</td>
<td>3430</td>
</tr>
<tr>
<td>See Also</td>
<td>3434</td>
</tr>
<tr>
<td>SubnetAssociation</td>
<td>3435</td>
</tr>
<tr>
<td>Contents</td>
<td>3435</td>
</tr>
<tr>
<td>See Also</td>
<td>3435</td>
</tr>
<tr>
<td>SubnetCidrBlockState</td>
<td>3436</td>
</tr>
<tr>
<td>Contents</td>
<td>3436</td>
</tr>
<tr>
<td>See Also</td>
<td>3436</td>
</tr>
<tr>
<td>SubnetCidrReservation</td>
<td>3437</td>
</tr>
<tr>
<td>Contents</td>
<td>3437</td>
</tr>
<tr>
<td>See Also</td>
<td>3438</td>
</tr>
<tr>
<td>SubnetConfiguration</td>
<td>3439</td>
</tr>
<tr>
<td>Contents</td>
<td>3439</td>
</tr>
<tr>
<td>See Also</td>
<td>3440</td>
</tr>
<tr>
<td>SubnetIpv6CidrBlockAssociation</td>
<td>3441</td>
</tr>
<tr>
<td>Contents</td>
<td>3441</td>
</tr>
<tr>
<td>See Also</td>
<td>3441</td>
</tr>
<tr>
<td>Subscription</td>
<td>3442</td>
</tr>
<tr>
<td>Contents</td>
<td>3442</td>
</tr>
<tr>
<td>See Also</td>
<td>3443</td>
</tr>
<tr>
<td>SuccessfulInstanceCreditSpecificationItem</td>
<td>3444</td>
</tr>
<tr>
<td>Contents</td>
<td>3444</td>
</tr>
<tr>
<td>See Also</td>
<td>3444</td>
</tr>
<tr>
<td>SuccessfulQueuedPurchaseDeletion</td>
<td>3445</td>
</tr>
<tr>
<td>Contents</td>
<td>3445</td>
</tr>
<tr>
<td>See Also</td>
<td>3445</td>
</tr>
<tr>
<td>Tag</td>
<td>3446</td>
</tr>
<tr>
<td>Contents</td>
<td>3446</td>
</tr>
<tr>
<td>See Also</td>
<td>3446</td>
</tr>
<tr>
<td>TagDescription</td>
<td>3447</td>
</tr>
<tr>
<td>Contents</td>
<td>3447</td>
</tr>
<tr>
<td>See Also</td>
<td>3448</td>
</tr>
<tr>
<td>TagSpecification</td>
<td>3449</td>
</tr>
<tr>
<td>Contents</td>
<td>3449</td>
</tr>
<tr>
<td>See Also</td>
<td>3450</td>
</tr>
<tr>
<td>TargetCapacitySpecification</td>
<td>3451</td>
</tr>
</tbody>
</table>
Amazon Elastic Compute Cloud

Contents .................................................................................................................. 3451
See Also .................................................................................................................. 3452
TargetCapacitySpecificationRequest ................................................................. 3453
  Contents ................................................................................................................. 3453
  See Also .................................................................................................................. 3454
TargetConfiguration ............................................................................................ 3455
  Contents ................................................................................................................. 3455
  See Also .................................................................................................................. 3455
TargetConfigurationRequest .................................................................................. 3456
  Contents ................................................................................................................. 3456
  See Also .................................................................................................................. 3456
TargetGroup ........................................................................................................... 3457
  Contents ................................................................................................................. 3457
  See Also .................................................................................................................. 3457
TargetGroupsConfig .............................................................................................. 3458
  Contents ................................................................................................................. 3458
  See Also .................................................................................................................. 3458
TargetNetwork ....................................................................................................... 3459
  Contents ................................................................................................................. 3459
  See Also .................................................................................................................. 3460
TargetReservationValue ......................................................................................... 3461
  Contents ................................................................................................................. 3461
  See Also .................................................................................................................. 3461
TerminateConnectionStatus .................................................................................... 3462
  Contents ................................................................................................................. 3462
  See Also .................................................................................................................. 3462
ThroughResourcesStatement .................................................................................... 3463
  Contents ................................................................................................................. 3463
  See Also .................................................................................................................. 3463
ThroughResourcesStatementRequest ...................................................................... 3464
  Contents ................................................................................................................. 3464
  See Also .................................................................................................................. 3464
TotalLocalStorageGB ............................................................................................ 3465
  Contents ................................................................................................................. 3465
  See Also .................................................................................................................. 3465
TotalLocalStorageGBRequest .................................................................................. 3466
Contents .................................................................................................................. 3466
See Also .................................................................................................................. 3466
TrafficMirrorFilter .................................................................................................. 3467
Contents .................................................................................................................. 3467
See Also .................................................................................................................. 3468
TrafficMirrorFilterRule ............................................................................................ 3469
Contents .................................................................................................................. 3469
See Also .................................................................................................................. 3471
TrafficMirrorPortRange ........................................................................................... 3472
Contents .................................................................................................................. 3472
See Also .................................................................................................................. 3472
TrafficMirrorPortRangeRequest ............................................................................... 3473
Contents .................................................................................................................. 3473
See Also .................................................................................................................. 3473
TrafficMirrorSession ............................................................................................... 3474
Contents .................................................................................................................. 3474
See Also .................................................................................................................. 3476
TrafficMirrorTarget .................................................................................................. 3477
Contents .................................................................................................................. 3477
See Also .................................................................................................................. 3478
TransitGateway ......................................................................................................... 3479
Contents .................................................................................................................. 3479
See Also .................................................................................................................. 3480
TransitGatewayAssociation ....................................................................................... 3481
Contents .................................................................................................................. 3481
See Also .................................................................................................................. 3482
TransitGatewayAttachment ....................................................................................... 3483
Contents .................................................................................................................. 3483
See Also .................................................................................................................. 3485
TransitGatewayAttachmentAssociation .................................................................... 3486
Contents .................................................................................................................. 3486
See Also .................................................................................................................. 3486
TransitGatewayAttachmentBgpConfiguration .......................................................... 3487
Contents .................................................................................................................. 3487
See Also .................................................................................................................. 3488
TransitGatewayAttachmentPropagation .................................................................... 3489
Amazon Elastic Compute Cloud

See Also

Contents

See Also

See Also

See Also

Contents

Contents

Contents

Contents

Contents

Contents

Contents

Contents

Contents

Contents

Contents

Contents

Contents

Contents

See Also

See Also

See Also

See Also

See Also

See Also

See Also

See Also

See Also

See Also
<p>| Contents .......................................................................................................................... | 3530 |
| See Also ....................................................................................................................... | 3531 |
| TransitGatewayPropagation .......................................................................................... | 3532 |
| Contents ....................................................................................................................... | 3532 |
| See Also ....................................................................................................................... | 3533 |
| TransitGatewayRequestOptions .................................................................................... | 3534 |
| Contents ....................................................................................................................... | 3534 |
| See Also ....................................................................................................................... | 3535 |
| TransitGatewayRoute .................................................................................................... | 3537 |
| Contents ....................................................................................................................... | 3537 |
| See Also ....................................................................................................................... | 3538 |
| TransitGatewayRouteAttachment ................................................................................... | 3539 |
| Contents ....................................................................................................................... | 3539 |
| See Also ....................................................................................................................... | 3539 |
| TransitGatewayRouteTable ............................................................................................ | 3541 |
| Contents ....................................................................................................................... | 3541 |
| See Also ....................................................................................................................... | 3542 |
| TransitGatewayRouteTableAnnouncement ....................................................................... | 3543 |
| Contents ....................................................................................................................... | 3543 |
| See Also ....................................................................................................................... | 3545 |
| TransitGatewayRouteTableAssociation ......................................................................... | 3546 |
| Contents ....................................................................................................................... | 3546 |
| See Also ....................................................................................................................... | 3547 |
| TransitGatewayRouteTablePropagation ......................................................................... | 3548 |
| Contents ....................................................................................................................... | 3548 |
| See Also ....................................................................................................................... | 3549 |
| TransitGatewayRouteTableRoute .................................................................................... | 3550 |
| Contents ....................................................................................................................... | 3550 |
| See Also ....................................................................................................................... | 3551 |
| TransitGatewayVpcAttachment ...................................................................................... | 3552 |
| Contents ....................................................................................................................... | 3552 |
| See Also ....................................................................................................................... | 3553 |
| TransitGatewayVpcAttachmentOptions .......................................................................... | 3555 |
| Contents ....................................................................................................................... | 3555 |
| See Also ....................................................................................................................... | 3555 |
| TrunkInterfaceAssociation ......................................................................................... | 3557 |</p>
<table>
<thead>
<tr>
<th>Contents</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>See Also</td>
<td>3557</td>
</tr>
<tr>
<td>TunnelOption</td>
<td>3559</td>
</tr>
<tr>
<td>See Also</td>
<td>3562</td>
</tr>
<tr>
<td>UnsuccessfulInstanceCreditSpecificationItem</td>
<td>3564</td>
</tr>
<tr>
<td>See Also</td>
<td>3564</td>
</tr>
<tr>
<td>UnsuccessfulInstanceCreditSpecificationItemError</td>
<td>3565</td>
</tr>
<tr>
<td>See Also</td>
<td>3565</td>
</tr>
<tr>
<td>UnsuccessfulItem</td>
<td>3566</td>
</tr>
<tr>
<td>See Also</td>
<td>3566</td>
</tr>
<tr>
<td>UnsuccessfulItemError</td>
<td>3567</td>
</tr>
<tr>
<td>See Also</td>
<td>3567</td>
</tr>
<tr>
<td>UserBucket</td>
<td>3568</td>
</tr>
<tr>
<td>See Also</td>
<td>3568</td>
</tr>
<tr>
<td>UserBucketDetails</td>
<td>3569</td>
</tr>
<tr>
<td>See Also</td>
<td>3569</td>
</tr>
<tr>
<td>UserData</td>
<td>3570</td>
</tr>
<tr>
<td>See Also</td>
<td>3570</td>
</tr>
<tr>
<td>UserIdGroupPair</td>
<td>3571</td>
</tr>
<tr>
<td>See Also</td>
<td>3572</td>
</tr>
<tr>
<td>ValidationWarning</td>
<td>3574</td>
</tr>
<tr>
<td>See Also</td>
<td>3574</td>
</tr>
<tr>
<td>V Cp u Count Range</td>
<td>3575</td>
</tr>
</tbody>
</table>
Making API requests ................................................................. 3683

Required knowledge ......................................................... 3683
Available APIs for Amazon EC2 ........................................... 3684
Query requests ................................................................. 3684
  Structure of a GET request .............................................. 3684
  Query parameters ......................................................... 3687
  Query API authentication .............................................. 3687
  Query response structures .......................................... 3688
Pagination ............................................................................. 3689
Amazon EC2 service endpoints ........................................... 3689
API request throttling ......................................................... 3693
  How throttling is applied ................................................ 3694
  Throttling limits .............................................................. 3695
  Monitor API throttling .................................................... 3702
  Request a limit increase .................................................. 3702
Troubleshooting API request errors ................................. 3703
Welcome

This is the Amazon EC2 API Reference. It provides descriptions, API request parameters, and the XML response for each of the Amazon EC2 Query API actions. Note that the Amazon EC2 API includes actions for Amazon EC2 plus additional services, such as Amazon EBS and Amazon VPC. For more information, see Actions by service.

Alternatively, use one of the following methods to access the Amazon EC2 API, instead of using the Query API directly:

- AWS CLI Command Reference – ec2 commands
- AWS CloudFormation – Amazon EC2 resource type reference
- AWS Tools for PowerShell Cmdlet Reference – Amazon EC2 cmdlets
- AWS SDKs

<table>
<thead>
<tr>
<th>How Do I?</th>
<th>Relevant Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learn about using the Query API</td>
<td>Making requests to the Amazon EC2 API</td>
</tr>
<tr>
<td>Learn about the permissions required to call an Amazon EC2 API action</td>
<td>Actions, resources, and condition keys for Amazon EC2</td>
</tr>
<tr>
<td>Get the list of API actions by service and resource</td>
<td>Actions by service</td>
</tr>
<tr>
<td>Get the alphabetical list of API actions</td>
<td>Actions</td>
</tr>
<tr>
<td>Get descriptions of the API error codes</td>
<td>Error codes for the Amazon EC2 API</td>
</tr>
</tbody>
</table>

⚠️ Important
As of October 14, 2022, HTTP responses from the Amazon EC2 APIs no longer include a reason-phrase element. As recommended by RFC7230, you should ensure that your...
applications do not make use of the reason-phrase content. Ensure that your applications use the 3-digit status-code element included in the HTTP response instead.
Actions by service

The Amazon EC2 API consists of actions and data types for multiple services. To view the actions for each service, see the following pages.

Services

- Amazon EC2 actions
- Amazon EBS actions
- Amazon VPC actions
- Amazon IPAM actions
- AWS Network Manager actions
- AWS Transit Gateway actions
- AWS PrivateLink actions
- AWS Client VPN actions
- AWS Site-to-Site VPN actions
- AWS Verified Access actions
- AWS Outposts actions
- AWS Wavelength actions
- VM Import/Export actions
- AWS Nitro Enclaves
- Recycle Bin

Amazon EC2 actions

The following API actions are available for Amazon EC2. To learn more about Amazon EC2, see the Amazon EC2 product page and the Amazon EC2 documentation.

Account attributes

- DescribeAccountAttributes

AFIs

- CopyFpgaImage
• CreateFpgaImage
• DeleteFpgaImage
• DescribeFpgaImageAttribute
• DescribeFpgaImages
• ModifyFpgaImageAttribute
• ResetFpgaImageAttribute

AMIs

• CancelImageLaunchPermission
• CopyImage
• CreateImage
• CreateRestoreImageTask
• CreateStoreImageTask
• DeregisterImage
• DescribeFastLaunchImages
• DescribeImageAttribute
• DescribeImages
• DescribeStoreImageTasks
• DisableFastLaunch
• DisableImage
• DisableImageBlockPublicAccess
• DisableImageDeprecation
• EnableFastLaunch
• EnableImage
• EnableImageBlockPublicAccess
• EnableImageDeprecation
• GetImageBlockPublicAccessState
• ModifyImageAttribute
• RegisterImage
• ResetImageAttribute
AWS Marketplace

- ConfirmProductInstance

Bundle tasks

- BundleInstance
- CancelBundleTask
- DescribeBundleTasks

BYOIP

- AdvertiseByoipCidr
- DeprovisionByoipCidr
- DescribeByoipCidrs
- DescribeIpv6Pools
- DescribePublicIpv4Pools
- GetAssociatedIpv6PoolCidrs
- ProvisionByoipCidr
- WithdrawByoipCidr

Capacity Reservations

- CancelCapacityReservation
- CancelCapacityReservationFleets
- CreateCapacityReservation
- CreateCapacityReservationFleet
- DescribeCapacityReservations
- DescribeCapacityReservationFleets
- GetCapacityReservationUsage
- GetGroupsForCapacityReservation
- ModifyCapacityReservation
- ModifyCapacityReservationFleet
- ModifyInstanceCapacityReservationAttributes

**Dedicated Hosts**

- AllocateHosts
- DescribeHostReservationOfferings
- DescribeHostReservations
- DescribeHosts
- GetHostReservationPurchasePreview
- ModifyHosts
- ModifyInstancePlacement
- PurchaseHostReservation
- ReleaseHosts

**EC2 Fleet**

- CreateFleet
- DeleteFleets
- DescribeFleetHistory
- DescribeFleetInstances
- DescribeFleets
- ModifyFleet

**EC2 Instance Connect Endpoints**

- CreateInstanceConnectEndpoint
- DeleteInstanceConnectEndpoint
- DescribeInstanceConnectEndpoints

**Elastic Graphics**

- DescribeElasticGpus
Elastic IP addresses

- AcceptAddressTransfer
- AllocateAddress
- AssociateAddress
- DescribeAddresses
- DescribeAddressesAttribute
- DescribeAddressTransfers
- DisableAddressTransfer
- DisassociateAddress
- EnableAddressTransfer
- ModifyAddressAttribute
- ReleaseAddress
- ResetAddressAttribute

Event notifications

- DeregisterInstanceEventNotificationAttributes
- DescribeInstanceEventNotificationAttributes
- RegisterInstanceEventNotificationAttributes

Event windows for scheduled events

- AssociateInstanceEventWindow
- CreateInstanceEventWindow
- DeleteInstanceEventWindow
- DescribeInstanceEventWindows
- DisassociateInstanceEventWindow
- ModifyInstanceEventWindow

Instances

- AssociateIamInstanceProfile
• **DescribeIamInstanceProfileAssociations**
• **DescribeInstanceAttribute**
• **DescribeInstanceCreditSpecifications**
• **DescribeInstances**
• **DescribeInstanceStatus**
• **DisassociateIamInstanceProfile**
• **GetConsoleOutput**
• **GetConsoleScreenshot**
• **GetDefaultCreditSpecification**
• **GetInstanceUefiData**
• **GetPasswordData**
• **ModifyDefaultCreditSpecification**
• **ModifyInstanceAttribute**
• **ModifyInstanceCreditSpecification**
• **ModifyInstanceEventStartTime**
• **ModifyInstanceMaintenanceOptions**
• **ModifyInstanceMetadataOptions**
• **ModifyPrivateDnsNameOptions**
• **MonitorInstances**
• **RebootInstances**
• **ReplaceIamInstanceProfileAssociation**
• **ReportInstanceStatus**
• **ResetInstanceAttribute**
• **RunInstances**
• **SendDiagnosticInterrupt**
• **StartInstances**
• **StopInstances**
• **TerminateInstances**
• **UnmonitorInstances**
Instance topology

- DescribeInstanceTopology

Instance types

- DescribeInstanceTypeOfferings
- DescribeInstanceTypes
- GetInstanceTypesFromInstanceRequirements

Key pairs

- CreateKeyPair
- DeleteKeyPair
- DescribeKeyPairs
- ImportKeyPair

Launch templates

- CreateLaunchTemplate
- CreateLaunchTemplateVersion
- DeleteLaunchTemplate
- DeleteLaunchTemplateVersions
- DescribeLaunchTemplates
- DescribeLaunchTemplateVersions
- GetLaunchTemplateData
- ModifyLaunchTemplate

Placement groups

- CreatePlacementGroup
- DeletePlacementGroup
- DescribePlacementGroups
Regions and Zones

- DescribeAvailabilityZones
- DescribeRegions
- ModifyAvailabilityZoneGroup

Reserved Instances

- AcceptReservedInstancesExchangeQuote
- CancelReservedInstancesListing
- CreateReservedInstancesListing
- DeleteQueuedReservedInstances
- DescribeReservedInstances
- DescribeReservedInstancesListings
- DescribeReservedInstancesModifications
- DescribeReservedInstancesOfferings
- GetReservedInstancesExchangeQuote
- ModifyReservedInstances
- PurchaseReservedInstancesOffering

Resource IDs

- DescribeAggregateIdFormat
- DescribeIdentityIdFormat
- DescribeIdFormat
- DescribePrincipalIdFormat
- ModifyIdentityIdFormat
- ModifyIdFormat

Serial console

- DisableSerialConsoleAccess
- EnableSerialConsoleAccess
• **GetSerialConsoleAccessStatus**

**Scheduled Instances**

• **DescribeScheduledInstanceAvailability**
• **DescribeScheduledInstances**
• **PurchaseScheduledInstances**
• **RunScheduledInstances**

**Security groups**

• **AuthorizeSecurityGroupEgress**
• **AuthorizeSecurityGroupIngress**
• **CreateSecurityGroup**
• **DeleteSecurityGroup**
• **DescribeSecurityGroupRules**
• **DescribeSecurityGroups**
• **ModifySecurityGroupRules**
• **RevokeSecurityGroupEgress**
• **RevokeSecurityGroupIngress**
• **UpdateSecurityGroupRuleDescriptionsEgress**
• **UpdateSecurityGroupRuleDescriptionsIngress**

**Spot Instances**

• **CancelSpotInstanceRequests**
• **CreateSpotDatafeedSubscription**
• **DeleteSpotDatafeedSubscription**
• **DescribeSpotDatafeedSubscription**
• **DescribeSpotInstanceRequests**
• **DescribeSpotPriceHistory**
• **GetSpotPlacementScores**

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Amazon Elastic Compute Cloud

API Reference

Amazon EC2 actions

API Version 2016-11-15

11
• RequestSpotInstances

Spot Fleet

• CancelSpotFleetRequests
• DescribeSpotFleetInstances
• DescribeSpotFleetRequestHistory
• DescribeSpotFleetRequests
• ModifySpotFleetRequest
• RequestSpotFleet

Tags

• CreateTags
• DeleteTags
• DescribeTags

Amazon EBS actions

The following API actions are available for Amazon EBS. To learn more about Amazon EBS, see the Amazon EBS product page and the Amazon EBS documentation.

Encryption

• DisableEbsEncryptionByDefault
• EnableEbsEncryptionByDefault
• GetEbsDefaultKmsKeyId
• GetEbsEncryptionByDefault
• ModifyEbsDefaultKmsKeyId
• ResetEbsDefaultKmsKeyId

Fast snapshot restores

• DescribeFastSnapshotRestores
• **DisableFastSnapshotRestores**
• **EnableFastSnapshotRestores**

**Snapshots**

• **CopySnapshot**
• **CreateSnapshot**
• **CreateSnapshots**
• **DescribeLockedSnapshots**
• **DeleteSnapshot**
• **DescribeSnapshotAttribute**
• **DescribeSnapshots**
• **DescribeSnapshotTierStatus**
• **DisableSnapshotBlockPublicAccess**
• **EnableSnapshotBlockPublicAccess**
• **GetSnapshotBlockPublicAccessState**
• **LockSnapshot**
• **ModifySnapshotAttribute**
• **ModifySnapshotTier**
• **ResetSnapshotAttribute**
• **RestoreSnapshotTier**
• **UnlockSnapshot**

**Volumes**

• **AttachVolume**
• **CreateReplaceRootVolumeTask**
• **CreateVolume**
• **DeleteVolume**
• **DescribeReplaceRootVolumeTasks**
• **DescribeVolumeAttribute**
- DescribeVolumes
- DescribeVolumesModifications
- DescribeVolumeStatus
- DetachVolume
- EnableVolumeIO
- ModifyVolume
- ModifyVolumeAttribute

**Amazon VPC actions**

The following API actions are available for Amazon VPC. To learn more about Amazon VPC, see the Amazon VPC product page and the Amazon VPC documentation.

**DHCP options**

- AssociateDhcpOptions
- CreateDhcpOptions
- DeleteDhcpOptions
- DescribeDhcpOptions

**Elastic network interfaces**

- AssignIpv6Addresses
- AssignPrivateIpAddresses
- AttachNetworkInterface
- CreateNetworkInterface
- CreateNetworkInterfacePermission
- DeleteNetworkInterface
- DeleteNetworkInterfacePermission
- DescribeNetworkInterfaceAttribute
- DescribeNetworkInterfacePermissions
- DescribeNetworkInterfaces
- DetachNetworkInterface
• **ModifyNetworkInterfaceAttribute**
• **ResetNetworkInterfaceAttribute**
• **UnassignIpv6Addresses**
• **UnassignPrivateIpAddresses**

**Internet gateways**

• **AttachInternetGateway**
• **CreateEgressOnlyInternetGateway**
• **CreateInternetGateway**
• **DeleteEgressOnlyInternetGateway**
• **DeleteInternetGateway**
• **DescribeEgressOnlyInternetGateways**
• **DescribeInternetGateways**
• **DetachInternetGateway**

**Managed prefix lists**

• **CreateManagedPrefixList**
• **DeleteManagedPrefixList**
• **DescribeManagedPrefixLists**
• **DescribePrefixLists**
• **GetManagedPrefixListAssociations**
• **GetManagedPrefixListEntries**
• **ModifyManagedPrefixList**
• **RestoreManagedPrefixListVersion**

**NAT gateways**

• **AssignPrivateNatGatewayAddress**
• **AssociateNatGatewayAddress**
• **CreateNatGateway**
• DeleteNatGateway
• DescribeNatGateways
• DisassociateNatGatewayAddress
• UnassignPrivateNatGatewayAddress

Network ACLs

• CreateNetworkAcl
• CreateNetworkAclEntry
• DeleteNetworkAcl
• DeleteNetworkAclEntry
• DescribeNetworkAcls
• ReplaceNetworkAclAssociation
• ReplaceNetworkAclEntry

Route tables

• AssociateRouteTable
• CreateRoute
• CreateRouteTable
• DeleteRoute
• DeleteRouteTable
• DescribeRouteTables
• DisassociateRouteTable
• ReplaceRoute
• ReplaceRouteTableAssociation

Security groups

• AuthorizeSecurityGroupEgress
• AuthorizeSecurityGroupIngress
• CreateSecurityGroup
Amazon Elastic Compute Cloud

- **DeleteSecurityGroup**
- **DescribeSecurityGroupReferences**
- **DescribeSecurityGroups**
- **DescribeStaleSecurityGroups**
- **ModifySecurityGroupRules**
- **RevokeSecurityGroupEgress**
- **RevokeSecurityGroupIngress**
- **UpdateSecurityGroupRuleDescriptionsEgress**
- **UpdateSecurityGroupRuleDescriptionsIngress**

**Subnets**

- **AssociateSubnetCidrBlock**
- **CreateDefaultSubnet**
- **CreateSubnet**
- **CreateSubnetCidrReservation**
- **DeleteSubnet**
- **DeleteSubnetCidrReservation**
- **DescribeSubnets**
- **DisassociateSubnetCidrBlock**
- **GetSubnetCidrReservations**
- **ModifySubnetAttribute**

**Traffic Mirroring**

- **CreateTrafficMirrorFilter**
- **CreateTrafficMirrorFilterRule**
- **CreateTrafficMirrorSession**
- **CreateTrafficMirrorTarget**
- **DeleteTrafficMirrorFilter**
- **DeleteTrafficMirrorFilterRule**
• **DeleteTrafficMirrorSession**
• **DeleteTrafficMirrorTarget**
• **DescribeTrafficMirrorFilters**
• **DescribeTrafficMirrorSessions**
• **DescribeTrafficMirrorTargets**
• **ModifyTrafficMirrorFilterNetworkServices**
• **ModifyTrafficMirrorFilterRule**
• **ModifyTrafficMirrorSession**

VPCs

• **AssociateVpcCidrBlock**
• **CreateDefaultVpc**
• **CreateVpc**
• **DeleteVpc**
• **DescribeVpcAttribute**
• **DescribeVpcs**
• **DisassociateVpcCidrBlock**
• **ModifyVpcAttribute**
• **ModifyVpcTenancy**

VPC flow logs

• **CreateFlowLogs**
• **DeleteFlowLogs**
• **DescribeFlowLogs**
• **GetFlowLogsIntegrationTemplate**

VPC peering

• **AcceptVpcPeeringConnection**
• **CreateVpcPeeringConnection**
• **DeleteVpcPeeringConnection**
• **DescribeVpcPeeringConnections**
• **ModifyVpcPeeringConnectionOptions**
• **RejectVpcPeeringConnection**

**Amazon IPAM actions**

The following API actions are available for Amazon VPC IP Address Manager (IPAM). To learn more about IPAM, see the [IPAM User Guide](#).

• **AllocateIpamPoolCidr**
• **AssociateIpamResourceDiscovery**
• **CreateIpam**
• **CreateIpamPool**
• **CreateIpamScope**
• **CreateIpamResourceDiscovery**
• **CreatePublicIpv4Pool**
• **DeleteIpam**
• **DeleteIpamPool**
• **DeleteIpamResourceDiscovery**
• **DeleteIpamScope**
• **DeletePublicIpv4Pool**
• **DeprovisionIpamPoolCidr**
• **DeprovisionPublicIpv4PoolCidr**
• **DescribleIpamPools**
• **Describelpams**
• **DescribelpamResourceDiscoveries**
• **DescribelpamResourceDiscoveryAssociations**
• **DescribelpamScopes**
• **DescribePublicIpv4Pools**
• **DisableIpamOrganizationAdminAccount**
AWS Network Manager actions

The following API actions are available for AWS Network Manager:

**Infrastructure Performance**

- DescribeAwsNetworkPerformanceMetricSubscriptions
- DisableAwsNetworkPerformanceMetricSubscription
- EnableAwsNetworkPerformanceMetricSubscription
- GetAwsNetworkPerformanceData

**Network Access Analyzer**

- CreateNetworkInsightsAccessScope
DeleteNetworkInsightsAccessScope
DeleteNetworkInsightsAccessScopeAnalysis
DescribeNetworkInsightsAccessScopeAnalyses
DescribeNetworkInsightsAccessScopes
GetNetworkInsightsAccessScopeAnalysisFindings
GetNetworkInsightsAccessScopeContent
StartNetworkInsightsAccessScopeAnalysis

Reachability Analyzer

CreateNetworkInsightsPath
DeleteNetworkInsightsAnalysis
DeleteNetworkInsightsPath
DescribeNetworkInsightsAnalyses
DescribeNetworkInsightsPaths
EnableReachabilityAnalyzerOrganizationSharing
StartNetworkInsightsAnalysis

AWS Transit Gateway actions

The following API actions are available for AWS Transit Gateway:

Transit gateways

AcceptTransitGatewayVpcAttachment
CreateTransitGateway
CreateTransitGatewayVpcAttachment
DeleteTransitGateway
DeleteTransitGatewayVpcAttachment
DescribeTransitGatewayAttachments
DescribeTransitGateways
DescribeTransitGatewayVpcAttachments
- **ModifyTransitGateway**
- **ModifyTransitGatewayVpcAttachment**
- **RejectTransitGatewayVpcAttachment**

**Transit Gateway Connect**

- **CreateTransitGatewayConnect**
- **CreateTransitGatewayConnectPeer**
- **DeleteTransitGatewayConnect**
- **DeleteTransitGatewayConnectPeer**
- **DescribeTransitGatewayConnects**
- **DescribeTransitGatewayConnectPeers**

**Transit Gateway Multicast**

- **AcceptTransitGatewayMulticastDomainAssociations**
- **AssociateTransitGatewayMulticastDomain**
- **CreateTransitGatewayMulticastDomain**
- **DeleteTransitGatewayMulticastDomain**
- **DeregisterTransitGatewayMulticastGroupMembers**
- **DeregisterTransitGatewayMulticastGroupSources**
- **DescribeTransitGatewayMulticastDomains**
- **DisassociateTransitGatewayMulticastDomain**
- **GetTransitGatewayMulticastDomainAssociations**
- **RegisterTransitGatewayMulticastGroupMembers**
- **RegisterTransitGatewayMulticastGroupSources**
- **RejectTransitGatewayMulticastDomainAssociations**
- **SearchTransitGatewayMulticastGroups**

**Transit Gateway Peering Attachments**

- **AcceptTransitGatewayPeeringAttachment**
Transit gateway policy tables

- AssociateTransitGatewayPolicyTable
- CreateTransitGatewayPolicyTable
- DeleteTransitGatewayPolicyTable
- DescribeTransitGatewayPolicyTables
- DisassociateTransitGatewayPolicyTable
- GetTransitGatewayPolicyTableAssociations
- GetTransitGatewayPolicyTableEntries

Transit gateway route tables

- AssociateTransitGatewayRouteTable
- CreateTransitGatewayPrefixListReference
- CreateTransitGatewayRoute
- CreateTransitGatewayRouteTable
- CreateTransitGatewayRouteTableAnnouncement
- DeleteTransitGatewayPrefixListReference
- DeleteTransitGatewayRoute
- DeleteTransitGatewayRouteTable
- DeleteTransitGatewayRouteTableAnnouncement
- DescribeTransitGatewayRouteTableAnnouncements
- DescribeTransitGatewayRouteTables
- DisableTransitGatewayRouteTablePropagation
- DisassociateTransitGatewayRouteTable
- EnableTransitGatewayRouteTablePropagation
• ExportTransitGatewayRoutes
• GetTransitGatewayAttachmentPropagations
• GetTransitGatewayPrefixListReferences
• GetTransitGatewayRouteTableAssociations
• GetTransitGatewayRouteTablePropagations
• ModifyTransitGatewayPrefixListReference
• ReplaceTransitGatewayRoute
• SearchTransitGatewayRoutes

AWS PrivateLink actions

The following API actions are available for AWS PrivateLink. To learn more about AWS PrivateLink, see the [AWS PrivateLink product page](https://aws.amazon.com/privatelink/) and the [AWS PrivateLink User Guide](https://docs.aws.amazon.com/privatelink/latest/userguide/).

VPC endpoint services

• AcceptVpcEndpointConnections
• CreateVpcEndpointServiceConfiguration
• DeleteVpcEndpointServiceConfigurations
• DescribeVpcEndpointServiceConfigurations
• DescribeVpcEndpointServicePermissions
• DescribeVpcEndpointServices
• ModifyVpcEndpointServiceConfiguration
• ModifyVpcEndpointServicePayerResponsibility
• ModifyVpcEndpointServicePermissions
• RejectVpcEndpointConnections
• StartVpcEndpointServicePrivateDnsVerification

VPC endpoints

• CreateVpcEndpoint
• CreateVpcEndpointConnectionNotification
• DeleteVpcEndpointConnectionNotifications
• DeleteVpcEndpoints
• DescribeVpcEndpointConnectionNotifications
• DescribeVpcEndpointConnections
• DescribeVpcEndpoints
• ModifyVpcEndpoint
• ModifyVpcEndpointConnectionNotification

AWS Client VPN actions

The following API actions are available for AWS Client VPN. To learn more about Client VPN, see the AWS VPN product page and the AWS VPN documentation.

Authorization rules

• AuthorizeClientVpnIngress
• DescribeClientVpnAuthorizationRules
• RevokeClientVpnIngress

Certificate revocation lists

• ExportClientVpnClientCertificateRevocationList
• ImportClientVpnClientCertificateRevocationList

Client connections

• DescribeClientVpnConnections
• TerminateClientVpnConnections

Client VPN endpoints

• CreateClientVpnEndpoint
• DeleteClientVpnEndpoint
• DescribeClientVpnEndpoints
• **ModifyClientVpnEndpoint**

**Configuration files**

• **ExportClientVpnClientConfiguration**

**Routes**

• **CreateClientVpnRoute**
• **DeleteClientVpnRoute**
• **DescribeClientVpnRoutes**

**Target networks**

• **ApplySecurityGroupsToClientVpnTargetNetwork**
• **AssociateClientVpnTargetNetwork**
• **DescribeClientVpnTargetNetworks**
• **DisassociateClientVpnTargetNetwork**

**AWS Site-to-Site VPN actions**

The following API actions are available for AWS Site-to-Site VPN. To learn more about Site-to-Site VPN, see the [AWS VPN product page](https://aws.amazon.com/vpn/) and the [AWS VPN documentation](https://docs.aws.amazon.com/vpn/latest/vpn-gateway/index.html).

**Customer gateways**

• **CreateCustomerGateway**
• **DeleteCustomerGateway**
• **DescribeCustomerGateways**

**Virtual private gateways**

• **AttachVpnGateway**
• **CreateVpnGateway**
• **DeleteVpnGateway**
• DescribeVpnGateways
• DetachVpnGateway

Virtual private gateway routes
• DisableVgwRoutePropagation
• EnableVgwRoutePropagation

VPN connections
• CreateVpnConnection
• CreateVpnConnectionRoute
• DeleteVpnConnection
• DeleteVpnConnectionRoute
• DescribeVpnConnections
• GetVpnConnectionDeviceSampleConfiguration
• GetVpnConnectionDeviceTypes
• GetVpnTunnelReplacementStatus
• ModifyVpnConnection
• ModifyVpnConnectionOptions
• ModifyVpnTunnelCertificate
• ModifyVpnTunnelOptions
• ReplaceVpnTunnel

AWS Verified Access actions

The following API actions are available for AWS Verified Access. To learn more about Verified Access, see the Verified Access product page and the Verified Access documentation.

Verified Access endpoints
• CreateVerifiedAccessEndpoint
• DeleteVerifiedAccessEndpoint
• DescribeVerifiedAccessEndpoints
• GetVerifiedAccessEndpointPolicy
• ModifyVerifiedAccessEndpoint
• ModifyVerifiedAccessEndpointPolicy

**Verified Access groups**

• CreateVerifiedAccessGroup
• DeleteVerifiedAccessGroup
• DescribeVerifiedAccessGroups
• GetVerifiedAccessGroupPolicy
• ModifyVerifiedAccessGroup
• ModifyVerifiedAccessGroupPolicy

**Verified Access instances**

• CreateVerifiedAccessInstance
• DeleteVerifiedAccessInstance
• DescribeVerifiedAccessInstances
• ModifyVerifiedAccessInstance

**Verified Access logs**

• DescribeVerifiedAccessInstanceLoggingConfigurations
• ModifyVerifiedAccessInstanceLoggingConfiguration

**Verified Access trust providers**

• AttachVerifiedAccessTrustProvider
• CreateVerifiedAccessTrustProvider
• DeleteVerifiedAccessTrustProvider
• DescribeVerifiedAccessTrustProviders
• DetachVerifiedAccessTrustProvider
AWS Outposts actions

The following API actions are available for AWS Outposts:

Customer-owned IP addresses

- CreateCoipCidr
- CreateCoipPool
- DeleteCoipCidr
- DeleteCoipPool
- DescribeCoipPools
- GetCoipPoolUsage

Local gateways

- CreateLocalGatewayRoute
- CreateLocalGatewayRouteTable
- CreateLocalGatewayRouteTableVirtualInterfaceGroupAssociation
- CreateLocalGatewayRouteTableVpcAssociation
- DeleteLocalGatewayRoute
- DeleteLocalGatewayRouteTable
- DeleteLocalGatewayRouteTableVirtualInterfaceGroupAssociation
- DeleteLocalGatewayRouteTableVpcAssociation
- DescribeLocalGatewayRouteTables
- DescribeLocalGatewayRouteTableVirtualInterfaceGroupAssociations
- DescribeLocalGatewayRouteTableVpcAssociations
- DescribeLocalGateways
- DescribeLocalGatewayVirtualInterfaceGroups
- DescribeLocalGatewayVirtualInterfaces
- ModifyLocalGatewayRoute
- SearchLocalGatewayRoutes
AWS Wavelength actions

The following API actions are available for AWS Wavelength:

Carrier gateways

- CreateCarrierGateway
- DeleteCarrierGateway
- DescribeCarrierGateways

VM Import/Export actions

Note

To import your virtual machines (VMs) with a console-based experience, you can use the Import virtual machine images to AWS template in the Migration Hub Orchestrator console. For more information, see the AWS Migration Hub Orchestrator User Guide.

The following API actions are available for VM Import/Export:

VM export

- CancelExportTask
- CreateInstanceExportTask
- DescribeExportImageTasks
- DescribeExportTasks
- ExportImage

VM import

- CancelConversionTask
- CancelImportTask
- DescribeConversionTasks
- DescribeImportImageTasks
• DescribeImportSnapshotTasks
• ImportImage
• ImportInstance
• ImportSnapshot
• ImportVolume

AWS Nitro Enclaves

The following API actions are available for AWS Certificate Manager (ACM) for Nitro Enclaves.

• AssociateEnclaveCertificateIamRole
• DisassociateEnclaveCertificateIamRole
• GetAssociatedEnclaveCertificateIamRoles

Recycle Bin

The following API actions are available for Recycle Bin.

Snapshots

• ListSnapshotsInRecycleBin
• RestoreSnapshotFromRecycleBin

AMIs

• ListImagesInRecycleBin
• RestoreImageFromRecycleBin
Actions

The following actions are supported:

- AcceptAddressTransfer
- AcceptReservedInstancesExchangeQuote
- AcceptTransitGatewayMulticastDomainAssociations
- AcceptTransitGatewayPeeringAttachment
- AcceptTransitGatewayVpcAttachment
- AcceptVpcEndpointConnections
- AcceptVpcPeeringConnection
- AdvertiseByoipCidr
- AllocateAddress
- AllocateHosts
- AllocateIpamPoolCidr
- ApplySecurityGroupsToClientVpnTargetNetwork
- AssignIpv6Addresses
- AssignPrivateIpAddresses
- AssignPrivateNatGatewayAddress
- AssociateAddress
- AssociateClientVpnTargetNetwork
- AssociateDhcpOptions
- AssociateEnclaveCertificateIamRole
- AssociateIamInstanceProfile
- AssociateInstanceEventWindow
- AssociateIpamByoasn
- AssociateIpamResourceDiscovery
- AssociateNatGatewayAddress
- AssociateRouteTable
- AssociateSubnetCidrBlock
- AssociateTransitGatewayMulticastDomain
- AssociateTransitGatewayPolicyTable
- AssociateTransitGatewayRouteTable
- AssociateTrunkInterface
- AssociateVpcCidrBlock
- AttachClassicLinkVpc
- AttachInternetGateway
- AttachNetworkInterface
- AttachVerifiedAccessTrustProvider
- AttachVolume
- AttachVpnGateway
- AuthorizeClientVpnIngress
- AuthorizeSecurityGroupEgress
- AuthorizeSecurityGroupIngress
- BundleInstance
- CancelBundleTask
- CancelCapacityReservation
- CancelCapacityReservationFleets
- CancelConversionTask
- CancelExportTask
- CancelImageLaunchPermission
- CancelImportTask
- CancelReservedInstancesListing
- CancelSpotFleetRequests
- CancelSpotInstanceRequests
- ConfirmProductInstance
- CopyFpgaImage
- CopyImage
- CopySnapshot
- CreateCapacityReservation
- CreateCapacityReservationFleet
- CreateCarrierGateway
- CreateClientVpnEndpoint
- CreateClientVpnRoute
- CreateCoipCidr
- CreateCoipPool
- CreateCustomerGateway
- CreateDefaultSubnet
- CreateDefaultVpc
- CreateDhcpOptions
- CreateEgressOnlyInternetGateway
- CreateFleet
- CreateFlowLogs
- CreateFpgaImage
- CreateImage
- CreateInstanceConnectEndpoint
- CreateInstanceEventWindow
- CreateInstanceExportTask
- CreateInternetGateway
- CreateIpam
- CreateIpamPool
- CreateIpamResourceDiscovery
- CreateIpamScope
- CreateKeyPair
- CreateLaunchTemplate
- CreateLaunchTemplateVersion
- CreateLocalGatewayRoute
- CreateLocalGatewayRouteTable
- CreateLocalGatewayRouteTableVirtualInterfaceGroupAssociation
- CreateLocalGatewayRouteTableVpcAssociation
- CreateManagedPrefixList
- CreateNatGateway
- CreateNetworkAcl
- CreateNetworkAclEntry
- CreateNetworkInsightsAccessScope
- CreateNetworkInsightsPath
- CreateNetworkInterface
- CreateNetworkInterfacePermission
- CreatePlacementGroup
- CreatePublicIpv4Pool
- CreateReplaceRootVolumeTask
- CreateReservedInstancesListing
- CreateRestoreImageTask
- CreateRoute
- CreateRouteTable
- CreateSecurityGroup
- CreateSnapshot
- CreateSnapshots
- CreateSpotDatafeedSubscription
- CreateStoreImageTask
- CreateSubnet
- CreateSubnetCidrReservation
- CreateTags
- CreateTrafficMirrorFilter
- CreateTrafficMirrorFilterRule
- CreateTrafficMirrorSession
- CreateTrafficMirrorTarget
- CreateTransitGateway
- CreateTransitGatewayConnect
- CreateTransitGatewayConnectPeer
- CreateTransitGatewayMulticastDomain
- CreateTransitGatewayPeeringAttachment
- CreateTransitGatewayPolicyTable
- CreateTransitGatewayPrefixListReference
- CreateTransitGatewayRoute
- CreateTransitGatewayRouteTable
- CreateTransitGatewayRouteTableAnnouncement
- CreateTransitGatewayVpcAttachment
- CreateVerifiedAccessEndpoint
- CreateVerifiedAccessGroup
- CreateVerifiedAccessInstance
- CreateVerifiedAccessTrustProvider
- CreateVolume
- CreateVpc
- CreateVpcEndpoint
- CreateVpcEndpointConnectionNotification
- CreateVpcEndpointServiceConfiguration
- CreateVpcPeeringConnection
- CreateVpnConnection
- CreateVpnConnectionRoute
- CreateVpnGateway
- DeleteCarrierGateway
- DeleteClientVpnEndpoint
- DeleteClientVpnRoute
- DeleteCoipCidr
- DeleteCoipPool
- DeleteCustomerGateway
- DeleteDhcpOptions
- DeleteEgressOnlyInternetGateway
- DeleteFleets
- DeleteFlowLogs
- DeleteFpgaImage
- DeleteInstanceConnectEndpoint
- DeleteInstanceEventWindow
- DeleteInternetGateway
- DeleteIpam
- DeleteIpamPool
- DeleteIpamResourceDiscovery
- DeleteIpamScope
- DeleteKeyPair
- DeleteLaunchTemplate
- DeleteLaunchTemplateVersions
- DeleteLocalGatewayRoute
- DeleteLocalGatewayRouteTable
- DeleteLocalGatewayRouteTableVirtualInterfaceGroupAssociation
- DeleteLocalGatewayRouteTableVpcAssociation
- DeleteManagedPrefixList
- DeleteNatGateway
- DeleteNetworkAcl
- DeleteNetworkAclEntry
- DeleteNetworkInsightsAccessScope
- DeleteNetworkInsightsAccessScopeAnalysis
- DeleteNetworkInsightsAnalysis
- DeleteNetworkInsightsPath
- DeleteNetworkInterface
- DeleteNetworkInterfacePermission
- DeletePlacementGroup
- DeletePublicIpv4Pool
- DeleteQueuedReservedInstances
- DeleteRoute
- DeleteRouteTable
- **DeleteSecurityGroup**
- **DeleteSnapshot**
- **DeleteSpotDatafeedSubscription**
- **DeleteSubnet**
- **DeleteSubnetCidrReservation**
- **DeleteTags**
- **DeleteTrafficMirrorFilter**
- **DeleteTrafficMirrorFilterRule**
- **DeleteTrafficMirrorSession**
- **DeleteTrafficMirrorTarget**
- **DeleteTransitGateway**
- **DeleteTransitGatewayConnect**
- **DeleteTransitGatewayConnectPeer**
- **DeleteTransitGatewayMulticastDomain**
- **DeleteTransitGatewayPeeringAttachment**
- **DeleteTransitGatewayPolicyTable**
- **DeleteTransitGatewayPrefixListReference**
- **DeleteTransitGatewayRoute**
- **DeleteTransitGatewayRouteTable**
- **DeleteTransitGatewayRouteTableAnnouncement**
- **DeleteTransitGatewayVpcAttachment**
- **DeleteVerifiedAccessEndpoint**
- **DeleteVerifiedAccessGroup**
- **DeleteVerifiedAccessInstance**
- **DeleteVerifiedAccessTrustProvider**
- **DeleteVolume**
- **DeleteVpc**
- **DeleteVpcEndpointConnectionNotifications**
- **DeleteVpcEndpoints**
- **DeleteVpcEndpointServiceConfigurations**
• DeleteVpcPeeringConnection
• DeleteVpnConnection
• DeleteVpnConnectionRoute
• DeleteVpnGateway
• DeprovisionByoipCidr
• DeprovisionIpamByoasn
• DeprovisionIpamPoolCidr
• DeprovisionPublicIpv4PoolCidr
• DeregisterImage
• DeregisterInstanceEventNotificationAttributes
• DeregisterTransitGatewayMulticastGroupMembers
• DeregisterTransitGatewayMulticastGroupSources
• DescribeAccountAttributes
• DescribeAddresses
• DescribeAddressesAttribute
• DescribeAddressTransfers
• DescribeAggregateIdFormat
• DescribeAvailabilityZones
• DescribeAwsNetworkPerformanceMetricSubscriptions
• DescribeBundleTasks
• DescribeByoipCidrs
• DescribeCapacityBlockOfferings
• DescribeCapacityReservationFleets
• DescribeCapacityReservations
• DescribeCarrierGateways
• DescribeClassicLinkInstances
• DescribeClientVpnAuthorizationRules
• DescribeClientVpnConnections
• DescribeClientVpnEndpoints
• DescribeClientVpnRoutes
- DescribeClientVpnTargetNetworks
- DescribeCoipPools
- DescribeConversionTasks
- DescribeCustomerGateways
- DescribeDhcpOptions
- DescribeEgressOnlyInternetGateways
- DescribeElasticGpus
- DescribeExportImageTasks
- DescribeExportTasks
- DescribeFastLaunchImages
- DescribeFastSnapshotRestores
- DescribeFleetHistory
- DescribeFleetInstances
- DescribeFleets
- DescribeFlowLogs
- DescribeFpgaImageAttribute
- DescribeFpgaImages
- DescribeHostReservationOfferings
- DescribeHostReservations
- DescribeHosts
- DescribeIamInstanceProfileAssociations
- DescribeIdentityIdFormat
- DescribeIdFormat
- DescribeImageAttribute
- DescribeImages
- DescribeImportImageTasks
- DescribeImportSnapshotTasks
- DescribeInstanceAttribute
- DescribeInstanceConnectEndpoints
- DescribeInstanceCreditSpecifications
- DescribeInstanceEventNotificationAttributes
- DescribeInstanceEventWindows
- DescribeInstances
- DescribeInstanceStatus
- DescribeInstanceTopology
- DescribeInstanceTypeOfferings
- DescribeInstanceTypes
- DescribeInternetGateways
- DescribeIpamByoasn
- DescribeIpamPools
- DescribeIpamResourceDiscoveries
- DescribeIpamResourceDiscoveryAssociations
- DescribeIpams
- DescribeIpamScopes
- DescribeIpv6Pools
- DescribeKeyPairs
- DescribeLaunchTemplates
- DescribeLaunchTemplateVersions
- DescribeLocalGatewayRouteTables
- DescribeLocalGatewayRouteTableVirtualInterfaceGroupAssociations
- DescribeLocalGatewayRouteTableVpcAssociations
- DescribeLocalGateways
- DescribeLocalGatewayVirtualInterfaceGroups
- DescribeLocalGatewayVirtualInterfaces
- DescribeLockedSnapshots
- DescribeManagedPrefixLists
- DescribeMovingAddresses
- DescribeNatGateways
- DescribeNetworkAcls
- DescribeNetworkInsightsAccessScopeAnalyses
- DescribeNetworkInsightsAccessScopes
- DescribeNetworkInsightsAnalyses
- DescribeNetworkInsightsPaths
- DescribeNetworkInterfaceAttribute
- DescribeNetworkInterfacePermissions
- DescribeNetworkInterfaces
- DescribePlacementGroups
- DescribePrefixLists
- DescribePrincipalIdFormat
- DescribePublicIpv4Pools
- DescribeRegions
- DescribeReplaceRootVolumeTasks
- DescribeReservedInstances
- DescribeReservedInstancesListings
- DescribeReservedInstancesModifications
- DescribeReservedInstancesOfferings
- DescribeRouteTables
- DescribeScheduledInstanceAvailability
- DescribeScheduledInstances
- DescribeSecurityGroupReferences
- DescribeSecurityGroupRules
- DescribeSecurityGroups
- DescribeSnapshotAttribute
- DescribeSnapshots
- DescribeSnapshotTierStatus
- DescribeSpotDatafeedSubscription
- DescribeSpotFleetInstances
- DescribeSpotFleetRequestHistory
- DescribeSpotFleetRequests
- DescribeSpotInstanceRequests
- DescribeSpotPriceHistory
- DescribeStaleSecurityGroups
- DescribeStoreImageTasks
- DescribeSubnets
- DescribeTags
- DescribeTrafficMirrorFilters
- DescribeTrafficMirrorSessions
- DescribeTrafficMirrorTargets
- DescribeTransitGatewayAttachments
- DescribeTransitGatewayConnectPeers
- DescribeTransitGatewayConnects
- DescribeTransitGatewayMulticastDomains
- DescribeTransitGatewayPeeringAttachments
- DescribeTransitGatewayPolicyTables
- DescribeTransitGatewayRouteTableAnnouncements
- DescribeTransitGatewayRouteTables
- DescribeTransitGateways
- DescribeTransitGatewayVpcAttachments
- DescribeTrunkInterfaceAssociations
- DescribeVerifiedAccessEndpoints
- DescribeVerifiedAccessGroups
- DescribeVerifiedAccessInstanceLoggingConfigurations
- DescribeVerifiedAccessInstances
- DescribeVerifiedAccessTrustProviders
- DescribeVolumeAttribute
- DescribeVolumes
- DescribeVolumesModifications
- DescribeVolumeStatus
- DescribeVpcAttribute
- DescribeVpcClassicLink
• DescribeVpcClassicLinkDnsSupport
• DescribeVpcEndpointConnectionNotifications
• DescribeVpcEndpointConnections
• DescribeVpcEndpoints
• DescribeVpcEndpointServiceConfigurations
• DescribeVpcEndpointServicePermissions
• DescribeVpcEndpointServices
• DescribeVpcPeeringConnections
• DescribeVpcs
• DescribeVpnConnections
• DescribeVpnGateways
• DetachClassicLinkVpc
• DetachInternetGateway
• DetachNetworkInterface
• DetachVerifiedAccessTrustProvider
• DetachVolume
• DetachVpnGateway
• DisableAddressTransfer
• DisableAwsNetworkPerformanceMetricSubscription
• DisableEbsEncryptionByDefault
• DisableFastLaunch
• DisableFastSnapshotRestores
• DisableImage
• DisableImageBlockPublicAccess
• DisableImageDeprecation
• DisableIpamOrganizationAdminAccount
• DisableSerialConsoleAccess
• DisableSnapshotBlockPublicAccess
• DisableTransitGatewayRouteTablePropagation
• DisableVgwRoutePropagation
• DisableVpcClassicLink
• DisableVpcClassicLinkDnsSupport
• DisassociateAddress
• DisassociateClientVpnTargetNetwork
• DisassociateEnclaveCertificateIamRole
• DisassociateIamInstanceProfile
• DisassociateInstanceEventWindow
• DisassociateIamPamByoasn
• DisassociateIamPamResourceDiscovery
• DisassociateNatGatewayAddress
• DisassociateRouteTable
• DisassociateSubnetCidrBlock
• DisassociateTransitGatewayMulticastDomain
• DisassociateTransitGatewayPolicyTable
• DisassociateTransitGatewayRouteTable
• DisassociateTrunkInterface
• DisassociateVpcCidrBlock
• EnableAddressTransfer
• EnableAwsNetworkPerformanceMetricSubscription
• EnableEbsEncryptionByDefault
• EnableFastLaunch
• EnableFastSnapshotRestores
• EnableImage
• EnableImageBlockPublicAccess
• EnableImageDeprecation
• EnableIamPamOrganizationAdminAccount
• EnableReachabilityAnalyzerOrganizationSharing
• EnableSerialConsoleAccess
• EnableSnapshotBlockPublicAccess
• EnableTransitGatewayRouteTablePropagation
- EnableVgwRoutePropagation
- EnableVolumeIO
- EnableVpcClassicLink
- EnableVpcClassicLinkDnsSupport
- ExportClientVpnClientCertificateRevocationList
- ExportClientVpnClientConfiguration
- ExportImage
- ExportTransitGatewayRoutes
- GetAssociatedEnclaveCertificateIamRoles
- GetAssociatedIpv6PoolCidrs
- GetAwsNetworkPerformanceData
- GetCapacityReservationUsage
- GetCoipPoolUsage
- GetConsoleOutput
- GetConsoleScreenshot
- GetDefaultCreditSpecification
- GetEbsDefaultKmsKeyId
- GetEbsEncryptionByDefault
- GetFlowLogsIntegrationTemplate
- GetGroupsForCapacityReservation
- GetHostReservationPurchasePreview
- GetImageBlockPublicAccessState
- GetInstanceTypesFromInstanceRequirements
- GetInstanceUefiData
- GetIpamAddressHistory
- GetIpamDiscoveredAccounts
- GetIpamDiscoveredPublicAddresses
- GetIpamDiscoveredResourceCidrs
- GetIpamPoolAllocations
- GetIpamPoolCidrs
• GetIpamResourceCidrs
• GetLaunchTemplateData
• GetManagedPrefixListAssociations
• GetManagedPrefixListEntries
• GetNetworkInsightsAccessScopeAnalysisFindings
• GetNetworkInsightsAccessScopeContent
• GetPasswordData
• GetReservedInstancesExchangeQuote
• GetSecurityGroupsForVpc
• GetSerialConsoleAccessStatus
• GetSnapshotBlockPublicAccessState
• GetSpotPlacementScores
• GetSubnetCidrReservations
• GetTransitGatewayAttachmentPropagations
• GetTransitGatewayMulticastDomainAssociations
• GetTransitGatewayPolicyTableAssociations
• GetTransitGatewayPolicyTableEntries
• GetTransitGatewayPrefixListReferences
• GetTransitGatewayRouteTableAssociations
• GetTransitGatewayRouteTablePropagations
• GetVerifiedAccessEndpointPolicy
• GetVerifiedAccessGroupPolicy
• GetVpnConnectionDeviceSampleConfiguration
• GetVpnConnectionDeviceTypes
• GetVpnTunnelReplacementStatus
• ImportClientVpnClientCertificateRevocationList
• ImportImage
• ImportInstance
• ImportKeyPair
• ImportSnapshot
• ImportVolume
• ListImagesInRecycleBin
• ListSnapshotsInRecycleBin
• LockSnapshot
• ModifyAddressAttribute
• ModifyAvailabilityZoneGroup
• ModifyCapacityReservation
• ModifyCapacityReservationFleet
• ModifyClientVpnEndpoint
• ModifyDefaultCreditSpecification
• ModifyEbsDefaultKmsKeyId
• ModifyFleet
• ModifyFpgaImageAttribute
• ModifyHosts
• ModifyIdentityIdFormat
• ModifyIdFormat
• ModifyImageAttribute
• ModifyInstanceAttribute
• ModifyInstanceCapacityReservationAttributes
• ModifyInstanceCreditSpecification
• ModifyInstanceEventStartTime
• ModifyInstanceEventWindow
• ModifyInstanceMaintenanceOptions
• ModifyInstanceMetadataOptions
• ModifyInstancePlacement
• ModifyIpam
• ModifyIpamPool
• ModifyIpamResourceCidr
• ModifyIpamResourceDiscovery
• ModifyIpamScope
• ModifyLaunchTemplate
• ModifyLocalGatewayRoute
• ModifyManagedPrefixList
• ModifyNetworkInterfaceAttribute
• ModifyPrivateDnsNameOptions
• ModifyReservedInstances
• ModifySecurityGroupRules
• ModifySnapshotAttribute
• ModifySnapshotTier
• ModifySpotFleetRequest
• ModifySubnetAttribute
• ModifyTrafficMirrorFilterNetworkServices
• ModifyTrafficMirrorFilterRule
• ModifyTrafficMirrorSession
• Modify TransitGateway
• Modify TransitGatewayPrefixListReference
• Modify TransitGatewayVpcAttachment
• Modify VerifiedAccess Endpoint
• Modify VerifiedAccess Endpoint Policy
• Modify VerifiedAccess Group
• Modify VerifiedAccess Group Policy
• Modify Verified Access Instance
• Modify Verified Access Instance Logging Configuration
• Modify Verified Access Trust Provider
• Modify Volume
• Modify Volume Attribute
• Modify VpcAttribute
• Modify VpcEndpoint
• Modify VpcEndpointConnectionNotification
• Modify VpcEndpointServiceConfiguration
- ModifyVpcEndpointServicePayerResponsibility
- ModifyVpcEndpointServicePermissions
- ModifyVpcPeeringConnectionOptions
- ModifyVpcTenancy
- ModifyVpnConnection
- ModifyVpnConnectionOptions
- ModifyVpnTunnelCertificate
- ModifyVpnTunnelOptions
- MonitorInstances
- MoveAddressToVpc
- MoveByoipCidrToIpam
- ProvisionByoipCidr
- ProvisionIpamByoasn
- ProvisionIpamPoolCidr
- ProvisionPublicIpv4PoolCidr
- PurchaseCapacityBlock
- PurchaseHostReservation
- PurchaseReservedInstancesOffering
- PurchaseScheduledInstances
- RebootInstances
- RegisterImage
- RegisterInstanceEventNotificationAttributes
- RegisterTransitGatewayMulticastGroupMembers
- RegisterTransitGatewayMulticastGroupSources
- RejectTransitGatewayMulticastDomainAssociations
- RejectTransitGatewayPeeringAttachment
- RejectTransitGatewayVpcAttachment
- RejectVpcEndpointConnections
- RejectVpcPeeringConnection
- ReleaseAddress
- ReleaseHosts
- ReleaseIpamPoolAllocation
- ReplaceIamInstanceProfileAssociation
- ReplaceNetworkAclAssociation
- ReplaceNetworkAclEntry
- ReplaceRoute
- ReplaceRouteTableAssociation
- ReplaceTransitGatewayRoute
- ReplaceVpnTunnel
- ReportInstanceStatus
- RequestSpotFleet
- RequestSpotInstances
- ResetAddressAttribute
- ResetEbsDefaultKmsKeyId
- ResetFpgaImageAttribute
- ResetImageAttribute
- ResetInstanceAttribute
- ResetNetworkInterfaceAttribute
- ResetSnapshotAttribute
- RestoreAddressToClassic
- RestoreImageFromRecycleBin
- RestoreManagedPrefixListVersion
- RestoreSnapshotFromRecycleBin
- RestoreSnapshotTier
- RevokeClientVpnIngress
- RevokeSecurityGroupEgress
- RevokeSecurityGroupIngress
- RunInstances
- RunScheduledInstances
- SearchLocalGatewayRoutes
- SearchTransitGatewayMulticastGroups
- SearchTransitGatewayRoutes
- SendDiagnosticInterrupt
- StartInstances
- StartNetworkInsightsAccessScopeAnalysis
- StartNetworkInsightsAnalysis
- StartVpcEndpointServicePrivateDnsVerification
- StopInstances
- TerminateClientVpnConnections
- TerminateInstances
- UnassignIpv6Addresses
- UnassignPrivateIpAddresses
- UnassignPrivateNatGatewayAddress
- UnlockSnapshot
- UnmonitorInstances
- UpdateSecurityGroupRuleDescriptionsEgress
- UpdateSecurityGroupRuleDescriptionsIngress
- WithdrawByoipCidr
AcceptAddressTransfer

Accepts an Elastic IP address transfer. For more information, see Accept a transferred Elastic IP address in the Amazon Virtual Private Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Address

The Elastic IP address you are accepting for transfer.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TagSpecification.N

tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.

Type: Array of TagSpecification objects

Required: No

Response Elements

The following elements are returned by the service.
addressTransfer

An Elastic IP address transfer.

Type: `AddressTransfer` object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
AcceptReservedInstancesExchangeQuote

Accepts the Convertible Reserved Instance exchange quote described in the GetReservedInstancesExchangeQuote call.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ReservedInstanceId.N

The IDs of the Convertible Reserved Instances to exchange for another Convertible Reserved Instance of the same or higher value.

Type: Array of strings

Required: Yes

TargetConfiguration.N

The configuration of the target Convertible Reserved Instance to exchange for your current Convertible Reserved Instances.

Type: Array of TargetConfigurationRequest objects

Required: No

Response Elements

The following elements are returned by the service.
exchangeId

The ID of the successful exchange.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AcceptTransitGatewayMulticastDomainAssociations

Accepts a request to associate subnets with a transit gateway multicast domain.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

SubnetIds.N

The IDs of the subnets to associate with the transit gateway multicast domain.

Type: Array of strings
Required: No

TransitGatewayAttachmentId

The ID of the transit gateway attachment.

Type: String
Required: No

TransitGatewayMulticastDomainId

The ID of the transit gateway multicast domain.

Type: String
Required: No
Response Elements

The following elements are returned by the service.

associations

Information about the multicast domain associations.

Type: TransitGatewayMulticastDomainAssociations object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AcceptTransitGatewayPeeringAttachment

Accepts a transit gateway peering attachment request. The peering attachment must be in the pendingAcceptance state.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TransitGatewayAttachmentId

The ID of the transit gateway attachment.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

transitGatewayPeeringAttachment

The transit gateway peering attachment.

Type: TransitGatewayPeeringAttachment object
Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example accepts the specified transit gateway peering attachment by specifying its attachment ID.

Sample Request

```
https://ec2.amazonaws.com/?Action=AcceptTransitGatewayPeeringAttachment
&TransitGatewayAttachmentId=tgw-attach-12345678901abcd12
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
AcceptTransitGatewayVpcAttachment

Accepts a request to attach a VPC to a transit gateway.

The VPC attachment must be in the pendingAcceptance state. Use DescribeTransitGatewayVpcAttachments to view your pending VPC attachment requests. Use RejectTransitGatewayVpcAttachment to reject a VPC attachment request.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TransitGatewayAttachmentId

The ID of the attachment.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String
transitGatewayVpcAttachment

The VPC attachment.

Type: TransitGatewayVpcAttachment object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AcceptVpcEndpointConnections

Accepts connection requests to your VPC endpoint service.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ServiceId

The ID of the VPC endpoint service.

Type: String

Required: Yes

VpcEndpointId.N

The IDs of the interface VPC endpoints.

Type: Array of strings

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.
Type: String

unsuccessful

Information about the interface endpoints that were not accepted, if applicable.

Type: Array of UnsuccessfulItem objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example accepts the request for interface endpoint vpce-0c1308d7312217123 to connect to your service vpce-svc-abc5ebb7d9579a2b3.

Sample Request

https://ec2.amazonaws.com/?Action=AcceptVpcEndpointConnections
&ServiceId=vpce-svc-abc5ebb7d9579a2b3
&VpcEndpointId.1=vpce-0c1308d7312217123
&AUTHPARAMS

Sample Response

  <requestId>986a2264-8a40-4da8-8f11-e8aaexample</requestId>
  <unsuccessful/>
</AcceptVpcEndpointConnectionsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
See Also

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AcceptVpcPeeringConnection

Accept a VPC peering connection request. To accept a request, the VPC peering connection must be in the pending-acceptance state, and you must be the owner of the peer VPC. Use DescribeVpcPeeringConnections to view your outstanding VPC peering connection requests.

For an inter-Region VPC peering connection request, you must accept the VPC peering connection in the Region of the accepter VPC.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VpcPeeringConnectionId

The ID of the VPC peering connection. You must specify this parameter in the request.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String
vpcPeeringConnection

Information about the VPC peering connection.

Type: VpcPeeringConnection object

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example accepts the specified VPC peering connection request.

Sample Request

https://ec2.amazonaws.com/?Action=AcceptVpcPeeringConnection
&VpcPeeringConnectionId=pcx-1a2b3c4d
&AUTHPARAMS

Sample Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpcPeeringConnection>
    <vpcPeeringConnectionId>pcx-1a2b3c4d</vpcPeeringConnectionId>
    <requesterVpcInfo>
      <ownerId>123456789012</ownerId>
      <vpcId>vpc-1a2b3c4d</vpcId>
      <cidrBlock>10.0.0.0/28</cidrBlock>
    </requesterVpcInfo>
    <accepterVpcInfo>
      <ownerId>777788889999</ownerId>
      <vpcId>vpc-111aaa22</vpcId>
      <cidrBlock>10.0.1.0/28</cidrBlock>
      <peeringOptions>
        <allowEgressFromLocalClassicLinkToRemoteVpc>false</allowEgressFromLocalClassicLinkToRemoteVpc>
        <allowEgressFromLocalVpcToRemoteClassicLink>false</allowEgressFromLocalVpcToRemoteClassicLink>
      </peeringOptions>
    </accepterVpcInfo>
  </vpcPeeringConnection>
</AcceptVpcPeeringConnectionResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](https://aws.amazon.com/cli/)
- [AWS SDK for .NET](https://aws.amazon.com/sdk-for-net/)
- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://aws.amazon.com/sdk-for-go/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for JavaScript V3](https://aws.amazon.com/sdk-for-aws-sdk-js/)
- [AWS SDK for PHP V3](https://aws.amazon.com/sdk-for-php/)
- [AWS SDK for Python](https://aws.amazon.com/sdk-for-python/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)
AdvertiseByoipCidr

Advertises an IPv4 or IPv6 address range that is provisioned for use with your AWS resources through bring your own IP addresses (BYOIP).

You can perform this operation at most once every 10 seconds, even if you specify different address ranges each time.

We recommend that you stop advertising the BYOIP CIDR from other locations when you advertise it from AWS. To minimize down time, you can configure your AWS resources to use an address from a BYOIP CIDR before it is advertised, and then simultaneously stop advertising it from the current location and start advertising it through AWS.

It can take a few minutes before traffic to the specified addresses starts routing to AWS because of BGP propagation delays.

To stop advertising the BYOIP CIDR, use WithdrawByoipCidr.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Asn

The public 2-byte or 4-byte ASN that you want to advertise.

Type: String

Required: No

Cidr

The address range, in CIDR notation. This must be the exact range that you provisioned. You can't advertise only a portion of the provisioned range.

Type: String

Required: Yes
DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

NetworkBorderGroup

If you have Local Zones enabled, you can choose a network border group for Local Zones when you provision and advertise a BYOIPv4 CIDR. Choose the network border group carefully as the EIP and the AWS resource it is associated with must reside in the same network border group.

You can provision BYOIP address ranges to and advertise them in the following Local Zone network border groups:
- us-east-1-dfw-2
- us-west-2-lax-1
- us-west-2-phx-2

Note

You cannot provision or advertise BYOIPv6 address ranges in Local Zones at this time.

Type: String
Required: No

Response Elements

The following elements are returned by the service.

byoipCidr

Information about the address range.

Type: ByoipCidr object
**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
AllocateAddress

Allocates an Elastic IP address to your AWS account. After you allocate the Elastic IP address you can associate it with an instance or network interface. After you release an Elastic IP address, it is released to the IP address pool and can be allocated to a different AWS account.

You can allocate an Elastic IP address from an address pool owned by AWS or from an address pool created from a public IPv4 address range that you have brought to AWS for use with your AWS resources using bring your own IP addresses (BYOIP). For more information, see Bring Your Own IP Addresses (BYOIP) in the Amazon Elastic Compute Cloud User Guide.

If you release an Elastic IP address, you might be able to recover it. You cannot recover an Elastic IP address that you released after it is allocated to another AWS account. To attempt to recover an Elastic IP address that you released, specify it in this operation.

For more information, see Elastic IP Addresses in the Amazon Elastic Compute Cloud User Guide.

You can allocate a carrier IP address which is a public IP address from a telecommunication carrier, to a network interface which resides in a subnet in a Wavelength Zone (for example an EC2 instance).

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Address

The Elastic IP address to recover or an IPv4 address from an address pool.

Type: String

Required: No

CustomerOwnedIpv4Pool

The ID of a customer-owned address pool. Use this parameter to let Amazon EC2 select an address from the address pool. Alternatively, specify a specific address from the address pool.

Type: String

Required: No
**Domain**

The network (vpc).

Type: String

Valid Values: vpc | standard

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**NetworkBorderGroup**

A unique set of Availability Zones, Local Zones, or Wavelength Zones from which AWS advertises IP addresses. Use this parameter to limit the IP address to this location. IP addresses cannot move between network border groups.

Use [DescribeAvailabilityZones](#) to view the network border groups.

Type: String

Required: No

**PublicIpv4Pool**

The ID of an address pool that you own. Use this parameter to let Amazon EC2 select an address from the address pool. To specify a specific address from the address pool, use the Address parameter instead.

Type: String

Required: No

**TagSpecification.N**

The tags to assign to the Elastic IP address.
Type: Array of TagSpecification objects

Required: No

**Response Elements**

The following elements are returned by the service.

**allocationId**

The ID that represents the allocation of the Elastic IP address.

Type: String

**carrierIp**

The carrier IP address. This option is only available for network interfaces that reside in a subnet in a Wavelength Zone.

Type: String

**customerOwnedIp**

The customer-owned IP address.

Type: String

**customerOwnedIpv4Pool**

The ID of the customer-owned address pool.

Type: String

**domain**

The network (vpc).

Type: String

Valid Values: vpc | standard

**networkBorderGroup**

The set of Availability Zones, Local Zones, or Wavelength Zones from which AWS advertises IP addresses.
publicIp

The Elastic IP address.

Type: String

publicIpv4Pool

The ID of an address pool.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example for Allocation

This example request allocates an Elastic IP address.

Sample Request

https://ec2.amazonaws.com/?Action=AllocateAddress
&Domain=vpc
&AUTHPARAMS

Sample Response

<AllocateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <publicIp>198.51.100.1</publicIp>
  <domain>vpc</domain>
  <allocationId>eipalloc-5723d13e</allocationId>
</AllocateAddressResponse>
Example for Recovery

This example request shows how to recover an Elastic IP address that you previously released.

Sample Request

https://ec2.amazonaws.com/?Action=AllocateAddress
&Domain=vpc
&Address=203.0.113.3
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AllocateHosts

Allocates a Dedicated Host to your account. At a minimum, specify the supported instance type or instance family, the Availability Zone in which to allocate the host, and the number of hosts to allocate.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AssetId.N

The IDs of the Outpost hardware assets on which to allocate the Dedicated Hosts. Targeting specific hardware assets on an Outpost can help to minimize latency between your workloads. This parameter is supported only if you specify OutpostArn. If you are allocating the Dedicated Hosts in a Region, omit this parameter.

- If you specify this parameter, you can omit Quantity. In this case, Amazon EC2 allocates a Dedicated Host on each specified hardware asset.
- If you specify both AssetIds and Quantity, then the value for Quantity must be equal to the number of asset IDs specified.

Type: Array of strings

Required: No

AutoPlacement

Indicates whether the host accepts any untargeted instance launches that match its instance type configuration, or if it only accepts Host tenancy instance launches that specify its unique host ID. For more information, see Understanding auto-placement and affinity in the Amazon EC2 User Guide.

Default: on

Type: String

Valid Values: on | off

Required: No
AvailabilityZone

The Availability Zone in which to allocate the Dedicated Host.

Type: String

Required: Yes

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see Ensuring Idempotency.

Type: String

Required: No

HostMaintenance

Indicates whether to enable or disable host maintenance for the Dedicated Host. For more information, see Host maintenance in the Amazon EC2 User Guide.

Type: String

Valid Values: on | off

Required: No

HostRecovery

Indicates whether to enable or disable host recovery for the Dedicated Host. Host recovery is disabled by default. For more information, see Host recovery in the Amazon EC2 User Guide.

Default: off

Type: String

Valid Values: on | off

Required: No

InstanceFamily

Specifies the instance family to be supported by the Dedicated Hosts. If you specify an instance family, the Dedicated Hosts support multiple instance types within that instance family.
If you want the Dedicated Hosts to support a specific instance type only, omit this parameter and specify `InstanceType` instead. You cannot specify `InstanceFamily` and `InstanceType` in the same request.

Type: String
Required: No

**InstanceType**

Specifies the instance type to be supported by the Dedicated Hosts. If you specify an instance type, the Dedicated Hosts support instances of the specified instance type only.

If you want the Dedicated Hosts to support multiple instance types in a specific instance family, omit this parameter and specify `InstanceFamily` instead. You cannot specify `InstanceType` and `InstanceFamily` in the same request.

Type: String
Required: No

**OutpostArn**

The Amazon Resource Name (ARN) of the AWS Outpost on which to allocate the Dedicated Host. If you specify `OutpostArn`, you can optionally specify `AssetIds`.

If you are allocating the Dedicated Host in a Region, omit this parameter.

Type: String
Required: No

**Quantity**

The number of Dedicated Hosts to allocate to your account with these parameters. If you are allocating the Dedicated Hosts on an Outpost, and you specify `AssetIds`, you can omit this parameter. In this case, Amazon EC2 allocates a Dedicated Host on each specified hardware asset. If you specify both `AssetIds` and `Quantity`, then the value that you specify for `Quantity` must be equal to the number of asset IDs specified.

Type: Integer
Required: No
TagSpecification.N

The tags to apply to the Dedicated Host during creation.

Type: Array of TagSpecification objects

Required: No

Response Elements

The following elements are returned by the service.

hostIdSet

The ID of the allocated Dedicated Host. This is used to launch an instance onto a specific host.

Type: Array of strings

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example allocates a Dedicated Host to your account, on to which you can launch only m5.large instances.

Sample Request

https://ec2.amazonaws.com/?Action=AllocateHosts
&AvailabilityZone=us-east-1b
&InstanceType=m5.large
&Quantity=1
Sample Response

```xml
   requestId="d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE">
   <hostIdSet>
      <item>h-00548908djdsgfs</item>
   </hostIdSet>
</AllocateHostsResponse>
```

Example 2

This example allocates a Dedicated Host to your account, on to which you can launch multiple instance types in the m5 instance family.

Sample Request

```text
https://ec2.amazonaws.com/?Action=AllocateHosts
&AvailabilityZone=us-east-1b
&InstanceFamily=m5
&Quantity=1
&AUTHPARAMS
```

Sample Response

```xml
   requestId="d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE">
   <hostIdSet>
      <item>h-00548908djdsgfs</item>
   </hostIdSet>
</AllocateHostsResponse>
```

Example 3

This example allocates a Dedicated Host to your account with host recovery on.

Sample Request

```text
https://ec2.amazonaws.com/?Action=AllocateHosts
```
Sample Response

```xml
  <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
  <hostIdSet>
    <item>h-00548908djdsgfs</item>
  </hostIdSet>
</AllocateHostsResponse>
```

Example 4

This example allocates a Dedicated Host to your account with auto-placement off.

Sample Request

```plaintext
https://ec2.amazonaws.com/?Action=AllocateHosts
&AvailabilityZone=us-east-1b
&InstanceFamily=m5
&Quantity=1
&AutoPlacement=off
&AUTHPARAMS
```

Sample Response

```xml
  <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
  <hostIdSet>
    <item>h-00548908djdsgfs</item>
  </hostIdSet>
</AllocateHostsResponse>
```

Example 5

This example allocates a Dedicated Host to your account, on to which you can launch only m5.2xlarge instances, and applies a tag with a key of `purpose` and a value of `production`. 
Sample Request

https://ec2.amazonaws.com/?Action=AllocateHosts
&AvailabilityZone=us-east-1b
&InstanceType=m5.2xlarge
&Quantity=1
&TagSpecification.1.ResourceType=dedicated-host
&TagSpecification.1.Tag.1.Key=purpose
&TagSpecification.1.Tag.1.Value=production
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AllocateIpamPoolCidr

Allocate a CIDR from an IPAM pool. The Region you use should be the IPAM pool locale. The locale is the AWS Region where this IPAM pool is available for allocations.

In IPAM, an allocation is a CIDR assignment from an IPAM pool to another IPAM pool or to a resource. For more information, see Allocate CIDRs in the Amazon VPC IPAM User Guide.

Note

This action creates an allocation with strong consistency. The returned CIDR will not overlap with any other allocations from the same pool.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AllowedCidr.N

Include a particular CIDR range that can be returned by the pool. Allowed CIDRs are only allowed if using netmask length for allocation.

Type: Array of strings

Required: No

Cidr

The CIDR you would like to allocate from the IPAM pool. Note the following:

- If there is no DefaultNetmaskLength allocation rule set on the pool, you must specify either the NetmaskLength or the CIDR.
- If the DefaultNetmaskLength allocation rule is set on the pool, you can specify either the NetmaskLength or the CIDR and the DefaultNetmaskLength allocation rule will be ignored.

Possible values: Any available IPv4 or IPv6 CIDR.

Type: String
**ClientToken**

A unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see [Ensuring Idempotency](#).

Type: String

Required: No

**Description**

A description for the allocation.

Type: String

Required: No

**DisallowedCidr.N**

Exclude a particular CIDR range from being returned by the pool. Disallowed CIDRs are only allowed if using netmask length for allocation.

Type: Array of strings

Required: No

**DryRun**

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**IpamPoolId**

The ID of the IPAM pool from which you would like to allocate a CIDR.

Type: String

Required: Yes
**NetmaskLength**

The netmask length of the CIDR you would like to allocate from the IPAM pool. Note the following:

- If there is no DefaultNetmaskLength allocation rule set on the pool, you must specify either the NetmaskLength or the CIDR.
- If the DefaultNetmaskLength allocation rule is set on the pool, you can specify either the NetmaskLength or the CIDR and the DefaultNetmaskLength allocation rule will be ignored.

Possible netmask lengths for IPv4 addresses are 0 - 32. Possible netmask lengths for IPv6 addresses are 0 - 128.

Type: Integer

Required: No

**PreviewNextCidr**

A preview of the next available CIDR in a pool.

Type: Boolean

Required: No

**Response Elements**

The following elements are returned by the service.

**ipamPoolAllocation**

Information about the allocation created.

Type: [IpamPoolAllocation](#) object

**RequestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ApplySecurityGroupsToClientVpnTargetNetwork

Applies a security group to the association between the target network and the Client VPN endpoint. This action replaces the existing security groups with the specified security groups.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientVpnEndpointId

The ID of the Client VPN endpoint.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

SecurityGroupId.N

The IDs of the security groups to apply to the associated target network. Up to 5 security groups can be applied to an associated target network.

Type: Array of strings

Required: Yes

VpcId

The ID of the VPC in which the associated target network is located.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

securityGroupIds

The IDs of the applied security groups.

Type: Array of strings

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example applies a security group to a Client VPN endpoint.

Sample Request

https://ec2.amazonaws.com/?Action=ApplySecurityGroupsToClientVpnTargetNetwork
&ClientVpnEndpointId=cvpn-endpoint-00c5d11fc4EXAMPLE
&SecurityGroupId=sg-0618575f05EXAMPLE
&VpcId=vpc-3db97056EXAMPLE
&AUTHPARAMS

Sample Response

   requestId=5ef84b7f-505e-4e39-80cd-a11dbEXAMPLE/>
   <securityGroupIds>
       <item>sg-0618575f05EXAMPLE</item>
   </securityGroupIds>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AssignIpv6Addresses

Assigns one or more IPv6 addresses to the specified network interface. You can specify one or more specific IPv6 addresses, or you can specify the number of IPv6 addresses to be automatically assigned from within the subnet's IPv6 CIDR block range. You can assign as many IPv6 addresses to a network interface as you can assign private IPv4 addresses, and the limit varies per instance type. For information, see IP Addresses Per Network Interface Per Instance Type in the Amazon Elastic Compute Cloud User Guide.

You must specify either the IPv6 addresses or the IPv6 address count in the request.

You can optionally use Prefix Delegation on the network interface. You must specify either the IPV6 Prefix Delegation prefixes, or the IPv6 Prefix Delegation count. For information, see Assigning prefixes to Amazon EC2 network interfaces in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Ipv6AddressCount

The number of additional IPv6 addresses to assign to the network interface. The specified number of IPv6 addresses are assigned in addition to the existing IPv6 addresses that are already assigned to the network interface. Amazon EC2 automatically selects the IPv6 addresses from the subnet range. You can't use this option if specifying specific IPv6 addresses.

Type: Integer

Required: No

Ipv6Addresses.N

The IPv6 addresses to be assigned to the network interface. You can't use this option if you're specifying a number of IPv6 addresses.

Type: Array of strings

Required: No
**Ipv6Prefix.N**

One or more IPv6 prefixes assigned to the network interface. You cannot use this option if you use the Ipv6PrefixCount option.

Type: Array of strings

Required: No

**Ipv6PrefixCount**

The number of IPv6 prefixes that AWS automatically assigns to the network interface. You cannot use this option if you use the Ipv6Prefixes option.

Type: Integer

Required: No

**NetworkInterfaceId**

The ID of the network interface.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**assignedIpv6Addresses**

The new IPv6 addresses assigned to the network interface. Existing IPv6 addresses that were assigned to the network interface before the request are not included.

Type: Array of strings

**assignedIpv6PrefixSet**

The IPv6 prefixes that are assigned to the network interface.

Type: Array of strings
networkInterfaceId

The ID of the network interface.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example assigns two IPv6 addresses (2001:db8:1234:1a00::123 and 2001:db8:1234:1a00::456) to the specified network interface.

Sample Request

https://ec2.amazonaws.com/?Action=AssignIvp6Addresses
&NetworkInterfaceId=eni-d83388b1
&Ipv6Addresses.1=2001:db8:1234:1a00::123
&Ipv6Addresses.2=2001:db8:1234:1a00::456
&AUTHPARAMS

Sample Response

<AssignIpv6AddressesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>c36d17eb-a0ba-4d38-8727-example</requestId>
   <networkInterfaceId>eni-d83388b1</networkInterfaceId>
   <assignedIpv6Addresses>
       <item>2001:db8:1234:1a00::123</item>
       <item>2001:db8:1234:1a00::456</item>
   </assignedIpv6Addresses>
</AssignIpv6AddressesResponse>
Example 2

This example assigns two IPv6 addresses to the specified network interface. Amazon EC2 automatically assigns the addresses from the available IPv6 addresses within the subnet's IPv6 CIDR block range.

Sample Request

```plaintext
https://ec2.amazonaws.com/?Action=AssignIpv6Addresses
&NetworkInterfaceId=eni-d83388b1
&Ipv6AddressCount=2
&AUTHPARAMS
```

Sample Response

```xml
<AssignIpv6AddressesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>c36d17eb-a0ba-4d38-8727-example</requestId>
  <networkInterfaceId>eni-d83388b1</networkInterfaceId>
  <assignedIpv6Addresses>
    <item>2001:db8:1234:1a00:3304:8879:34cf:4071</item>
    <item>2002:db8:1234:1a00:9691:9503:25ad:1761</item>
  </assignedIpv6Addresses>
</AssignIpv6AddressesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
AssignPrivateIpAddresses

Assigns one or more secondary private IP addresses to the specified network interface.

You can specify one or more specific secondary IP addresses, or you can specify the number of secondary IP addresses to be automatically assigned within the subnet's CIDR block range. The number of secondary IP addresses that you can assign to an instance varies by instance type. For information about instance types, see Instance Types in the Amazon Elastic Compute Cloud User Guide. For more information about Elastic IP addresses, see Elastic IP Addresses in the Amazon Elastic Compute Cloud User Guide.

When you move a secondary private IP address to another network interface, any Elastic IP address that is associated with the IP address is also moved.

Remapping an IP address is an asynchronous operation. When you move an IP address from one network interface to another, check network/interfaces/macs/mac/local-ipv4s in the instance metadata to confirm that the remapping is complete.

You must specify either the IP addresses or the IP address count in the request.

You can optionally use Prefix Delegation on the network interface. You must specify either the IPv4 Prefix Delegation prefixes, or the IPv4 Prefix Delegation count. For information, see Assigning prefixes to Amazon EC2 network interfaces in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**AllowReassignment**

Indicates whether to allow an IP address that is already assigned to another network interface or instance to be reassigned to the specified network interface.

Type: Boolean

Required: No

**Ipv4Prefix.N**

One or more IPv4 prefixes assigned to the network interface. You cannot use this option if you use the Ipv4PrefixCount option.
**Type:** Array of strings  
**Required:** No

**Ipv4PrefixCount**

The number of IPv4 prefixes that AWS automatically assigns to the network interface. You cannot use this option if you use the Ipv4 Prefixes option.

**Type:** Integer  
**Required:** No

**NetworkInterfaceId**

The ID of the network interface.

**Type:** String  
**Required:** Yes

**PrivateIpAddress.N**

The IP addresses to be assigned as a secondary private IP address to the network interface. You can't specify this parameter when also specifying a number of secondary IP addresses.

If you don't specify an IP address, Amazon EC2 automatically selects an IP address within the subnet range.

**Type:** Array of strings  
**Required:** No

**SecondaryPrivateIpAddressCount**

The number of secondary IP addresses to assign to the network interface. You can't specify this parameter when also specifying private IP addresses.

**Type:** Integer  
**Required:** No

**Response Elements**

The following elements are returned by the service.
assignedIpv4PrefixSet

The IPv4 prefixes that are assigned to the network interface.

Type: Array of Ipv4PrefixSpecification objects

assignedPrivateIpAddressesSet

The private IP addresses assigned to the network interface.

Type: Array of AssignedPrivateIpAddress objects

networkInterfaceId

The ID of the network interface.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example assigns two secondary private IP addresses (10.0.2.1 and 10.0.2.11) to the specified network interface.

Sample Request

https://ec2.amazonaws.com/?Action=AssignPrivateIpAddresses
&NetworkInterfaceId=eni-d83388b1
&PrivateIpAddress.1=10.0.2.1
&PrivateIpAddress.2=10.0.2.11
&AUTHPARAMS
Sample Response

```xml
  requestId=3fb591ba-558c-48f8-ae6b-c2f9d6d06425"
  networkInterfaceId=eni-01d32da61c165ac3e"
  assignedPrivateIpAddressesSet
    <item>
      <privateIpAddress>10.2.2.1</privateIpAddress>
    </item>
    <item>
      <privateIpAddress>10.2.2.11</privateIpAddress>
    </item>
  </assignedPrivateIpAddressesSet>
  return=true</return>
</AssignPrivateIpAddressesResponse>
```

Example 2

This example assigns two secondary private IP addresses to the specified network interface. Amazon EC2 automatically assigns these IP addresses from the available IP addresses within the subnet's CIDR block range.

Sample Request

https://ec2.amazonaws.com/?Action=AssignPrivateIpAddresses
&NetworkInterfaceId=eni-d83388b1
&SecondaryPrivateIpAddressCount=2
&AUTHPARAMS

Sample Response

```xml
  requestId=3fb591ba-558c-48f8-ae6b-c2f9d6d06425"
  networkInterfaceId=eni-01d32da61c165ac3e"
  assignedPrivateIpAddressesSet
    <item>
      <privateIpAddress>10.2.2.7</privateIpAddress>
    </item>
    <item>
      <privateIpAddress>10.2.2.5</privateIpAddress>
    </item>
  </assignedPrivateIpAddressesSet>
</AssignPrivateIpAddressesResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AssignPrivateNatGatewayAddress

Assigns one or more private IPv4 addresses to a private NAT gateway. For more information, see Work with NAT gateways in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

NatGatewayId

The ID of the NAT gateway.

Type: String

Required: Yes

PrivateIpAddress.N

The private IPv4 addresses you want to assign to the private NAT gateway.

Type: Array of strings

Required: No

PrivateIpAddressCount

The number of private IP addresses to assign to the NAT gateway. You can't specify this parameter when also specifying private IP addresses.

Type: Integer

Response Elements

The following elements are returned by the service.

**natGatewayAddressSet**

NAT gateway IP addresses.

Type: Array of [NatGatewayAddress](#) objects

**natGatewayId**

The ID of the NAT gateway.

Type: String

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
• AWS SDK for Python
• AWS SDK for Ruby V3
AssociateAddress

Associates an Elastic IP address, or carrier IP address (for instances that are in subnets in Wavelength Zones) with an instance or a network interface. Before you can use an Elastic IP address, you must allocate it to your account.

If the Elastic IP address is already associated with a different instance, it is disassociated from that instance and associated with the specified instance. If you associate an Elastic IP address with an instance that has an existing Elastic IP address, the existing address is disassociated from the instance, but remains allocated to your account.

[Subnets in Wavelength Zones] You can associate an IP address from the telecommunication carrier to the instance or network interface.

You cannot associate an Elastic IP address with an interface in a different network border group.

⚠️ Important

This is an idempotent operation. If you perform the operation more than once, Amazon EC2 doesn't return an error, and you may be charged for each time the Elastic IP address is remapped to the same instance. For more information, see the Elastic IP Addresses section of Amazon EC2 Pricing.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AllocationId

The allocation ID. This is required.

Type: String

Required: No

AllowReassociation

Reassociation is automatic, but you can specify false to ensure the operation fails if the Elastic IP address is already associated with another resource.
DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

InstanceId

The ID of the instance. The instance must have exactly one attached network interface. You can specify either the instance ID or the network interface ID, but not both.

Type: String
Required: No

NetworkInterfaceId

The ID of the network interface. If the instance has more than one network interface, you must specify a network interface ID.

You can specify either the instance ID or the network interface ID, but not both.

Type: String
Required: No

PrivateIpAddress

The primary or secondary private IP address to associate with the Elastic IP address. If no private IP address is specified, the Elastic IP address is associated with the primary private IP address.

Type: String
Required: No
PublicIp

Deprecated.

Type: String
Required: No

Response Elements

The following elements are returned by the service.

associationId

The ID that represents the association of the Elastic IP address with an instance.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example request associates a Elastic IP address with an instance. The AllowReassignment parameter allows the Elastic IP address to be associated with the specified instance even if it's already associated with a different instance or a network interface.

Sample Request

https://ec2.amazonaws.com/?Action=AssociateAddress
&InstanceId=i-0598c7d356eba48d7
&AllocationId=eipalloc-5723d13e
&AllowReassignment=true
&AUTHPARAMS

Sample Response

```xml
<AssociateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
  <associationId>eipassoc-fc5ca095</associationId>
</AssociateAddressResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
AssociateClientVpnTargetNetwork

Associates a target network with a Client VPN endpoint. A target network is a subnet in a VPC. You can associate multiple subnets from the same VPC with a Client VPN endpoint. You can associate only one subnet in each Availability Zone. We recommend that you associate at least two subnets to provide Availability Zone redundancy.

If you specified a VPC when you created the Client VPN endpoint or if you have previous subnet associations, the specified subnet must be in the same VPC. To specify a subnet that's in a different VPC, you must first modify the Client VPN endpoint (ModifyClientVpnEndpoint) and change the VPC that's associated with it.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to ensure idempotency.

Type: String

Required: No

ClientVpnEndpointId

The ID of the Client VPN endpoint.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
SubnetId

The ID of the subnet to associate with the Client VPN endpoint.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

associationId

The unique ID of the target network association.

Type: String

requestId

The ID of the request.

Type: String

status

The current state of the target network association.

Type: AssociationStatus object

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example associates a subnet with a Client VPN endpoint.

Sample Request

https://ec2.amazonaws.com/?Action=AssociateClientVpnTargetNetwork
&ClientVpnEndpointId=cvpn-endpoint-00c5d11fc4EXAMPLE
&SubnetId=subnet-057fa0918fEXAMPLE
&AUTHPARAMS

Sample Response

```xml
<AssociateClientVpnTargetNetworkResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
    <requestId>7d1f819b-7f2a-4f81-aabf-81caeEXAMPLE</requestId>
    <status>
        <code>associating</code>
    </status>
    <associationId>cvpn-assoc-0822b0983cEXAMPLE</associationId>
</AssociateClientVpnTargetNetworkResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
AssociateDhcpOptions

Associates a set of DHCP options (that you've previously created) with the specified VPC, or associates no DHCP options with the VPC.

After you associate the options with the VPC, any existing instances and all new instances that you launch in that VPC use the options. You don't need to restart or relaunch the instances. They automatically pick up the changes within a few hours, depending on how frequently the instance renews its DHCP lease. You can explicitly renew the lease using the operating system on the instance.

For more information, see DHCP options sets in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DhcpOptionsId

The ID of the DHCP options set, or default to associate no DHCP options with the VPC.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VpcId

The ID of the VPC.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example associates the DHCP options with the ID dopt-7a8b9c2d with the VPC with the ID vpc-1a2b3c4d.

Sample Request

https://ec2.amazonaws.com/?Action=AssociateDhcpOptions
&DhcpOptionsId=dopt-7a8b9c2d
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS

Sample Response

<AssociateDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</AssociateDhcpOptionsResponse>
Example 2

This example changes the VPC with the ID vpc-1a2b3c4d to have no associated DHCP options set.

Sample Request

https://ec2.amazonaws.com/?Action=AssociateDhcpOptions
&DhcpOptionsId=default
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS

Sample Response

<AssociateDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</AssociateDhcpOptionsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
AssociateEnclaveCertificateIamRole

Associates an AWS Identity and Access Management (IAM) role with an AWS Certificate Manager (ACM) certificate. This enables the certificate to be used by the ACM for Nitro Enclaves application inside an enclave. For more information, see AWS Certificate Manager for Nitro Enclaves in the AWS Nitro Enclaves User Guide.

When the IAM role is associated with the ACM certificate, the certificate, certificate chain, and encrypted private key are placed in an Amazon S3 location that only the associated IAM role can access. The private key of the certificate is encrypted with an AWS managed key that has an attached attestation-based key policy.

To enable the IAM role to access the Amazon S3 object, you must grant it permission to call s3:GetObject on the Amazon S3 bucket returned by the command. To enable the IAM role to access the KMS key, you must grant it permission to call kms:Decrypt on the KMS key returned by the command. For more information, see Grant the role permission to access the certificate and encryption key in the AWS Nitro Enclaves User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CertificateArn

The ARN of the ACM certificate with which to associate the IAM role.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
RoleArn

The ARN of the IAM role to associate with the ACM certificate. You can associate up to 16 IAM roles with an ACM certificate.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

certificateS3BucketName

The name of the Amazon S3 bucket to which the certificate was uploaded.

Type: String

certificateS3ObjectKey

The Amazon S3 object key where the certificate, certificate chain, and encrypted private key bundle are stored. The object key is formatted as follows: role_arn/certificate_arn.

Type: String

encryptionKmsKeyId

The ID of the KMS key used to encrypt the private key of the certificate.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
**AssociateIamInstanceProfile**

Associates an IAM instance profile with a running or stopped instance. You cannot associate more than one IAM instance profile with an instance.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**iamInstanceProfile**

The IAM instance profile.

Type: IamInstanceProfileSpecification object

Required: Yes

**InstanceId**

The ID of the instance.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**iamInstanceProfileAssociation**

Information about the IAM instance profile association.

Type: IamInstanceProfileAssociation object

**requestId**

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example associates the IAM instance profile with the specified instance.

Sample Request

https://ec2.amazonaws.com/?Action=AssociateIamInstanceProfile
&InstanceId=i-1234567890abcdef0
&IamInstanceProfile.Name=AdminProfile
&AUTHPARAMS

Sample Response

<AssociateIamInstanceProfileResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>e10deeaf-7cda-48e7-950b-example</requestId>
  <iamInstanceProfileAssociation>
    <associationId>iip-assoc-0750e3af14e2b40ad</associationId>
    <arn>arn:aws:iam::123456789012:instance-profile/AdminProfile</arn>
    <id>AIPAJEDNCAA64SSD265D6</id>
  </iamInstanceProfile>
  <instanceId>i-1234567890abcdef0</instanceId>
  <state>associating</state>
</AssociateIamInstanceProfileAssociation>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
AssociateInstanceEventWindow

Associates one or more targets with an event window. Only one type of target (instance IDs, Dedicated Host IDs, or tags) can be specified with an event window.

For more information, see Define event windows for scheduled events in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AssociationTarget

One or more targets associated with the specified event window.

Type: InstanceEventWindowAssociationRequest object

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceEventWindowId

The ID of the event window.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
instanceEventWindow

Information about the event window.

Type: InstanceEventWindow object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
**AssociatelpamByoasn**

Associates your Autonomous System Number (ASN) with a BYOIP CIDR that you own in the same AWS Region. For more information, see [Tutorial: Bring your ASN to IPAM](https://docs.aws.amazon.com/vpc-ipam/latest/ipam-guide/) in the *Amazon VPC IPAM guide*.

After the association succeeds, the ASN is eligible for advertisement. You can view the association with [DescribeByoipCidrs](https://docs.aws.amazon.com/vpc-ipam/latest/ipam/API_Reference.html#api-reference). You can advertise the CIDR with [AdvertiseByoipCidr](https://docs.aws.amazon.com/vpc-ipam/latest/ipam/API_Reference.html#api-reference).

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](https://docs.aws.amazon.com/vpc-ipam/latest/ipam/API_Reference.html#common).

**Asn**

A public 2-byte or 4-byte ASN.

Type: String

Required: Yes

**Cidr**

The BYOIP CIDR you want to associate with an ASN.

Type: String

Required: Yes

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Response Elements**

The following elements are returned by the service.
asnAssociation

The ASN and BYOIP CIDR association.

Type: AsnAssociation object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
**AssociateIpamResourceDiscovery**

Associates an IPAM resource discovery with an Amazon VPC IPAM. A resource discovery is an IPAM component that enables IPAM to manage and monitor resources that belong to the owning account.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**ClientToken**

A client token.

Type: String

Required: No

**DryRun**

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**IpamId**

An IPAM ID.

Type: String

Required: Yes

**IpamResourceDiscoveryId**

A resource discovery ID.

Type: String

Required: Yes
TagSpecification.N

Tag specifications.

Type: Array of TagSpecification objects

Required: No

Response Elements

The following elements are returned by the service.

ipamResourceDiscoveryAssociation

A resource discovery association. An associated resource discovery is a resource discovery that has been associated with an IPAM.

Type: IpamResourceDiscoveryAssociation object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
AssociateNatGatewayAddress

Associates Elastic IP addresses (EIPs) and private IPv4 addresses with a public NAT gateway. For more information, see [Work with NAT gateways](#) in the *Amazon VPC User Guide*.

By default, you can associate up to 2 Elastic IP addresses per public NAT gateway. You can increase the limit by requesting a quota adjustment. For more information, see [Elastic IP address quotas](#) in the *Amazon VPC User Guide*.

⚠️ **Important**

When you associate an EIP or secondary EIPs with a public NAT gateway, the network border group of the EIPs must match the network border group of the Availability Zone (AZ) that the public NAT gateway is in. If it's not the same, the EIP will fail to associate. You can see the network border group for the subnet's AZ by viewing the details of the subnet. Similarly, you can view the network border group of an EIP by viewing the details of the EIP address. For more information about network border groups and EIPs, see [Allocate an Elastic IP address](#) in the *Amazon VPC User Guide*.

### Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**AllocationId.N**

The allocation IDs of EIPs that you want to associate with your NAT gateway.

*Type: Array of strings*

*Required: Yes*

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

*Type: Boolean*
Required: No

**NatGatewayId**

The ID of the NAT gateway.

Type: String

Required: Yes

**PrivatetlPAddress.N**

The private IPv4 addresses that you want to assign to the NAT gateway.

Type: Array of strings

Required: No

**Response Elements**

The following elements are returned by the service.

**natGatewayAddressSet**

The IP addresses.

Type: Array of [NatGatewayAddress](#) objects

**natGatewayId**

The ID of the NAT gateway.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AssociateRouteTable

Associates a subnet in your VPC or an internet gateway or virtual private gateway attached to your VPC with a route table in your VPC. This association causes traffic from the subnet or gateway to be routed according to the routes in the route table. The action returns an association ID, which you need in order to disassociate the route table later. A route table can be associated with multiple subnets.

For more information, see Route tables in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

GatewayId

The ID of the internet gateway or virtual private gateway.

Type: String

Required: No

RouteTableId

The ID of the route table.

Type: String

Required: Yes

SubnetId

The ID of the subnet.
Response Elements

The following elements are returned by the service.

associationId

The route table association ID. This ID is required for disassociating the route table.

Type: String

associationState

The state of the association.

Type: RouteTableAssociationState object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example associates a route table with the ID rtb-11223344556677889 with a subnet with the ID subnet-12345678901234567.

Sample Request

https://ec2.amazonaws.com/?Action=AssociateRouteTable
&RouteTableId=rtb-11223344556677889
&SubnetId=subnet-12345678901234567
Sample Response

```xml
<AssociateRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <associationId>rtbassoc-04ca27a6914a0b4f</associationId>
</AssociateRouteTableResponse>
```

Example 2

This example associates a route table with the ID rtb-11223344556677889 with an internet gateway with the ID igw-1a2b3c4d1a2b3c4d1.

Sample Request

```plaintext
https://ec2.amazonaws.com/?Action=AssociateRouteTable
&RouteTableId=rtb-11223344556677889
&GatewayId=igw-1a2b3c4d1a2b3c4d1
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
**AssociateSubnetCidrBlock**

Associates a CIDR block with your subnet. You can only associate a single IPv6 CIDR block with your subnet.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**Ipv6CidrBlock**

The IPv6 CIDR block for your subnet.

- Type: String
- Required: No

**Ipv6IpamPoolId**

An IPv6 IPAM pool ID.

- Type: String
- Required: No

**Ipv6NetmaskLength**

An IPv6 netmask length.

- Type: Integer
- Required: No

**SubnetId**

The ID of your subnet.

- Type: String
- Required: Yes

**Response Elements**

The following elements are returned by the service.
ipv6CidrBlockAssociation

Information about the IPv6 association.

Type: SubnetIpv6CidrBlockAssociation object

requestId

The ID of the request.

Type: String

subnetId

The ID of the subnet.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example associates IPv6 CIDR block 2001:db8:1234:1a00::/64 with subnet subnet-1a2b3c4d.

Sample Request

https://ec2.amazonaws.com/?Action=AssociateSubnetCidrBlock
&SubnetId=subnet-1a2b3c4d
&Ipv6CidrBlock=2001:db8:1234:1a00::/64
&AUTHPARAMS

Sample Response

<AssociateSubnetCidrBlock xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59bdf89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <subnetId>vpc-1a2b3c4d</subnetId>
  <ipv6CidrBlockAssociation>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
**AssociateTransitGatewayMulticastDomain**

Associates the specified subnets and transit gateway attachments with the specified transit gateway multicast domain.

The transit gateway attachment must be in the available state before you can add a resource. Use [DescribeTransitGatewayAttachments](#) to see the state of the attachment.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**SubnetIds.N**

The IDs of the subnets to associate with the transit gateway multicast domain.

Type: Array of strings

Required: Yes

**TransitGatewayAttachmentId**

The ID of the transit gateway attachment to associate with the transit gateway multicast domain.

Type: String

Required: Yes

**TransitGatewayMulticastDomainId**

The ID of the transit gateway multicast domain.

Type: String
Response Elements

The following elements are returned by the service.

associations

Information about the transit gateway multicast domain associations.

Type: TransitGatewayMulticastDomainAssociations object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example associates the transit gateway attachment tgw-attach-028c1dd0f8EXAMPLE with the multicast domain tgw-mcast-domain-0c4905cef7EXAMPLE.

Sample Request

https://ec2.amazonaws.com/?Action=AssociateTransitGatewayMulticastDomain&TransitGatewayAttachmentId=tgw-attach-028c1dd0f8EXAMPLE&TransitGatewayMulticastDomainId=tgw-mcast-domain-0c4905cef7EXAMPLE&AUTHPARAMS

Sample Response

<AssociateTransitGatewayMulticastDomainResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
AssociateTransitGatewayPolicyTable

Associates the specified transit gateway attachment with a transit gateway policy table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TransitGatewayAttachmentId

The ID of the transit gateway attachment to associate with the policy table.

Type: String

Required: Yes

TransitGatewayPolicyTableId

The ID of the transit gateway policy table to associate with the transit gateway attachment.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

association

Describes the association of a transit gateway and a transit gateway policy table.
Type: TransitGatewayPolicyTableAssociation object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AssociateTransitGatewayRouteTable

Associates the specified attachment with the specified transit gateway route table. You can associate only one route table with an attachment.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**TransitGatewayAttachmentId**

The ID of the attachment.

Type: String

Required: Yes

**TransitGatewayRouteTableId**

The ID of the transit gateway route table.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**association**

The ID of the association.
Type: `TransitGatewayAssociation` object

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
AssociateTrunkInterface

Associates a branch network interface with a trunk network interface.

Before you create the association, run the `create-network-interface` command and set `--interface-type` to `trunk`. You must also create a network interface for each branch network interface that you want to associate with the trunk network interface.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**BranchInterfaceId**

The ID of the branch network interface.

Type: String

Required: Yes

**ClientToken**

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see [How to Ensure Idempotency](#).

Type: String

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**GreKey**

The application key. This applies to the GRE protocol.
Type: Integer

Required: No

**TrunkInterfaceId**

The ID of the trunk network interface.

Type: String

Required: Yes

**VlanId**

The ID of the VLAN. This applies to the VLAN protocol.

Type: Integer

Required: No

**Response Elements**

The following elements are returned by the service.

**clientToken**

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see [How to Ensure Idempotency](#).

Type: String

**interfaceAssociation**

Information about the association between the trunk network interface and branch network interface.

Type: **TrunkInterfaceAssociation** object

**requestId**

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AssociateVpcCidrBlock

Associates a CIDR block with your VPC. You can associate a secondary IPv4 CIDR block, an Amazon-provided IPv6 CIDR block, or an IPv6 CIDR block from an IPv6 address pool that you provisioned through bring your own IP addresses (BYOIP).

You must specify one of the following in the request: an IPv4 CIDR block, an IPv6 pool, or an Amazon-provided IPv6 CIDR block.

For more information about associating CIDR blocks with your VPC and applicable restrictions, see IP addressing for your VPCs and subnets in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AmazonProvidedIpv6CidrBlock

Requests an Amazon-provided IPv6 CIDR block with a /56 prefix length for the VPC. You cannot specify the range of IPv6 addresses or the size of the CIDR block.

Type: Boolean

Required: No

CidrBlock

An IPv4 CIDR block to associate with the VPC.

Type: String

Required: No

Ipv4IpamPoolId

Associate a CIDR allocated from an IPv4 IPAM pool to a VPC. For more information about Amazon VPC IP Address Manager (IPAM), see What is IPAM? in the Amazon VPC IPAM User Guide.

Type: String

Required: No
**Ipv4NetmaskLength**

The netmask length of the IPv4 CIDR you would like to associate from an Amazon VPC IP Address Manager (IPAM) pool. For more information about IPAM, see [What is IPAM?](#) in the *Amazon VPC IPAM User Guide*.

Type: Integer

Required: No

**Ipv6CidrBlock**

An IPv6 CIDR block from the IPv6 address pool. You must also specify Ipv6Pool1 in the request.

To let Amazon choose the IPv6 CIDR block for you, omit this parameter.

Type: String

Required: No

**Ipv6CidrBlockNetworkBorderGroup**

The name of the location from which we advertise the IPV6 CIDR block. Use this parameter to limit the CIDR block to this location.

You must set `AmazonProvidedIpv6CidrBlock` to `true` to use this parameter.

You can have one IPv6 CIDR block association per network border group.

Type: String

Required: No

**Ipv6IpamPoolId**

Associates a CIDR allocated from an IPv6 IPAM pool to a VPC. For more information about Amazon VPC IP Address Manager (IPAM), see [What is IPAM?](#) in the *Amazon VPC IPAM User Guide*.

Type: String

Required: No

**Ipv6NetmaskLength**

The netmask length of the IPv6 CIDR you would like to associate from an Amazon VPC IP Address Manager (IPAM) pool. For more information about IPAM, see [What is IPAM?](#) in the *Amazon VPC IPAM User Guide*. 
Type: Integer
Required: No

**Ipv6Pool**

The ID of an IPv6 address pool from which to allocate the IPv6 CIDR block.

Type: String
Required: No

**VpcId**

The ID of the VPC.

Type: String
Required: Yes

**Response Elements**

The following elements are returned by the service.

**cidrBlockAssociation**

Information about the IPv4 CIDR block association.

Type: [VpcCidrBlockAssociation](#) object

**ipv6CidrBlockAssociation**

Information about the IPv6 CIDR block association.

Type: [VpcIpv6CidrBlockAssociation](#) object

**requestId**

The ID of the request.

Type: String

**vpcId**

The ID of the VPC.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example associates an IPv6 CIDR block with VPC vpc-1a2b3c4d.

Sample Request

https://ec2.amazonaws.com/?Action=AssociateVpcCidrBlock
&VpcId=vpc-1a2b3c4d
&AmazonProvidedIpv6CidrBlock=true

Sample Response

<AssociateVpcCidrBlock xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <ipv6CidrBlockAssociation>
    <ipv6CidrBlockState>
      <state>associating</state>
    </ipv6CidrBlockState>
    <associationId>vpc-cidr-assoc-e2a5408b</associationId>
  </ipv6CidrBlockAssociation>
  <vpcId>vpc-1a2b3c4d</vpcId>
</AssociateVpcCidrBlock>

Example 2

This example associates the IPv4 CIDR block 10.2.0.0/16 with VPC vpc-1a2b3c4d.

Sample Request

https://ec2.amazonaws.com/?Action=AssociateVpcCidrBlock
&VpcId=vpc-1a2b3c4d
Sample Response

```xml
<AssociateVpcCidrBlockResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>33af6c54-1139-4d50-b4f7-15a8example</requestId>
  <vpcId>vpc-1a2b3c4d</vpcId>
  <cidrBlockAssociation>
    <associationId>vpc-cidr-assoc-0280ab6b</associationId>
    <cidrBlock>10.2.0.0/16</cidrBlock>
    <cidrBlockState>
      <state>associating</state>
    </cidrBlockState>
  </cidrBlockAssociation>
</AssociateVpcCidrBlockResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](http://aws.amazon.com/cli/)
- [AWS SDK for .NET](http://aws.amazon.com/sdk-net/)
- [AWS SDK for C++](http://aws.amazon.com/sdk-cpp/)
- [AWS SDK for Go](http://aws.amazon.com/sdk-go/)
- [AWS SDK for Java V2](http://aws.amazon.com/sdk-java/)
- [AWS SDK for JavaScript V3](http://aws.amazon.com/sdk-javascript/)
- [AWS SDK for PHP V3](http://aws.amazon.com/sdk-php/)
- [AWS SDK for Python](http://aws.amazon.com/sdk-python/)
- [AWS SDK for Ruby V3](http://aws.amazon.com/sdk-ruby/)

See Also
AttachClassicLinkVpc

Note

This action is deprecated.

Links an EC2-Classic instance to a ClassicLink-enabled VPC through one or more of the VPC security groups. You cannot link an EC2-Classic instance to more than one VPC at a time. You can only link an instance that’s in the running state. An instance is automatically unlinked from a VPC when it's stopped - you can link it to the VPC again when you restart it.

After you've linked an instance, you cannot change the VPC security groups that are associated with it. To change the security groups, you must first unlink the instance, and then link it again.

Linking your instance to a VPC is sometimes referred to as attaching your instance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceId

The ID of the EC2-Classic instance.

Type: String

Required: Yes

SecurityGroupId.N

The IDs of the security groups. You cannot specify security groups from a different VPC.
Type: Array of strings
Required: Yes

VpcId
The ID of the ClassicLink-enabled VPC.
Type: String
Required: Yes

Response Elements
The following elements are returned by the service.

requestId
The ID of the request.
Type: String

return
Returns true if the request succeeds; otherwise, it returns an error.
Type: Boolean

Errors
For information about the errors that are common to all actions, see Common client error codes.

See Also
For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
AttachInternetGateway

Attaches an internet gateway or a virtual private gateway to a VPC, enabling connectivity between the internet and the VPC. For more information, see Internet gateways in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

InternetGatewayId

The ID of the internet gateway.
Type: String
Required: Yes

VpcId

The ID of the VPC.
Type: String
Required: Yes

Response Elements

The following elements are returned by the service.
**requestId**

The ID of the request.

Type: String

**return**

Is true if the request succeeds, and an error otherwise.

Type: Boolean

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example attaches the internet gateway with the ID `igw-eaad4883` to the VPC with the ID `vpc-11ad4878`.

**Sample Request**

```url
https://ec2.amazonaws.com/?Action=AttachInternetGateway
&InternetGatewayId=igw-eaad4883
&VpcId=vpc-11ad4878
&AUTHPARAMS
```

**Sample Response**

```xml
<AttachInternetGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbf89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</AttachInternetGatewayResponse>
```

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
AttachNetworkInterface

Attaches a network interface to an instance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DeviceIndex

The index of the device for the network interface attachment.

Type: Integer

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

EnaSrdSpecification

Configures ENA Express for the network interface that this action attaches to the instance.

Type: EnaSrdSpecification object

Required: No

InstanceId

The ID of the instance.

Type: String

Required: Yes
**NetworkCardIndex**

The index of the network card. Some instance types support multiple network cards. The primary network interface must be assigned to network card index 0. The default is network card index 0.

Type: Integer

Required: No

**NetworkInterfaceId**

The ID of the network interface.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**attachmentId**

The ID of the network interface attachment.

Type: String

**networkCardIndex**

The index of the network card.

Type: Integer

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
Examples

Example

This example attaches the specified network interface to the specified instance.

Sample Request

https://ec2.amazonaws.com/?Action=AttachNetworkInterface
&DeviceIndex=1
&InstanceId=i-1234567890abcdef0
&NetworkInterfaceId=eni-ffda3197
&AUTHPARAMS

Sample Response

  <requestId>ace8cd1e-e685-4e44-90fb-92014d907212</requestId>
  <attachmentId>eni-attach-d94b09b0</attachmentId>
</AttachNetworkInterfaceResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AttachVerifiedAccessTrustProvider

Attaches the specified AWS Verified Access trust provider to the specified AWS Verified Access instance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**ClientToken**

A unique, case-sensitive token that you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**VerifiedAccessInstanceId**

The ID of the Verified Access instance.

Type: String

Required: Yes

**VerifiedAccessTrustProviderId**

The ID of the Verified Access trust provider.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**verifiedAccessInstance**

Details about the Verified Access instance.

Type: VerifiedAccessInstance object

**verifiedAccessTrustProvider**

Details about the Verified Access trust provider.

Type: VerifiedAccessTrustProvider object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AttachVolume

Attaches an EBS volume to a running or stopped instance and exposes it to the instance with the specified device name.

Encrypted EBS volumes must be attached to instances that support Amazon EBS encryption. For more information, see Amazon EBS encryption in the Amazon Elastic Compute Cloud User Guide.

After you attach an EBS volume, you must make it available. For more information, see Make an EBS volume available for use.

If a volume has an AWS Marketplace product code:

- The volume can be attached only to a stopped instance.
- AWS Marketplace product codes are copied from the volume to the instance.
- You must be subscribed to the product.
- The instance type and operating system of the instance must support the product. For example, you can't detach a volume from a Windows instance and attach it to a Linux instance.

For more information, see Attach an Amazon EBS volume to an instance in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Device

The device name (for example, /dev/sdh or xvdh).

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.
Type: Boolean
Required: No

**InstanceId**

The ID of the instance.

Type: String
Required: Yes

**VolumeId**

The ID of the EBS volume. The volume and instance must be within the same Availability Zone.

Type: String
Required: Yes

**Response Elements**

The following elements are returned by the service.

**attachTime**

The time stamp when the attachment initiated.

Type: Timestamp

**deleteOnTermination**

Indicates whether the EBS volume is deleted on instance termination.

Type: Boolean

**device**

The device name.

Type: String

**InstanceId**

The ID of the instance.

Type: String
**requestId**

The ID of the request.

Type: String

**status**

The attachment state of the volume.

Type: String

Valid Values: attaching | attached | detaching | detached | busy

**volumeId**

The ID of the volume.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example 1**

This example request attaches the volume with the ID `vol-1234567890abcdef0` to the instance with the ID `i-1234567890abcdef0` and exposes it as `/dev/sdh`.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=AttachVolume
&VolumeId=vol-1234567890abcdef0
&InstanceId=i-1234567890abcdef0
&Device=/dev/sdh
&AUTHPARAMS
```

**Sample Response**

```
```

Errors

API Version 2016-11-15 165
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
AttachVpnGateway

Attaches a virtual private gateway to a VPC. You can attach one virtual private gateway to one VPC at a time.

For more information, see [AWS Site-to-Site VPN](https://docs.aws.amazon.com/vpc/latest/userguide/aws-site-to-site-vpn.html) in the *AWS Site-to-Site VPN User Guide*.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](https://docs.aws.amazon.com/autoscaling/ec2/latest/userguide/autoscaling-common-parameters.html).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

- **Type**: Boolean
- **Required**: No

**VpcId**

The ID of the VPC.

- **Type**: String
- **Required**: Yes

**VpnGatewayId**

The ID of the virtual private gateway.

- **Type**: String
- **Required**: Yes

**Response Elements**

The following elements are returned by the service.
attachment

Information about the attachment.

Type: VpcAttachment object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example attaches the virtual private gateway with the ID vgw-8db04f81 to the VPC with the ID vpc-1a2b3c4d.

Sample Request

https://ec2.amazonaws.com/?Action=AttachVpnGateway
&VpnGatewayId=vgw-8db04f81
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS

Sample Response

<AttachVpnGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <attachment>
    <vpcId>vpc-1a2b3c4d</vpcId>
    <state>attaching</state>
  </attachment>
</AttachVpnGatewayResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AuthorizeClientVpnIngress

Adds an ingress authorization rule to a Client VPN endpoint. Ingress authorization rules act as firewall rules that grant access to networks. You must configure ingress authorization rules to enable clients to access resources in AWS or on-premises networks.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AccessGroupId

The ID of the group to grant access to, for example, the Active Directory group or identity provider (IdP) group. Required if AuthorizeAllGroups is false or not specified.

Type: String

Required: No

AuthorizeAllGroups

Indicates whether to grant access to all clients. Specify true to grant all clients who successfully establish a VPN connection access to the network. Must be set to true if AccessGroupId is not specified.

Type: Boolean

Required: No

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to ensure idempotency.

Type: String

Required: No

ClientVpnEndpointId

The ID of the Client VPN endpoint.
**Description**

A brief description of the authorization rule.

Type: String

Required: Yes

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**TargetNetworkCidr**

The IPv4 address range, in CIDR notation, of the network for which access is being authorized.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**status**

The current state of the authorization rule.

Type: [ClientVpnAuthorizationRuleStatus](#) object
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example adds an authorization rule to a subnet and grants access to all users.

Sample Request

https://ec2.amazonaws.com/?Action=AuthorizeClientVpnIngress
&ClientVpnEndpointId=cvpn-endpoint-00c5d11fc4EXAMPLE
&TargetNetworkCidr=10.0.0.0/16
&AuthorizeAllGroups=true
&AUTHPARAMS

Sample Response

  <requestId>afafad8c-274c-4584-bbd1-75a21EXAMPLE</requestId>
  <status>
    <code>authorizing</code>
  </status>
</AuthorizeClientVpnIngressResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
AuthorizeSecurityGroupEgress

Adds the specified outbound (egress) rules to a security group for use with a VPC.

An outbound rule permits instances to send traffic to the specified IPv4 or IPv6 CIDR address ranges, or to the instances that are associated with the specified source security groups. When specifying an outbound rule for your security group in a VPC, the IpPermissions must include a destination for the traffic.

You specify a protocol for each rule (for example, TCP). For the TCP and UDP protocols, you must also specify the destination port or port range. For the ICMP protocol, you must also specify the ICMP type and code. You can use -1 for the type or code to mean all types or all codes.

Rule changes are propagated to affected instances as quickly as possible. However, a small delay might occur.

For information about VPC security group quotas, see Amazon VPC quotas.

Note

If you want to reference a security group across VPCs attached to a transit gateway using the security group referencing feature, note that you can only reference security groups for ingress rules. You cannot reference a security group for egress rules.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CidrIp

Not supported. Use a set of IP permissions to specify the CIDR.

Type: String

Required: No
DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

FromPort

Not supported. Use a set of IP permissions to specify the port.

Type: Integer
Required: No

GroupId

The ID of the security group.

Type: String
Required: Yes

IpPermissions.N

The sets of IP permissions. You can't specify a destination security group and a CIDR IP address range in the same set of permissions.

Type: Array of IpPermission objects
Required: No

IpProtocol

Not supported. Use a set of IP permissions to specify the protocol name or number.

Type: String
Required: No

SourceSecurityGroupName

Not supported. Use a set of IP permissions to specify a destination security group.
Type: String
Required: No

SourceSecurityGroupOwnerId
Not supported. Use a set of IP permissions to specify a destination security group.

Type: String
Required: No

TagSpecification.N
The tags applied to the security group rule.

Type: Array of TagSpecification objects
Required: No

ToPort
Not supported. Use a set of IP permissions to specify the port.

Type: Integer
Required: No

Response Elements
The following elements are returned by the service.

requestId
The ID of the request.

Type: String

return
Returns true if the request succeeds; otherwise, returns an error.

Type: Boolean

securityGroupRuleSet
Information about the outbound (egress) security group rules that were added.
Type: Array of SecurityGroupRule objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example request grants your security group with the ID sg-1a2b3c4d access to the 192.0.2.0/24 and 198.51.100.0/24 IPv4 address ranges on TCP port 80.

Sample Request

&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&IpPermissions.1.IpRanges.1.CidrIp=192.0.2.0/24
&IpPermissions.1.IpRanges.2.CidrIp=198.51.100.0/24

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</AuthorizeSecurityGroupEgressResponse>

Example 2

This example request grants egress access from the security group with the ID sg-1a2b3c4d to the security group with the ID sg-9a8d7f5c on TCP port 1433.

Sample Request

Example 3

This example request grants your security group with the ID sg-1a2b3c4d access to the 2001:db8:1234:1a00::/64 IPv6 address range on TCP port 22.

Sample Request

&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=22
&IpPermissions.1.ToPort=22
&IpPermissions.1.Ipv6Ranges.1.CidrIpv6=2001:db8:1234:1a00::/64
&AUTHPARAMS

Example 4

This example grants access over port 3389 (RDP) to the 192.0.2.0/24 IPv4 address range, and includes a description for the rule to help you identify the rule later.

Sample Request

&GroupId=sg-112233
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=3389
&IpPermissions.1.ToPort=3389
&IpPermissions.1.IpRanges.1.CidrIp=192.0.2.0/24
&IpPermissions.1.IpRanges.1.Description=Access to London office

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AuthorizeSecurityGroupIngress

Adds the specified inbound (ingress) rules to a security group.

An inbound rule permits instances to receive traffic from the specified IPv4 or IPv6 CIDR address range, or from the instances that are associated with the specified destination security groups. When specifying an inbound rule for your security group in a VPC, the IpPermissions must include a source for the traffic.

You specify a protocol for each rule (for example, TCP). For TCP and UDP, you must also specify the destination port or port range. For ICMP/ICMPv6, you must also specify the ICMP/ICMPv6 type and code. You can use -1 to mean all types or all codes.

Rule changes are propagated to instances within the security group as quickly as possible. However, a small delay might occur.

For more information about VPC security group quotas, see Amazon VPC quotas.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**CidrIp**

The IPv4 address range, in CIDR format. You can't specify this parameter when specifying a source security group. To specify an IPv6 address range, use a set of IP permissions.

Alternatively, use a set of IP permissions to specify multiple rules and a description for the rule.

Type: String

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

**FromPort**

If the protocol is TCP or UDP, this is the start of the port range. If the protocol is ICMP, this is the type number. A value of -1 indicates all ICMP types. If you specify all ICMP types, you must specify all ICMP codes.

Alternatively, use a set of IP permissions to specify multiple rules and a description for the rule.

Type: Integer

Required: No

**GroupId**

The ID of the security group. You must specify either the security group ID or the security group name in the request. For security groups in a nondefault VPC, you must specify the security group ID.

Type: String

Required: No

**GroupName**

[Default VPC] The name of the security group. You must specify either the security group ID or the security group name in the request. For security groups in a nondefault VPC, you must specify the security group ID.

Type: String

Required: No

**IpPermissions.N**

The sets of IP permissions.

Type: Array of `IpPermission` objects

Required: No

**IpProtocol**

The IP protocol name (`tcp`, `udp`, `icmp`) or number (see `Protocol Numbers`). To specify `icmpv6`, use a set of IP permissions.
Use `-1` to specify all protocols. If you specify `-1` or a protocol other than `tcp`, `udp`, or `icmp`, traffic on all ports is allowed, regardless of any ports you specify.

Alternatively, use a set of IP permissions to specify multiple rules and a description for the rule.

Type: String

Required: No

**SourceSecurityGroupName**

[Default VPC] The name of the source security group. You can't specify this parameter in combination with the following parameters: the CIDR IP address range, the start of the port range, the IP protocol, and the end of the port range. Creates rules that grant full ICMP, UDP, and TCP access. To create a rule with a specific IP protocol and port range, use a set of IP permissions instead. The source security group must be in the same VPC.

Type: String

Required: No

**SourceSecurityGroupOwnerId**

[Nondefault VPC] The AWS account ID for the source security group, if the source security group is in a different account. You can't specify this parameter in combination with the following parameters: the CIDR IP address range, the IP protocol, the start of the port range, and the end of the port range. Creates rules that grant full ICMP, UDP, and TCP access. To create a rule with a specific IP protocol and port range, use a set of IP permissions instead.

Type: String

Required: No

**TagSpecification.N**

[VPC Only] The tags applied to the security group rule.

Type: Array of `TagSpecification` objects

Required: No

**ToPort**

If the protocol is TCP or UDP, this is the end of the port range. If the protocol is ICMP, this is the code. A value of `-1` indicates all ICMP codes. If you specify all ICMP types, you must specify all ICMP codes.
Alternatively, use a set of IP permissions to specify multiple rules and a description for the rule.

Type: Integer

Required: No

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**return**

Returns `true` if the request succeeds; otherwise, returns an error.

Type: Boolean

**securityGroupRuleSet**

Information about the inbound (ingress) security group rules that were added.

Type: Array of [SecurityGroupRule](#) objects

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example 1**

This example request grants TCP port 80 access from the source group sg-2a2b3c4d to the security group sg-1a2b3c4d. The source security group must be in the same VPC or in a peer VPC (requires a VPC peering connection).

**Sample Request**

```xml
https://ec2.amazonaws.com/?Action=AuthorizeSecurityGroupIngress
```
&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&IpPermissions.1.Groups.1.GroupId=sg-2a2b3c4d
&AUTHPARAMS

Example 2

This example grants SSH access (port 22) from the IPv6 range 2001:db8:1234:1a00::/64.

Sample Request

https://ec2.amazonaws.com/
?Action=AuthorizeSecurityGroupIngress
&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=22
&IpPermissions.1.ToPort=22
&IpPermissions.1.Ipv6Ranges.1.CidrIpv6=2001:db8:1234:1a00::/64
&AUTHPARAMS

Example 3

This example grants access over port 3389 (RDP) from the 192.0.2.0/24 IPv4 address range, and includes a description for the rule to help you identify the rule later.

Sample Request

https://ec2.amazonaws.com/?Action=AuthorizeSecurityGroupIngress
&GroupId=sg-112233
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=3389
&IpPermissions.1.ToPort=3389
&IpPermissions.1.IpRanges.1.CidrIp=192.0.2.0/24
&IpPermissions.1.IpRanges.1.Description=Access from New York office

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
BundleInstance

Bundles an Amazon instance store-backed Windows instance.

During bundling, only the root device volume (C:) is bundled. Data on other instance store volumes is not preserved.

Note

This action is not applicable for Linux/Unix instances or Windows instances that are backed by Amazon EBS.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceId

The ID of the instance to bundle.

Type: String

Default: None

Required: Yes

Type: String

Required: Yes
Storage

The bucket in which to store the AMI. You can specify a bucket that you already own or a new bucket that Amazon EC2 creates on your behalf. If you specify a bucket that belongs to someone else, Amazon EC2 returns an error.

Type: Storage object

Required: Yes

Response Elements

The following elements are returned by the service.

bundleInstanceTask

Information about the bundle task.

Type: BundleTask object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example request bundles the specified instance.

Before you specify a value for your access key ID, review and follow the guidance in Best Practices for AWS accounts in the AWS Account Management Reference Guide.

Sample Request

https://ec2.amazonaws.com/?Action=BundleInstance
<BundleInstanceResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <bundleInstanceTask>
    <instanceId>i-1234567890abcdef0</instanceId>
    <bundleId>bun-c1a54a8</bundleId>
    <state>bundling</state>
    <startTime>2008-10-07T11:41:50.000Z</startTime>
    <updateTime>2008-10-07T11:51:50.000Z</updateTime>
    <progress>70%</progress>
    <storage>
      <S3>
        <bucket>myawsbucket</bucket>
        <prefix>winami</prefix>
      </S3>
    </storage>
  </bundleInstanceTask>
</BundleInstanceResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CancelBundleTask

Cancels a bundling operation for an instance store-backed Windows instance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**BundleId**

The ID of the bundle task.

Type: String

Required: Yes

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

**bundleInstanceTask**

Information about the bundle task.

Type: [BundleTask](#) object

**requestId**

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example request cancels the specified bundle task.

Sample Request

https://ec2.amazonaws.com/?Action=CancelBundleTask
&BundleId=bun-cla322b9
&AUTHPARAMS

Sample Response

<CancelBundleTaskResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <bundleInstanceTask>
      <instanceId>i-1234567890abcdef0</instanceId>
      <bundleId>bun-cla322b9</bundleId>
      <state>canceling</state>
      <startTime>2008-10-07T11:41:50.000Z</startTime>
      <updateTime>2008-10-07T11:51:50.000Z</updateTime>
      <progress>20%</progress>
      <storage>
         <S3>
            <bucket>myawsbucket</bucket>
            <prefix>my-new-image</prefix>
         </S3>
      </storage>
   </bundleInstanceTask>
</CancelBundleTaskResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CancelCapacityReservation

Cancels the specified Capacity Reservation, releases the reserved capacity, and changes the Capacity Reservation's state to cancelled.

Instances running in the reserved capacity continue running until you stop them. Stopped instances that target the Capacity Reservation can no longer launch. Modify these instances to either target a different Capacity Reservation, launch On-Demand Instance capacity, or run in any open Capacity Reservation that has matching attributes and sufficient capacity.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CapacityReservationId

The ID of the Capacity Reservation to be cancelled.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String
**return**

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CancelCapacityReservationFleets

Cancels one or more Capacity Reservation Fleets. When you cancel a Capacity Reservation Fleet, the following happens:

- The Capacity Reservation Fleet's status changes to cancelled.
- The individual Capacity Reservations in the Fleet are cancelled. Instances running in the Capacity Reservations at the time of cancelling the Fleet continue to run in shared capacity.
- The Fleet stops creating new Capacity Reservations.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CapacityReservationFleetId.N

The IDs of the Capacity Reservation Fleets to cancel.

Type: Array of strings

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

failedFleetCancellationSet

Information about the Capacity Reservation Fleets that could not be cancelled.
Type: Array of `FailedCapacityReservationFleetCancellationResult` objects

**requestId**

The ID of the request.

Type: String

**successfulFleetCancellationSet**

Information about the Capacity Reservation Fleets that were successfully cancelled.

Type: Array of `CapacityReservationFleetCancellationState` objects

## Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CancelConversionTask

Cancels an active conversion task. The task can be the import of an instance or volume. The action removes all artifacts of the conversion, including a partially uploaded volume or instance. If the conversion is complete or is in the process of transferring the final disk image, the command fails and returns an exception.

For more information, see Importing a Virtual Machine Using the Amazon EC2 CLI.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ConversionTaskId

The ID of the conversion task.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ReasonMessage

The reason for canceling the conversion task.

Type: String

Required: No

Response Elements

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example request cancels the conversion task with the ID import-i-fh95npoc.

Sample Request

https://ec2.amazonaws.com/?Action=CancelConversionTask
&ConversionTaskId=import-i-fh95npoc
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</CancelConversionTaskResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CancelExportTask

Cancels an active export task. The request removes all artifacts of the export, including any partially-created Amazon S3 objects. If the export task is complete or is in the process of transferring the final disk image, the command fails and returns an error.

**Request Parameters**

For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**ExportTaskId**

The ID of the export task. This is the ID returned by the `CreateInstanceExportTask` and `ExportImage` operations.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**return**

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
Examples

Example

This example request cancels the export task with the ID `export-i-1234wxyz`.

Sample Request

```plaintext
https://ec2.amazonaws.com/?Action=CancelExportTask
&exportTaskId=export-i-1234wxyz
&AUTHPARAMS
```

Sample Response

```xml
<CANCEL_EXPORT_TASK xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</CANCEL_EXPORT_TASK>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](https://aws.amazon.com/cli/)
- [AWS SDK for .NET](https://aws.amazon.com/sdk-for-net/)
- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://aws.amazon.com/sdk-for-go/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for JavaScript V3](https://aws.amazon.com/sdk-for-js/)
- [AWS SDK for PHP V3](https://aws.amazon.com/sdk-for-php/)
- [AWS SDK for Python](https://aws.amazon.com/sdk-for-python/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)

Examples
CancelImageLaunchPermission

Removes your AWS account from the launch permissions for the specified AMI. For more information, see [Cancel having an AMI shared with your AWS account](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide) in the *Amazon EC2 User Guide*.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](https).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**ImageId**

The ID of the AMI that was shared with your AWS account.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**return**

Returns `true` if the request succeeds; otherwise, it returns an error.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CancelImportTask

Cancels an in-process import virtual machine or import snapshot task.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CancelReason

The reason for canceling the task.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ImportTaskId

The ID of the import image or import snapshot task to be canceled.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

importTaskId

The ID of the task being canceled.
previousState

The current state of the task being canceled.

Type: String

requestId

The ID of the request.

Type: String

state

The current state of the task being canceled.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CancelReservedInstancesListing

Cancels the specified Reserved Instance listing in the Reserved Instance Marketplace.

For more information, see Reserved Instance Marketplace in the Amazon EC2 User Guide.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ReservedInstancesListingId

The ID of the Reserved Instance listing.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

reservedInstancesListingsSet

The Reserved Instance listing.

Type: Array of ReservedInstancesListing objects

Errors

For information about the errors that are common to all actions, see Common client error codes.
Examples

Example

This example request cancels a Reserved Instance listing in the Reserved Instance Marketplace. The response shows that the status is cancelled.

Sample Request

https://ec2.amazonaws.com/?Action=CancelReservedInstancesListing
&ReservedInstancesListingId=3ebe97b5-f273-43b6-a204-7a18cEXAMPLE
&AUTHPARAMS

Sample Response

```
<CANCEL RESERVED INSTANCES LISTING RESPONSE>
  <REQUEST ID>bec2c62-98ef-434a-8a15-886fcEXAMPLE</REQUEST ID>
  <reservedInstanceslistingsSet>
    <item>
      <reservedInstancesListingId>3ebe97b5-f273-43b6-a204-7a18cEXAMPLE</reservedInstancesListingId>
      <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesId>
      <create date>2012-07-12T16:55:28.000Z</create date>
      <update date>2012-07-12T16:55:28.000Z</update date>
      <status>cancelled</status>
      <statusMessage>CANCELLED</statusMessage>
      <instanceCounts>
        <item>
          <state>Available</state>
          <instanceCount>0</instanceCount>
        </item>
        <item>
          <state>Sold</state>
          <instanceCount>0</instanceCount>
        </item>
        <item>
          <state>Cancelled</state>
          <instanceCount>1</instanceCount>
        </item>
        <item>
          <state>Pending</state>
          <instanceCount>0</instanceCount>
        </item>
      </instanceCounts>
    </item>
  </reservedInstanceslistingsSet>
</CANCEL RESERVED INSTANCES LISTING RESPONSE>
```
<item>
  <instanceCounts/>
</item>
</priceSchedules>
<tagSet/>
<clientToken>XqJIt1342112125076</clientToken>
</reservedInstancesListingsSet>
</CancelReservedInstancesListingResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CancelSpotFleetRequests

Cancels the specified Spot Fleet requests.

After you cancel a Spot Fleet request, the Spot Fleet launches no new instances.

You must also specify whether a canceled Spot Fleet request should terminate its instances. If you choose to terminate the instances, the Spot Fleet request enters the cancelled_terminating state. Otherwise, the Spot Fleet request enters the cancelled_running state and the instances continue to run until they are interrupted or you terminate them manually.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

SpotFleetRequestId.N

The IDs of the Spot Fleet requests.

Type: Array of strings

Required: Yes

TerminateInstances

Indicates whether to terminate the associated instances when the Spot Fleet request is canceled. The default is to terminate the instances.

To let the instances continue to run after the Spot Fleet request is canceled, specify no-terminate-instances.

Type: Boolean
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

successfulFleetRequestSet

Information about the Spot Fleet requests that are successfully canceled.

Type: Array of CancelSpotFleetRequestsSuccessItem objects

unsuccessfulFleetRequestSet

Information about the Spot Fleet requests that are not successfully canceled.

Type: Array of CancelSpotFleetRequestsErrorItem objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example cancels Spot Fleet request sfr-123f8fc2-cb31-425e-abcd-example2710 and terminates all instances that were launched by the request.

Sample Request

https://ec2.amazonaws.com/?Action=CancelSpotFleetRequests
&SpotFleetRequestId.1=sfr-123f8fc2-cb31-425e-abcd-example2710
&TerminateInstances=true
&AUTHPARAMS
Sample Response

```xml
  <requestId>e12d2fe5-6503-4b4b-911c-example</requestId>
  <unsuccessfulFleetRequestSet/>
  <successfulFleetRequestSet>
    <item>
      <spotFleetRequestId>sfr-123f8fc2-cb31-425e-abcd-example2710</spotFleetRequestId>
      <currentSpotFleetRequestState>cancelled_terminating</currentSpotFleetRequestState>
      <previousSpotFleetRequestState>active</previousSpotFleetRequestState>
    </item>
  </successfulFleetRequestSet>
</CancelSpotFleetRequestsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CancelSpotInstanceRequests

Cancels one or more Spot Instance requests.

⚠️ Important
Canceling a Spot Instance request does not terminate running Spot Instances associated with the request.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

SpotInstanceRequestId.N

The IDs of the Spot Instance requests.

Type: Array of strings
Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.
Type: String

spotInstanceRequestSet

The Spot Instance requests.

Type: Array of CancelledSpotInstanceRequest objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example cancels the specified Spot Instance request.

Sample Request

https://ec2.amazonaws.com/?Action=CancelSpotInstanceRequests
&SpotInstanceRequestId.1=sir-1a2b3c4d
&AUTHPARAMS

Sample Response

<CANCELSPOTINSTANCEREQUESTRESPONSE xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <spotInstanceRequestSet>
    <item>
      <spotInstanceRequestId>sir-1a2b3c4d</spotInstanceRequestId>
      <state>cancelled</state>
    </item>
  </spotInstanceRequestSet>
</CANCELSPOTINSTANCEREQUESTRESPONSE>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ConfirmProductInstance

Determines whether a product code is associated with an instance. This action can only be used by the owner of the product code. It is useful when a product code owner must verify whether another user's instance is eligible for support.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceId

The ID of the instance.

Type: String

Required: Yes

ProductCode

The product code. This must be a product code that you own.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
ownerId

The AWS account ID of the instance owner. This is only present if the product code is attached to the instance.

Type: String

requestId

The ID of the request.

Type: String

return

The return value of the request. Returns true if the specified product code is owned by the requester and associated with the specified instance.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example determines whether the specified product code is associated with the specified instance.

Sample Request

https://ec2.amazonaws.com/?Action=ConfirmProductInstance
&ProductCode=774F4FF8
&InstanceId=i-1234567890abcdef0
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
</ConfirmProductInstanceResponse>
<return>true</return>
<ownerId>111122223333</ownerId>
</ConfirmProductInstanceResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CopyFpgaImage

Copies the specified Amazon FPGA Image (AFI) to the current Region.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see Ensuring idempotency.

Type: String
Required: No

Description

The description for the new AFI.

Type: String
Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

Name

The name for the new AFI. The default is the name of the source AFI.

Type: String
Required: No
SourceFpgaImageId

The ID of the source AFI.

Type: String

Required: Yes

SourceRegion

The Region that contains the source AFI.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

fpgaImageId

The ID of the new AFI.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example copies the specified AFI from the us-east-1 Region to the current Region (eu-west-1).
Sample Request

https://ec2.eu-west-1.amazonaws.com/?Action=CopyFpgaImage
&Name=eu-afi
&SourceFpgaImageId=afi-0d123eabcfc85456
&SourceRegion=us-east-1
&AUTHPARAMS

Sample Response

  <requestId>2d55d021-9ca9-45a1-8c5c-453example</requestId>
  <fpgaImageId>afi-06b12350a123fbabc</fpgaImageId>
</CopyFpgaImageResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CopyImage

Initiates the copy of an AMI. You can copy an AMI from one Region to another, or from a Region to an Outpost. You can't copy an AMI from an Outpost to a Region, from one Outpost to another, or within the same Outpost. To copy an AMI to another partition, see CreateStoreImageTask.

To copy an AMI from one Region to another, specify the source Region using the SourceRegion parameter, and specify the destination Region using its endpoint. Copies of encrypted backing snapshots for the AMI are encrypted. Copies of unencrypted backing snapshots remain unencrypted, unless you set Encrypted during the copy operation. You cannot create an unencrypted copy of an encrypted backing snapshot.

To copy an AMI from a Region to an Outpost, specify the source Region using the SourceRegion parameter, and specify the ARN of the destination Outpost using DestinationOutpostArn. Backing snapshots copied to an Outpost are encrypted by default using the default encryption key for the Region, or a different key that you specify in the request using KmsKeyId. Outposts do not support unencrypted snapshots. For more information, Amazon EBS local snapshots on Outposts in the Amazon EC2 User Guide.

For more information about the prerequisites and limits when copying an AMI, see Copy an AMI in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier you provide to ensure idempotency of the request. For more information, see Ensuring idempotency in the Amazon EC2 API Reference.

Type: String

Required: No

CopyImageTags

Indicates whether to include your user-defined AMI tags when copying the AMI.

The following tags will not be copied:
- System tags (prefixed with `aws:`)
  - For public and shared AMIs, user-defined tags that are attached by other AWS accounts

  Default: Your user-defined AMI tags are not copied.

  Type: Boolean

  Required: No

**Description**

A description for the new AMI in the destination Region.

Type: String

Required: No

**DestinationOutpostArn**

The Amazon Resource Name (ARN) of the Outpost to which to copy the AMI. Only specify this parameter when copying an AMI from an AWS Region to an Outpost. The AMI must be in the Region of the destination Outpost. You cannot copy an AMI from an Outpost to a Region, from one Outpost to another, or within the same Outpost.

For more information, see [Copy AMIs from an AWS Region to an Outpost](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/security-outpost.html) in the *Amazon EC2 User Guide*.

Type: String

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**Encrypted**

Specifies whether the destination snapshots of the copied image should be encrypted. You can encrypt a copy of an unencrypted snapshot, but you cannot create an unencrypted copy
of an encrypted snapshot. The default KMS key for Amazon EBS is used unless you specify a non-default AWS Key Management Service (AWS KMS) KMS key using KmsKeyId. For more information, see Amazon EBS encryption in the Amazon EC2 User Guide.

Type: Boolean

Required: No

KmsKeyId

The identifier of the symmetric AWS Key Management Service (AWS KMS) KMS key to use when creating encrypted volumes. If this parameter is not specified, your AWS managed KMS key for Amazon EBS is used. If you specify a KMS key, you must also set the encrypted state to true.

You can specify a KMS key using any of the following:

- Key ID. For example, 1234abcd-12ab-34cd-56ef-1234567890ab.
- Key alias. For example, alias/ExampleAlias.
- Key ARN. For example, arn:aws:kms:us-east-1:012345678910:key/1234abcd-12ab-34cd-56ef-1234567890ab.
- Alias ARN. For example, arn:aws:kms:us-east-1:012345678910:alias/ExampleAlias.

AWS authenticates the KMS key asynchronously. Therefore, if you specify an identifier that is not valid, the action can appear to complete, but eventually fails.

The specified KMS key must exist in the destination Region.

Amazon EBS does not support asymmetric KMS keys.

Type: String

Required: No

Name

The name of the new AMI in the destination Region.

Type: String

Required: Yes

SourceImageId

The ID of the AMI to copy.
Type: String
Required: Yes

**SourceRegion**

The name of the Region that contains the AMI to copy.

Type: String
Required: Yes

**Response Elements**

The following elements are returned by the service.

`imageId`

The ID of the new AMI.

Type: String

`requestId`

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example request copies the AMI in `us-west-2` with the ID `ami-1a2b3c4d`, naming the new AMI `My-Standard-AMI`.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=CopyImage
```
&SourceRegion=us-west-2
&SourceImageId=ami-1a2b3c4d
&Name=My-Standard-AMI
&Description=This%20is%20the%20new%20version%20of%20My-Standard-AMI
&ClientToken=550e8400-e29b-41d4-a716-446655440000
&AUTHPARAMS

Sample Response

  <requestId>60bc441d-fa2c-494d-b155-5d6a3EXAMPLE</requestId>
  <imageId>ami-4d3c2b1a</imageId>
</CopyImageResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CopySnapshot

Copies a point-in-time snapshot of an EBS volume and stores it in Amazon S3. You can copy a snapshot within the same Region, from one Region to another, or from a Region to an Outpost. You can't copy a snapshot from an Outpost to a Region, from one Outpost to another, or within the same Outpost.

You can use the snapshot to create EBS volumes or Amazon Machine Images (AMIs).

When copying snapshots to a Region, copies of encrypted EBS snapshots remain encrypted. Copies of unencrypted snapshots remain unencrypted, unless you enable encryption for the snapshot copy operation. By default, encrypted snapshot copies use the default AWS Key Management Service (AWS KMS) KMS key; however, you can specify a different KMS key. To copy an encrypted snapshot that has been shared from another account, you must have permissions for the KMS key used to encrypt the snapshot.

Snapshots copied to an Outpost are encrypted by default using the default encryption key for the Region, or a different key that you specify in the request using **KmsKeyId**. Outposts do not support unencrypted snapshots. For more information, see Amazon EBS local snapshots on Outposts in the Amazon Elastic Compute Cloud User Guide.

Snapshots created by copying another snapshot have an arbitrary volume ID that should not be used for any purpose.

For more information, see Copy an Amazon EBS snapshot in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Description

A description for the EBS snapshot.

Type: String

Required: No
DestinationOutpostArn

The Amazon Resource Name (ARN) of the Outpost to which to copy the snapshot. Only specify this parameter when copying a snapshot from an AWS Region to an Outpost. The snapshot must be in the Region for the destination Outpost. You cannot copy a snapshot from an Outpost to a Region, from one Outpost to another, or within the same Outpost.

For more information, see [Copy snapshots from an AWS Region to an Outpost](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/creating-copy-snapshot-copy-outpost.html) in the *Amazon Elastic Compute Cloud User Guide*.

Type: String

Required: No

DestinationRegion

The destination Region to use in the `PresignedUrl` parameter of a snapshot copy operation. This parameter is only valid for specifying the destination Region in a `PresignedUrl` parameter, where it is required.

The snapshot copy is sent to the regional endpoint that you sent the HTTP request to (for example, `ec2.us-east-1.amazonaws.com`).

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Encrypted

To encrypt a copy of an unencrypted snapshot if encryption by default is not enabled, enable encryption using this parameter. Otherwise, omit this parameter. Encrypted snapshots are encrypted, even if you omit this parameter and encryption by default is not enabled. You cannot set this parameter to false. For more information, see [Amazon EBS encryption](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/using-encryption.html) in the *Amazon Elastic Compute Cloud User Guide*. 
Type: Boolean

Required: No

**KmsKeyId**

The identifier of the AWS Key Management Service (AWS KMS) KMS key to use for Amazon EBS encryption. If this parameter is not specified, your AWS KMS key for Amazon EBS is used. If KmsKeyId is specified, the encrypted state must be true.

You can specify the KMS key using any of the following:

- Key ID. For example, 1234abcd-12ab-34cd-56ef-1234567890ab.
- Key alias. For example, alias/ExampleAlias.
- Key ARN. For example, arn:aws:kms:us-east-1:012345678910:key/1234abcd-12ab-34cd-56ef-1234567890ab.
- Alias ARN. For example, arn:aws:kms:us-east-1:012345678910:alias/ExampleAlias.

AWS authenticates the KMS key asynchronously. Therefore, if you specify an ID, alias, or ARN that is not valid, the action can appear to complete, but eventually fails.

Type: String

Required: No

**PresignedUrl**

When you copy an encrypted source snapshot using the Amazon EC2 Query API, you must supply a pre-signed URL. This parameter is optional for unencrypted snapshots. For more information, see [Query requests](#).

The PresignedUrl should use the snapshot source endpoint, the CopySnapshot action, and include the SourceRegion, SourceSnapshotId, and DestinationRegion parameters. The PresignedUrl must be signed using AWS Signature Version 4. Because EBS snapshots are stored in Amazon S3, the signing algorithm for this parameter uses the same logic that is described in [Authenticating Requests: Using Query Parameters (AWS Signature Version 4)](#) in the Amazon Simple Storage Service API Reference. An invalid or improperly signed PresignedUrl will cause the copy operation to fail asynchronously, and the snapshot will move to an error state.

Type: String
**SourceRegion**

The ID of the Region that contains the snapshot to be copied.

Type: String

Required: Yes

**SourceSnapshotId**

The ID of the EBS snapshot to copy.

Type: String

Required: Yes

**TagSpecification.N**

The tags to apply to the new snapshot.

Type: Array of [TagSpecification](#) objects

Required: No

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**snapshotId**

The ID of the new snapshot.

Type: String

**tagSet**

Any tags applied to the new snapshot.
Type: Array of Tag objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Create copy of an unencrypted snapshot in the same Region as the original

This example request copies the snapshot in the us-west-1 Region with the ID snap-1234567890abcdef0.

Sample Request

```
https://ec2.amazonaws.com/?Action=CopySnapshot
&SourceRegion=us-west-1
&SourceSnapshotId=snap-1234567890abcdef0
&Description=My_snapshot
&AUTHPARAMS
```

Sample Response

```
  <requestId>60bc441d-fa2c-494d-b155-5d6a3EXAMPLE</requestId>  
  <snapshotId>snap-1234567890abcdef1</snapshotId>  
</CopySnapshotResponse>
```

Create a copy of an encrypted snapshot in a Region different from the original

This example request copies an encrypted snapshot in the us-west-1 Region to the us-east-1 Region with the ID snap-0987654321abcdef0.

Sample Request

```
https://ec2.amazonaws.com/?SourceSnapshotId=snap-005a01bf6eEXAMPLE
&SourceRegion=us-west-1
&KmsKeyId=arn%3Aaws%3Akms%3Aus-west-2%3A210774411744%3Akey%2FfEXAMPLE-24bc-479b-a9da-7132eEXAMPLE
&Action=CopySnapshot
```

Errors
Sample Response

```xml
  <requestId>256f6c57-6648-4544-a79a-35a03EXAMPLE</requestId>
  <snapshotId>snap-0987654321abcdef0</snapshotId>
</CopySnapshotResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateCapacityReservation

Creates a new Capacity Reservation with the specified attributes.

Capacity Reservations enable you to reserve capacity for your Amazon EC2 instances in a specific Availability Zone for any duration. This gives you the flexibility to selectively add capacity reservations and still get the Regional RI discounts for that usage. By creating Capacity Reservations, you ensure that you always have access to Amazon EC2 capacity when you need it, for as long as you need it. For more information, see Capacity Reservations in the Amazon EC2 User Guide.

Your request to create a Capacity Reservation could fail if Amazon EC2 does not have sufficient capacity to fulfill the request. If your request fails due to Amazon EC2 capacity constraints, either try again at a later time, try in a different Availability Zone, or request a smaller capacity reservation. If your application is flexible across instance types and sizes, try to create a Capacity Reservation with different instance attributes.

Your request could also fail if the requested quantity exceeds your On-Demand Instance limit for the selected instance type. If your request fails due to limit constraints, increase your On-Demand Instance limit for the required instance type and try again. For more information about increasing your instance limits, see Amazon EC2 Service Quotas in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AvailabilityZone

The Availability Zone in which to create the Capacity Reservation.

Type: String

Required: No

AvailabilityZoneId

The ID of the Availability Zone in which to create the Capacity Reservation.

Type: String

Required: No
ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see Ensure Idempotency.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

EbsOptimized

Indicates whether the Capacity Reservation supports EBS-optimized instances. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS-optimized instance.

Type: Boolean

Required: No

EndDate

The date and time at which the Capacity Reservation expires. When a Capacity Reservation expires, the reserved capacity is released and you can no longer launch instances into it. The Capacity Reservation's state changes to expired when it reaches its end date and time.

You must provide an EndDate value if EndDateType is limited. Omit EndDate if EndDateType is unlimited.

If the EndDateType is limited, the Capacity Reservation is cancelled within an hour from the specified time. For example, if you specify 5/31/2019, 13:30:55, the Capacity Reservation is guaranteed to end between 13:30:55 and 14:30:55 on 5/31/2019.

Type: Timestamp
Required: No

**EndDateType**

Indicates the way in which the Capacity Reservation ends. A Capacity Reservation can have one of the following end types:

- **unlimited** - The Capacity Reservation remains active until you explicitly cancel it. Do not provide an EndDate if the EndDateType is unlimited.
- **limited** - The Capacity Reservation expires automatically at a specified date and time. You must provide an EndDate value if the EndDateType value is limited.

Type: String

Valid Values: unlimited | limited

Required: No

**EphemeralStorage**

*Deprecated.*

Type: Boolean

Required: No

**InstanceCount**

The number of instances for which to reserve capacity.

Valid range: 1 - 1000

Type: Integer

Required: Yes

**InstanceMatchCriteria**

Indicates the type of instance launches that the Capacity Reservation accepts. The options include:

- **open** - The Capacity Reservation automatically matches all instances that have matching attributes (instance type, platform, and Availability Zone). Instances that have matching attributes run in the Capacity Reservation automatically without specifying any additional parameters.
• targeted - The Capacity Reservation only accepts instances that have matching attributes (instance type, platform, and Availability Zone), and explicitly target the Capacity Reservation. This ensures that only permitted instances can use the reserved capacity.

Default: open

Type: String

Valid Values: open | targeted

Required: No

**InstancePlatform**

The type of operating system for which to reserve capacity.

Type: String


Required: Yes

**InstanceType**

The instance type for which to reserve capacity. For more information, see [Instance types](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/instance-types.html) in the *Amazon EC2 User Guide*.

Type: String

Required: Yes

**OutpostArn**

The Amazon Resource Name (ARN) of the Outpost on which to create the Capacity Reservation.

Type: String
Pattern: `^arn:aws([a-z-]+):outposts:[a-z\d-]+:d{12}:outpost/op-[a-f0-9]{17}$`

Required: No

**PlacementGroupArn**

The Amazon Resource Name (ARN) of the cluster placement group in which to create the Capacity Reservation. For more information, see [Capacity Reservations for cluster placement groups](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/elastic-load-balancing.html) in the *Amazon EC2 User Guide*.

Type: String

Pattern: `^arn:aws([a-z-]+):ec2:[a-z\d-]+:d{12}:placement-group/^.{1,255}$`

Required: No

**TagSpecifications.N**

The tags to apply to the Capacity Reservation during launch.


Required: No

**Tenancy**

Indicates the tenancy of the Capacity Reservation. A Capacity Reservation can have one of the following tenancy settings:

- default - The Capacity Reservation is created on hardware that is shared with other AWS accounts.
- dedicated - The Capacity Reservation is created on single-tenant hardware that is dedicated to a single AWS account.

Type: String

Valid Values: default | dedicated

Required: No

**Response Elements**

The following elements are returned by the service.
capacityReservation

Information about the Capacity Reservation.

Type: `CapacityReservation` object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateCapacityReservationFleet

Creates a Capacity Reservation Fleet. For more information, see Create a Capacity Reservation Fleet in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AllocationStrategy

The strategy used by the Capacity Reservation Fleet to determine which of the specified instance types to use. Currently, only the prioritized allocation strategy is supported. For more information, see Allocation strategy in the Amazon EC2 User Guide.

Valid values: prioritized

Type: String

Required: No

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see Ensure Idempotency.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
**EndDate**

The date and time at which the Capacity Reservation Fleet expires. When the Capacity Reservation Fleet expires, its state changes to `expired` and all of the Capacity Reservations in the Fleet expire.

The Capacity Reservation Fleet expires within an hour after the specified time. For example, if you specify 5/31/2019, 13:30:55, the Capacity Reservation Fleet is guaranteed to expire between 13:30:55 and 14:30:55 on 5/31/2019.

Type: Timestamp

Required: No

**InstanceMatchCriteria**

Indicates the type of instance launches that the Capacity Reservation Fleet accepts. All Capacity Reservations in the Fleet inherit this instance matching criteria.

Currently, Capacity Reservation Fleets support open instance matching criteria only. This means that instances that have matching attributes (instance type, platform, and Availability Zone) run in the Capacity Reservations automatically. Instances do not need to explicitly target a Capacity Reservation Fleet to use its reserved capacity.

Type: String

Valid Values: open

Required: No

**InstanceTypeSpecification.N**

Information about the instance types for which to reserve the capacity.

Type: Array of [ReservationFleetInstanceSpecification](#) objects

Required: Yes

**TagSpecification.N**

The tags to assign to the Capacity Reservation Fleet. The tags are automatically assigned to the Capacity Reservations in the Fleet.

Type: Array of [TagSpecification](#) objects
Tenancy

Indicates the tenancy of the Capacity Reservation Fleet. All Capacity Reservations in the Fleet inherit this tenancy. The Capacity Reservation Fleet can have one of the following tenancy settings:

- **default** - The Capacity Reservation Fleet is created on hardware that is shared with other AWS accounts.
- **dedicated** - The Capacity Reservations are created on single-tenant hardware that is dedicated to a single AWS account.

Type: String

Valid Values: default

Required: No

TotalTargetCapacity

The total number of capacity units to be reserved by the Capacity Reservation Fleet. This value, together with the instance type weights that you assign to each instance type used by the Fleet determine the number of instances for which the Fleet reserves capacity. Both values are based on units that make sense for your workload. For more information, see [Total target capacity](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/services-capacity-reservation-total-target-capacity-excess-units.html) in the Amazon EC2 User Guide.

Type: Integer

Required: Yes

Response Elements

The following elements are returned by the service.

**allocationStrategy**

The allocation strategy used by the Capacity Reservation Fleet.

Type: String

**capacityReservationFleetId**

The ID of the Capacity Reservation Fleet.
Type: String

createtime

The date and time at which the Capacity Reservation Fleet was created.

Type: Timestamp

denddate

The date and time at which the Capacity Reservation Fleet expires.

Type: Timestamp

fleetCapacityReservationSet

Information about the individual Capacity Reservations in the Capacity Reservation Fleet.

Type: Array of FleetCapacityReservation objects

instanceMatchCriteria

The instance matching criteria for the Capacity Reservation Fleet.

Type: String

Valid Values: open

requestId

The ID of the request.

Type: String

state

The status of the Capacity Reservation Fleet.

Type: String

Valid Values: submitted | modifying | active | partially_fulfilled | expiring | expired | cancelling | cancelled | failed

tagSet

The tags assigned to the Capacity Reservation Fleet.

Type: Array of Tag objects
**tenancy**

Indicates the tenancy of Capacity Reservation Fleet.

Type: String

Valid Values: `default`

**totalFulfilledCapacity**

The requested capacity units that have been successfully reserved.

Type: Double

**totalTargetCapacity**

The total number of capacity units for which the Capacity Reservation Fleet reserves capacity.

Type: Integer

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateCarrierGateway

Creates a carrier gateway. For more information about carrier gateways, see Carrier gateways in the AWS Wavelength Developer Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to ensure idempotency.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TagSpecification.N

The tags to associate with the carrier gateway.

Type: Array of TagSpecification objects

Required: No

VpcId

The ID of the VPC to associate with the carrier gateway.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

carrierGateway

Information about the carrier gateway.

Type: CarrierGateway object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateClientVpnEndpoint

Creates a Client VPN endpoint. A Client VPN endpoint is the resource you create and configure to enable and manage client VPN sessions. It is the destination endpoint at which all client VPN sessions are terminated.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Authentication

Information about the authentication method to be used to authenticate clients.

Type: Array of ClientVpnAuthenticationRequest objects

Required: Yes

ClientCidrBlock

The IPv4 address range, in CIDR notation, from which to assign client IP addresses. The address range cannot overlap with the local CIDR of the VPC in which the associated subnet is located, or the routes that you add manually. The address range cannot be changed after the Client VPN endpoint has been created. Client CIDR range must have a size of at least /22 and must not be greater than /12.

Type: String

Required: Yes

ClientConnectOptions

The options for managing connection authorization for new client connections.

Type: ClientConnectOptions object

Required: No

ClientLoginBannerOptions

Options for enabling a customizable text banner that will be displayed on AWS provided clients when a VPN session is established.
Type: **ClientLoginBannerOptions** object

Required: No

**ClientToken**

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see [How to ensure idempotency](#).

Type: String

Required: No

**ConnectionLogOptions**

Information about the client connection logging options.

If you enable client connection logging, data about client connections is sent to a Cloudwatch Logs log stream. The following information is logged:

- Client connection requests
- Client connection results (successful and unsuccessful)
- Reasons for unsuccessful client connection requests
- Client connection termination time

Type: **ConnectionLogOptions** object

Required: Yes

**Description**

A brief description of the Client VPN endpoint.

Type: String

Required: No

**DnsServers.N**

Information about the DNS servers to be used for DNS resolution. A Client VPN endpoint can have up to two DNS servers. If no DNS server is specified, the DNS address configured on the device is used for the DNS server.

Type: Array of strings
DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

SecurityGroupId.N

The IDs of one or more security groups to apply to the target network. You must also specify the ID of the VPC that contains the security groups.

Type: Array of strings

Required: No

SelfServicePortal

Specify whether to enable the self-service portal for the Client VPN endpoint.

Default Value: enabled

Type: String

Valid Values: enabled | disabled

Required: No

ServerCertificateArn

The ARN of the server certificate. For more information, see the AWS Certificate Manager User Guide.

Type: String

Required: Yes

SessionTimeoutHours

The maximum VPN session duration time in hours.

Valid values: 8 | 10 | 12 | 24
Default value: 24
Type: Integer
Required: No

**SplitTunnel**

Indicates whether split-tunnel is enabled on the AWS Client VPN endpoint.

By default, split-tunnel on a VPN endpoint is disabled.

For information about split-tunnel VPN endpoints, see [Split-tunnel AWS Client VPN endpoint](#) in the [AWS Client VPN Administrator Guide](#).

Type: Boolean
Required: No

**TagSpecification.N**

The tags to apply to the Client VPN endpoint during creation.

Type: Array of [TagSpecification](#) objects
Required: No

**TransportProtocol**

The transport protocol to be used by the VPN session.

Default value: udp
Type: String
Valid Values: tcp | udp
Required: No

**VpcId**

The ID of the VPC to associate with the Client VPN endpoint. If no security group IDs are specified in the request, the default security group for the VPC is applied.

Type: String
Required: No
VpnPort

The port number to assign to the Client VPN endpoint for TCP and UDP traffic.

Valid Values: 443 | 1194

Default Value: 443

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

clientVpnEndpointId

The ID of the Client VPN endpoint.

Type: String

dnsName

The DNS name to be used by clients when establishing their VPN session.

Type: String

requestId

The ID of the request.

Type: String

status

The current state of the Client VPN endpoint.

Type: ClientVpnEndpointStatus object

Errors

For information about the errors that are common to all actions, see Common client error codes.
### Examples

#### Example

This example creates a Client VPN endpoint.

#### Sample Request

```
https://ec2.amazonaws.com/?Action=CreateClientVpnEndpoint
&ClientCidrBlock=11.0.0.0/16
&Authentication.1.Type=certificate-authentication
&ConnectionLogOptions.Enabled=false
&DnsServers=11.11.0.1
&AUTHPARAMS
```

#### Sample Response

```
<CreateClientVpnEndpointResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>c11b2aa2-c48d-4711-a394-43cbe8961c46</requestId>
  <dnsName>cvpn-endpoint-00c5d11fc4729f2a5.prod.clientvpn.us-east-1.amazonaws.com</dnsName>
  <status>
    <code>pending-associate</code>
  </status>
  <clientVpnEndpointId>cvpn-endpoint-00c5d11fc4729f2a5</clientVpnEndpointId>
</CreateClientVpnEndpointResponse>
```

#### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](http://aws.amazon.com/cli/)
- [AWS SDK for .NET](http://aws.amazon.com/sdk-for-net/)
- [AWS SDK for C++](http://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](http://aws.amazon.com/sdk-for-go/)

See Also

- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateClientVpnRoute

Adds a route to a network to a Client VPN endpoint. Each Client VPN endpoint has a route table that describes the available destination network routes. Each route in the route table specifies the path for traffic to specific resources or networks.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to ensure idempotency.

Type: String  
Required: No

ClientVpnEndpointId

The ID of the Client VPN endpoint to which to add the route.

Type: String  
Required: Yes

Description

A brief description of the route.

Type: String  
Required: No

DestinationCidrBlock

The IPv4 address range, in CIDR notation, of the route destination. For example:

- To add a route for Internet access, enter 0.0.0.0/0
- To add a route for a peered VPC, enter the peered VPC's IPv4 CIDR range
- To add a route for an on-premises network, enter the AWS Site-to-Site VPN connection's IPv4 CIDR range
• To add a route for the local network, enter the client CIDR range

Type: String
Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

TargetVpcSubnetId

The ID of the subnet through which you want to route traffic. The specified subnet must be an existing target network of the Client VPN endpoint.

Alternatively, if you're adding a route for the local network, specify local.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

status

The current state of the route.

Type: ClientVpnRouteStatus object
Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example adds a route for Internet access to the Client VPN endpoint.

Sample Request

```xml
https://ec2.amazonaws.com/?Action=CreateClientVpnRoute
&ClientVpnEndpointId=cvpn-endpoint-00c5d11fc4EXAMPLE
&DestinationCidrBlock=0.0.0.0/0
&TargetVpcSubnetId=subnet-057fa0918fEXAMPLE
&AUTHPARAMS
```

Sample Response

```xml
<CreateClientVpnRouteResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>5b301186-e6d3-436b-87d6-7c400EXAMPLE</requestId>
  <status>
    <code>creating</code>
  </status>
</CreateClientVpnRouteResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
• **AWS SDK for PHP V3**
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
CreateCoipCidr

Creates a range of customer-owned IP addresses.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**Cidr**

A customer-owned IP address range to create.

Type: String

Required: Yes

**CoipPoolId**

The ID of the address pool.

Type: String

Required: Yes

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**Response Elements**

The following elements are returned by the service.

**coipCidr**

Information about a range of customer-owned IP addresses.
Type: `CoipCidr` object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see `Common client error codes`.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
**CreateCoipPool**

Creates a pool of customer-owned IP (CoIP) addresses.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**LocalGatewayRouteTableId**

The ID of the local gateway route table.

Type: String

Required: Yes

**TagSpecification.N**

The tags to assign to the CoIP address pool.

Type: Array of TagSpecification objects

Required: No

**Response Elements**

The following elements are returned by the service.

**coipPool**

Information about the CoIP address pool.
Type: `CoipPool` object

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateCustomerGateway

Provides information to AWS about your customer gateway device. The customer gateway device is the appliance at your end of the VPN connection. You must provide the IP address of the customer gateway device's external interface. The IP address must be static and can be behind a device performing network address translation (NAT).

For devices that use Border Gateway Protocol (BGP), you can also provide the device's BGP Autonomous System Number (ASN). You can use an existing ASN assigned to your network. If you don't have an ASN already, you can use a private ASN. For more information, see Customer gateway options for your Site-to-Site VPN connection in the AWS Site-to-Site VPN User Guide.

To create more than one customer gateway with the same VPN type, IP address, and BGP ASN, specify a unique device name for each customer gateway. An identical request returns information about the existing customer gateway; it doesn't create a new customer gateway.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

BgpAsn

For devices that support BGP, the customer gateway's BGP ASN.

Default: 65000

Type: Integer

Required: No

CertificateArn

The Amazon Resource Name (ARN) for the customer gateway certificate.

Type: String

Required: No

DeviceName

A name for the customer gateway device.
Length Constraints: Up to 255 characters.
Type: String
Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean
Required: No

**IpAddress**

IPv4 address for the customer gateway device's outside interface. The address must be static.

Type: String
Required: No

**PublicIp**

*This member has been deprecated.* The Internet-routable IP address for the customer gateway's outside interface. The address must be static.

Type: String
Required: No

**TagSpecification.N**

The tags to apply to the customer gateway.

Type: Array of `TagSpecification` objects
Required: No

**Type**

The type of VPN connection that this customer gateway supports (`ipsec.1`).

Type: String
Valid Values: `ipsec.1`
Response Elements

The following elements are returned by the service.

**customerGateway**

Information about the customer gateway.

Type: `CustomerGateway` object

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example creates a customer gateway with the name `my-device`, the IP address `12.1.2.3`, and BGP ASN `65534`.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=CreateCustomerGateway
&Type=ipsec.1
&IpAddress=12.1.2.3
&BgpAsn=65534
&DeviceName=my-device
&AUTHPARAMS
```

**Sample Response**

```
<CreateCustomerGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/>
```
<requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
<customerGateway>
  <customerGatewayId>cgw-1122344556677abc</customerGatewayId>
  <state>pending</state>
  <type>ipsec.1</type>
  <ipAddress>12.1.2.3</ipAddress>
  <bgpAsn>65534</bgpAsn>
  <deviceName>my-device</deviceName>
  <tagSet/>
</customerGateway>
</CreateCustomerGatewayResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateDefaultSubnet

Creates a default subnet with a size /20 IPv4 CIDR block in the specified Availability Zone in your default VPC. You can have only one default subnet per Availability Zone. For more information, see Create a default subnet in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AvailabilityZone

The Availability Zone in which to create the default subnet.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Ipv6Native

Indicates whether to create an IPv6 only subnet. If you already have a default subnet for this Availability Zone, you must delete it before you can create an IPv6 only subnet.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

subnet

Information about the subnet.

Type: Subnet object

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example creates a default subnet in Availability Zone us-east-2a.

Sample Request

https://ec2.us-east-2.amazonaws.com/?Action=CreateDefaultSubnet&AvailabilityZone=us-east-2a

Sample Response

```xml
<CreateDefaultSubnetResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>12e2fb2e-e566-488a-926d-4655example</requestId>
  <subnet>
    <assignIpv6AddressOnCreation>false</assignIpv6AddressOnCreation>
    <availabilityZone>us-east-2a</availabilityZone>
    <availableIpAddressCount>4091</availableIpAddressCount>
    <cidrBlock>172.31.32.0/20</cidrBlock>
    <defaultForAz>true</defaultForAz>
    <ipv6CidrBlockAssociationSet/>
    <mapPublicIpOnLaunch>true</mapPublicIpOnLaunch>
    <state>available</state>
    <subnetId>subnet-11f7123</subnetId>
  </subnet>
</CreateDefaultSubnetResponse>
```
<tagSet/>
  <vpcId>vpc-8eaaeabc</vpcId>
</subnet>
</CreateDefaultSubnetResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateDefaultVpc

Creates a default VPC with a size /16 IPv4 CIDR block and a default subnet in each Availability Zone. For more information about the components of a default VPC, see Default VPCs in the Amazon VPC User Guide. You cannot specify the components of the default VPC yourself.

If you deleted your previous default VPC, you can create a default VPC. You cannot have more than one default VPC per Region.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

vpc

Information about the VPC.

Type: Vpc object
Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example creates a default VPC.

Sample Request

https://ec2.amazonaws.com/?Action=CreateDefaultVpc
&AUTHPARAMS

Sample Response

```xml
<CreateDefaultVpcResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>056298f3-5f3e-48fb-9221-7c0example</requestId>
  <vpc>
    <cidrBlock>172.31.0.0/16</cidrBlock>
    <dhcpOptionsId>dopt-61079b07</dhcpOptionsId>
    <instanceTenancy>default</instanceTenancy>
    <ipv6CidrBlockAssociationSet/>
    <isDefault>true</isDefault>
    <state>pending</state>
    <tagSet/>
    <vpcId>vpc-3f139646</vpcId>
  </vpc>
</CreateDefaultVpcResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateDhcpOptions

Creates a set of DHCP options for your VPC. After creating the set, you must associate it with the VPC, causing all existing and new instances that you launch in the VPC to use this set of DHCP options. The following are the individual DHCP options you can specify. For more information about the options, see RFC 2132.

- **domain-name-servers** - The IP addresses of up to four domain name servers, or AmazonProvidedDNS. The default DHCP option set specifies AmazonProvidedDNS. If specifying more than one domain name server, specify the IP addresses in a single parameter, separated by commas. To have your instance receive a custom DNS hostname as specified in domain-name, you must set domain-name-servers to a custom DNS server.

- **domain-name** - If you're using AmazonProvidedDNS in us-east-1, specify ec2.internal. If you're using AmazonProvidedDNS in another Region, specify region.compute.internal (for example, ap-northeast-1.compute.internal). Otherwise, specify a domain name (for example, ExampleCompany.com). This value is used to complete unqualified DNS hostnames.

  **Important**: Some Linux operating systems accept multiple domain names separated by spaces. However, Windows and other Linux operating systems treat the value as a single domain, which results in unexpected behavior. If your DHCP options set is associated with a VPC that has instances with multiple operating systems, specify only one domain name.

- **ntp-servers** - The IP addresses of up to four Network Time Protocol (NTP) servers.

- **netbios-name-servers** - The IP addresses of up to four NetBIOS name servers.

- **netbios-node-type** - The NetBIOS node type (1, 2, 4, or 8). We recommend that you specify 2 (broadcast and multicast are not currently supported). For more information about these node types, see RFC 2132.

Your VPC automatically starts out with a set of DHCP options that includes only a DNS server that we provide (AmazonProvidedDNS). If you create a set of options, and if your VPC has an internet gateway, make sure to set the domain-name-servers option either to AmazonProvidedDNS or to a domain name server of your choice. For more information, see DHCP options sets in the Amazon VPC User Guide.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.
DhcpConfiguration.N

A DHCP configuration option.

Type: Array of NewDhcpConfiguration objects

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TagSpecification.N

The tags to assign to the DHCP option.

Type: Array of TagSpecification objects

Required: No

Response Elements

The following elements are returned by the service.

dhcpOptions

A set of DHCP options.

Type: DhcpOptions object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.
Examples

Example

This example creates a set of DHCP options with a domain name example.com and two DNS servers (10.2.5.1 and 10.2.5.2). The DNS servers' IP addresses are specified in a single parameter, separated by commas, to preserve the order in which they are specified.

Sample Request

https://ec2.amazonaws.com/?Action=CreateDhcpOptions
&DhcpConfiguration.1.Key=domain-name
&DhcpConfiguration.1.Value.1=example.com
&DhcpConfiguration.2.Key=domain-name-servers
&DhcpConfiguration.2.Value.1=10.2.5.1,10.2.5.2

Sample Response

<CreateDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <dhcpOptions>
    <dhcpOptionsId>dopt-096c1234cade2dabc</dhcpOptionsId>
    <dhcpConfigurationSet>
      <item>
        <key>domain-name</key>
        <valueSet>
          <item>
            <value>example.com</value>
          </item>
        </valueSet>
      </item>
      <item>
        <key>domain-name-servers</key>
        <valueSet>
          <item>
            <value>10.2.5.1</value>
          </item>
          <item>
            <value>10.2.5.2</value>
          </item>
        </valueSet>
      </item>
    </dhcpConfigurationSet>
  </dhcpOptions>
</CreateDhcpOptionsResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateEgressOnlyInternetGateway

[IPv6 only] Creates an egress-only internet gateway for your VPC. An egress-only internet gateway is used to enable outbound communication over IPv6 from instances in your VPC to the internet, and prevents hosts outside of your VPC from initiating an IPv6 connection with your instance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to ensure idempotency.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TagSpecification.N

The tags to assign to the egress-only internet gateway.

Type: Array of TagSpecification objects

Required: No

VpcId

The ID of the VPC for which to create the egress-only internet gateway.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

clientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request.

Type: String

egressOnlyInternetGateway

Information about the egress-only internet gateway.

Type: EgressOnlyInternetGateway object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example creates an egress-only internet gateway in VPC vpc-1a2b3c4d.

Sample Request

https://ec2.amazonaws.com/?Action=CreateEgressOnlyInternetGateway
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS

Sample Response

<CreateEgressOnlyInternetGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
<requestId>c617595f-6c29-4a00-a941-example</requestId>
<egressOnlyInternetGateway>
  <attachmentSet>
    <item>
      <state>attached</state>
      <vpcId>vpc-1a2b3c4d</vpcId>
    </item>
  </attachmentSet>
  <egressOnlyInternetGatewayId>eigw-01eadbd45ecd7943f</egressOnlyInternetGatewayId>
</egressOnlyInternetGateway>
</CreateEgressOnlyInternetGatewayResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateFleet

Creates an EC2 Fleet that contains the configuration information for On-Demand Instances and Spot Instances. Instances are launched immediately if there is available capacity.

A single EC2 Fleet can include multiple launch specifications that vary by instance type, AMI, Availability Zone, or subnet.

For more information, see EC2 Fleet in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see Ensuring idempotency.

Type: String

Required: No

Context

Reserved.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
ExcessCapacityTerminationPolicy

Indicates whether running instances should be terminated if the total target capacity of the EC2 Fleet is decreased below the current size of the EC2 Fleet.

Supported only for fleets of type maintain.

Type: String

Valid Values: no-termination | termination

Required: No

LaunchTemplateConfigs.N

The configuration for the EC2 Fleet.

Type: Array of FleetLaunchTemplateConfigRequest objects

Array Members: Minimum number of 0 items. Maximum number of 50 items.

Required: Yes

OnDemandOptions

Describes the configuration of On-Demand Instances in an EC2 Fleet.

Type: OnDemandOptionsRequest object

Required: No

ReplaceUnhealthyInstances

Indicates whether EC2 Fleet should replace unhealthy Spot Instances. Supported only for fleets of type maintain. For more information, see EC2 Fleet health checks in the Amazon EC2 User Guide.

Type: Boolean

Required: No

SpotOptions

Describes the configuration of Spot Instances in an EC2 Fleet.

Type: SpotOptionsRequest object
TagSpecification.N

The key-value pair for tagging the EC2 Fleet request on creation. For more information, see Tag your resources.

If the fleet type is instant, specify a resource type of fleet to tag the fleet or instance to tag the instances at launch.

If the fleet type is maintain or request, specify a resource type of fleet to tag the fleet. You cannot specify a resource type of instance. To tag instances at launch, specify the tags in a launch template.

Type: Array of TagSpecification objects

Required: No

TargetCapacitySpecification

The number of units to request.

Type: TargetCapacitySpecificationRequest object

Required: Yes

TerminateInstancesWithExpiration

Indicates whether running instances should be terminated when the EC2 Fleet expires.

Type: Boolean

Required: No

Type

The fleet type. The default value is maintain.

- maintain - The EC2 Fleet places an asynchronous request for your desired capacity, and continues to maintain your desired Spot capacity by replenishing interrupted Spot Instances.

- request - The EC2 Fleet places an asynchronous one-time request for your desired capacity, but does submit Spot requests in alternative capacity pools if Spot capacity is unavailable, and does not maintain Spot capacity if Spot Instances are interrupted.

- instant - The EC2 Fleet places a synchronous one-time request for your desired capacity, and returns errors for any instances that could not be launched.
For more information, see EC2 Fleet request types in the Amazon EC2 User Guide.

Type: String

Valid Values: request | maintain | instant

Required: No

ValidFrom

The start date and time of the request, in UTC format (for example, YYYY-MM-DDTHH:MM:SSZ). The default is to start fulfilling the request immediately.

Type: Timestamp

Required: No

ValidUntil

The end date and time of the request, in UTC format (for example, YYYY-MM-DDTHH:MM:SSZ). At this point, no new EC2 Fleet requests are placed or able to fulfill the request. If no value is specified, the request remains until you cancel it.

Type: Timestamp

Required: No

Response Elements

The following elements are returned by the service.

errorSet

Information about the instances that could not be launched by the fleet. Supported only for fleets of type instant.

Type: Array of CreateFleetError objects

fleetId

The ID of the EC2 Fleet.

Type: String
fleetInstanceSet

Information about the instances that were launched by the fleet. Supported only for fleets of type inst. type.

Type: Array of CreateFleetInstance objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateFlowLogs

Creates one or more flow logs to capture information about IP traffic for a specific network interface, subnet, or VPC.

Flow log data for a monitored network interface is recorded as flow log records, which are log events consisting of fields that describe the traffic flow. For more information, see Flow log records in the Amazon Virtual Private Cloud User Guide.

When publishing to CloudWatch Logs, flow log records are published to a log group, and each network interface has a unique log stream in the log group. When publishing to Amazon S3, flow log records for all of the monitored network interfaces are published to a single log file object that is stored in the specified bucket.

For more information, see VPC Flow Logs in the Amazon Virtual Private Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to ensure idempotency.

Type: String

Required: No

DeliverCrossAccountRole

The ARN of the IAM role that allows Amazon EC2 to publish flow logs across accounts.

Type: String

Required: No

DeliverLogsPermissionArn

The ARN of the IAM role that allows Amazon EC2 to publish flow logs to a CloudWatch Logs log group in your account.
This parameter is required if the destination type is `cloud-watch-logs` and unsupported otherwise.

Type: String

Required: No

**DestinationOptions**

The destination options.

Type: [DestinationOptionsRequest](#) object

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**LogDestination**

The destination for the flow log data. The meaning of this parameter depends on the destination type.

- If the destination type is `cloud-watch-logs`, specify the ARN of a CloudWatch Logs log group. For example:

  arn:aws:logs:region:account_id:log-group:my_group

  Alternatively, use the LogGroupName parameter.

- If the destination type is `s3`, specify the ARN of an S3 bucket. For example:

  arn:aws:s3:::my_bucket/my_subfolder/

  The subfolder is optional. Note that you can't use AWSLogs as a subfolder name.

- If the destination type is `kinesis-data-firehose`, specify the ARN of a Kinesis Data Firehose delivery stream. For example:

Type: String
Required: No

**LogDestinationType**

The type of destination for the flow log data.

Default: cloud-watch-logs

Type: String

Valid Values: cloud-watch-logs | s3 | kinesis-data-firehose

Required: No

**LogFormat**

The fields to include in the flow log record. List the fields in the order in which they should appear. If you omit this parameter, the flow log is created using the default format. If you specify this parameter, you must include at least one field. For more information about the available fields, see [Flow log records](https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/flow-logs.html) in the *Amazon VPC User Guide* or [Transit Gateway Flow Log records](https://docs.aws.amazon.com/ TransitGateway/latest/tg_flow-logs.html) in the *AWS Transit Gateway Guide*.

Specify the fields using the `${field-id}` format, separated by spaces.

Type: String

Required: No

**LogGroupName**

The name of a new or existing CloudWatch Logs log group where Amazon EC2 publishes your flow logs.

This parameter is valid only if the destination type is cloud-watch-logs.

Type: String

Required: No

**MaxAggregationInterval**

The maximum interval of time during which a flow of packets is captured and aggregated into a flow log record. The possible values are 60 seconds (1 minute) or 600 seconds (10 minutes). This parameter must be 60 seconds for transit gateway resource types.
When a network interface is attached to a Nitro-based instance, the aggregation interval is always 60 seconds or less, regardless of the value that you specify.

Default: 600

Type: Integer

Required: No

ResourceId.N

The IDs of the resources to monitor. For example, if the resource type is VPC, specify the IDs of the VPCs.

Constraints: Maximum of 25 for transit gateway resource types. Maximum of 1000 for the other resource types.

Type: Array of strings

Required: Yes

ResourceType

The type of resource to monitor.

Type: String

Valid Values: VPC | Subnet | NetworkInterface | TransitGateway | TransitGatewayAttachment

Required: Yes

TagSpecification.N

The tags to apply to the flow logs.

Type: Array of TagSpecification objects

Required: No

TrafficType

The type of traffic to monitor (accepted traffic, rejected traffic, or all traffic). This parameter is not supported for transit gateway resource types. It is required for the other resource types.

Type: String
Valid Values: ACCEPT | REJECT | ALL

Required: No

Response Elements

The following elements are returned by the service.

**clientToken**

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request.

Type: String

**flowLogIdSet**

The IDs of the flow logs.

Type: Array of strings

**requestId**

The ID of the request.

Type: String

**unsuccessful**

Information about the flow logs that could not be created successfully.

Type: Array of [UnsuccessfulItem](#) objects

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

**Example 1**

(CloudWatch Logs) This example creates a flow log that captures all rejected traffic for network interface eni-aa22bb33 and publishes the data to a CloudWatch Logs log group named my-flow-logs in account 123456789101, using the IAM role publishFlowLogs.
Sample Request

https://ec2.amazonaws.com/?Action=CreateFlowLogs
&ResourceType=NetworkInterface
&TrafficType=REJECT
&ResourceId.1=eni-aa22bb33
&DeliverLogsPermissionArn=arn:aws:iam::123456789101:role/publishFlowLogs
&LogDestinationType=cloud-watch-logs
&AUTHPARAMS

Sample Response

  <requestId>2d96dae3-504b-4fc4-bf50-266EXAMPLE</requestId>
  <unsuccessful/>
  <flowLogIdSet>
    <item>fl-1a2b3c4d</item>
  </flowLogIdSet>
</CreateFlowLogsResponse>

Example 2

(Amazon S3) This example creates a flow log that captures all traffic for network interface eni-aa22bb33 and publishes the data to an Amazon S3 bucket named my-bucket in account 123456789101.

Sample Request

https://ec2.amazonaws.com/?Action=CreateFlowLogs
&ResourceType=NetworkInterface
&TrafficType=ALL
&ResourceId.1=eni-aa22bb33
&LogDestinationType=s3
&LogDestination=arn:aws:s3:::my-flow-log-bucket
&AUTHPARAMS

Example 3

(Amazon S3) This example creates a flow log with a custom flow log format that captures the version, instance ID, network interface ID, type, packet source address, packet destination address,
protocol, bytes, the start time, the end time, and the action of the traffic, in that order. The flow log is published to an Amazon S3 bucket named my-bucket.

Sample Request

https://ec2.amazonaws.com/?Action=CreateFlowLogs
&ResourceType=NetworkInterface
&TrafficType=ALL
&ResourceId.1=eni-1235b8ca123456789
&LogDestinationType=s3
&LogDestination=arn:aws:s3:::my-bucket
&LogFormat='${version} ${instance-id} ${interface-id} ${type} ${pkt-srcaddr} ${pkt-dstaddr} ${protocol} ${bytes} ${start} ${end} ${action}'

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateFpgaImage

Creates an Amazon FPGA Image (AFI) from the specified design checkpoint (DCP).

The create operation is asynchronous. To verify that the AFI is ready for use, check the output logs.

An AFI contains the FPGA bitstream that is ready to download to an FPGA. You can securely deploy an AFI on multiple FPGA-accelerated instances. For more information, see the AWS FPGA Hardware Development Kit.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**ClientToken**

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see Ensuring Idempotency.

Type: String

Required: No

**Description**

A description for the AFI.

Type: String

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**InputStorageLocation**

The location of the encrypted design checkpoint in Amazon S3. The input must be a tarball.
Type: **StorageLocation** object

Required: Yes

**LogsStorageLocation**

The location in Amazon S3 for the output logs.

Type: **StorageLocation** object

Required: No

**Name**

A name for the AFI.

Type: String

Required: No

**TagSpecification.N**

The tags to apply to the FPGA image during creation.

Type: Array of **TagSpecification** objects

Required: No

**Response Elements**

The following elements are returned by the service.

**fpgaImageGlobalId**

The global FPGA image identifier (AGFI ID).

Type: String

**fpgaImageId**

The FPGA image identifier (AFI ID).

Type: String

**requestId**

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example creates an AFI from the specified tarball in the specified bucket.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateFpgaImage
&Name=my-afi
&Description=test-afi
&InputStorageLocation.Bucket=my-fpga-bucket
&InputStorageLocation.Key=dcp/17_12_22-103226.Developer_CL.tar
&LogsStorageLocation.Bucket=my-fpga-bucket
&LogsStorageLocation.Key=logs
&AUTHPARAMS
```

Sample Response

```
<CreateFpgaImageResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>d97baa5e-d3dd-4ead-9586-c68example</requestId>
  <fpgaImageId>afi-0d123e123bfc85abc</fpgaImageId>
  <fpgaImageGlobalId>agfi-123cb27b5e84a0abc</fpgaImageGlobalId>
</CreateFpgaImageResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for JavaScript V3**
• **AWS SDK for PHP V3**
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
CreateImage

Creates an Amazon EBS-backed AMI from an Amazon EBS-backed instance that is either running or stopped.

If you customized your instance with instance store volumes or Amazon EBS volumes in addition to the root device volume, the new AMI contains block device mapping information for those volumes. When you launch an instance from this new AMI, the instance automatically launches with those additional volumes.

For more information, see Create an Amazon EBS-backed Linux AMI in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

BlockDeviceMapping.N

The block device mappings.

When using the CreateImage action:

- You can't change the volume size using the VolumeSize parameter. If you want a different volume size, you must first change the volume size of the source instance.
- You can't modify the encryption status of existing volumes or snapshots. To create an AMI with volumes or snapshots that have a different encryption status (for example, where the source volume and snapshots are unencrypted, and you want to create an AMI with encrypted volumes or snapshots), use the CopyImage action.
- The only option that can be changed for existing mappings or snapshots is DeleteOnTermination.

Type: Array of BlockDeviceMapping objects

Required: No

Description

A description for the new image.
DryRun

Checks whether you have the required permissions for the action, without actually making
the request, and provides an error response. If you have the required permissions, the error
response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceId

The ID of the instance.

Type: String

Required: Yes

Name

A name for the new image.

Constraints: 3-128 alphanumeric characters, parentheses (()), square brackets ([]), spaces ( ),
periods (.), slashes (/), dashes (-), single quotes ('), at-signs (@), or underscores(_)

Type: String

Required: Yes

NoReboot

Indicates whether or not the instance should be automatically rebooted before creating the
image. Specify one of the following values:

- true - The instance is not rebooted before creating the image. This creates crash-consistent
  snapshots that include only the data that has been written to the volumes at the time the
  snapshots are created. Buffered data and data in memory that has not yet been written to the
  volumes is not included in the snapshots.

- false - The instance is rebooted before creating the image. This ensures that all buffered
  data and data in memory is written to the volumes before the snapshots are created.
Default: false

Type: Boolean

Required: No

TagSpecification.N

The tags to apply to the AMI and snapshots on creation. You can tag the AMI, the snapshots, or both.

- To tag the AMI, the value for ResourceType must be image.
- To tag the snapshots that are created of the root volume and of other Amazon EBS volumes that are attached to the instance, the value for ResourceType must be snapshot. The same tag is applied to all of the snapshots that are created.

If you specify other values for ResourceType, the request fails.

To tag an AMI or snapshot after it has been created, see CreateTags.

Type: Array of TagSpecification objects

Required: No

Response Elements

The following elements are returned by the service.

imageId

The ID of the new AMI.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.
Examples

Example 1

This example request creates an AMI from the specified instance.

Sample Request

https://ec2.amazonaws.com/?Action=CreateImage
&Description=Standard+Web+Server+v1.0
&InstanceId=i-1234567890abcdef0
&Name=standard-web-server-v1.0
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imageId>ami-4fa54026</imageId>
</CreateImageResponse>

Example 2

This example request creates an AMI from the specified instance, and sets the NoReboot parameter to true (the instance is not rebooted before the image is created).

Sample Request

https://ec2.amazonaws.com/?Action=CreateImage
&Description=Standard+Web+Server+v1.0
&InstanceId=i-1234567890abcdef0
&Name=standard-web-server-v1.0
&NoReboot=true
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imageId>ami-4fa54026</imageId>
</CreateImageResponse>
Example 3

This example request creates an AMI from the specified instance, and tags on creation the AMI and the snapshots that are created of the root volume and of other Amazon EBS volumes that are attached to the instance. In this example, the tag that is applied to the AMI and the snapshots is the same, with a key of purpose and a value of test.

Sample Request

https://ec2.amazonaws.com/?Action=CreateImage
&InstanceId=i-1234567890abcdef0
&TagSpecification.1.ResourceType=image
&TagSpecification.1.Tag.1.Key=purpose
&TagSpecification.1.Tag.1.Value=test
&TagSpecification.2.ResourceType=snapshot
&TagSpecification.2.Tag.1.Key=purpose
&TagSpecification.2.Tag.1.Value=test
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imageId>ami-4fa54026</imageId>
</CreateImageResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CreateInstanceConnectEndpoint

Creates an EC2 Instance Connect Endpoint.

An EC2 Instance Connect Endpoint allows you to connect to an instance, without requiring the instance to have a public IPv4 address. For more information, see Connect to your instances without requiring a public IPv4 address using EC2 Instance Connect Endpoint in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

PreserveClientIp

Indicates whether your client's IP address is preserved as the source. The value is true or false.

- If true, your client's IP address is used when you connect to a resource.
- If false, the elastic network interface IP address is used when you connect to a resource.

Default: true

Type: Boolean
Required: No

**SecurityGroupId.N**

One or more security groups to associate with the endpoint. If you don't specify a security group, the default security group for your VPC will be associated with the endpoint.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 16 items.

Required: No

**SubnetId**

The ID of the subnet in which to create the EC2 Instance Connect Endpoint.

Type: String

Required: Yes

**TagSpecification.N**

The tags to apply to the EC2 Instance Connect Endpoint during creation.

Type: Array of [TagSpecification](#) objects

Required: No

**Response Elements**

The following elements are returned by the service.

**clientToken**

Unique, case-sensitive idempotency token provided by the client in the the request.

Type: String

**instanceConnectEndpoint**

Information about the EC2 Instance Connect Endpoint.

Type: [Ec2InstanceConnectEndpoint](#) object
**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example: Create an EC2 Instance Connect Endpoint**

This example creates an EC2 Instance Connect Endpoint in the specified subnet.

**Sample Request**

```plaintext
https://ec2.amazonaws.com/?Action=CreateInstanceConnectEndpoint
&SubnetId=subnet-0123456789example
&AUTHPARAMS
```

**Sample Response**

```xml
<CreateInstanceConnectEndpointResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>a9effc88-e86c-4730-b1e8-30ba091babd1</requestId>
  <instanceConnectEndpoint>
    <createdAt>2023-06-06T20:01:31.000Z</createdAt>
    <instanceConnectEndpointArn>arn:aws:ec2:region:account-id:instance-connect-endpoint/eice-0123456789example</instanceConnectEndpointArn>
    <instanceConnectEndpointId>eice-0123456789example</instanceConnectEndpointId>
    <networkInterfaceIdSet />
    <ownerId>account-id</ownerId>
    <preserveClientIp>false</preserveClientIp>
    <securityGroupIdSet>
      <item>sg-0123456789example</item>
    </securityGroupIdSet>
    <state>create-in-progress</state>
    <stateMessage />
    <subnetId>subnet-0123456789example</subnetId>
</CreateInstanceConnectEndpointResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateInstanceEventWindow

Creates an event window in which scheduled events for the associated Amazon EC2 instances can run.

You can define either a set of time ranges or a cron expression when creating the event window, but not both. All event window times are in UTC.

You can create up to 200 event windows per AWS Region.

When you create the event window, targets (instance IDs, Dedicated Host IDs, or tags) are not yet associated with it. To ensure that the event window can be used, you must associate one or more targets with it by using the AssociateInstanceEventWindow API.

⚠ Important
Event windows are applicable only for scheduled events that stop, reboot, or terminate instances.
Event windows are not applicable for:

- Expedited scheduled events and network maintenance events.
- Unscheduled maintenance such as AutoRecovery and unplanned reboots.

For more information, see Define event windows for scheduled events in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CronExpression

The cron expression for the event window, for example, * 0-4,20-23 * * 1,5. If you specify a cron expression, you can't specify a time range.

Constraints:

- Only hour and day of the week values are supported.
For day of the week values, you can specify either integers 0 through 6, or alternative single values SUN through SAT.

- The minute, month, and year must be specified by *.
- The hour value must be one or a multiple range, for example, 0-4 or 0-4, 20-23.
- Each hour range must be >= 2 hours, for example, 0-2 or 20-23.
- The event window must be >= 4 hours. The combined total time ranges in the event window must be >= 4 hours.

For more information about cron expressions, see [cron](https://en.wikipedia.org/wiki/Cron) on the [Wikipedia website](https://en.wikipedia.org).

**Type:** String

**Required:** No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

**Type:** Boolean

**Required:** No

**Name**

The name of the event window.

**Type:** String

**Required:** No

**TagSpecification.N**

The tags to apply to the event window.

**Type:** Array of [TagSpecification](#) objects

**Required:** No

**TimeRange.N**

The time range for the event window. If you specify a time range, you can't specify a cron expression.
Response Elements

The following elements are returned by the service.

instanceEventWindow

Information about the event window.

Type: InstanceEventWindow object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateInstanceExportTask

Exports a running or stopped instance to an Amazon S3 bucket.

For information about the prerequisites for your Amazon S3 bucket, supported operating systems, image formats, and known limitations for the types of instances you can export, see Exporting an instance as a VM Using VM Import/Export in the VM Import/Export User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Description

A description for the conversion task or the resource being exported. The maximum length is 255 characters.

Type: String

Required: No

ExportToS3

The format and location for an export instance task.

Type: ExportToS3TaskSpecification object

Required: Yes

InstanceId

The ID of the instance.

Type: String

Required: Yes

TagSpecification.N

The tags to apply to the export instance task during creation.

Type: Array of TagSpecification objects

Required: No
**TargetEnvironment**

The target virtualization environment.

Type: String

Valid Values: citrix | vmware | microsoft

Required: Yes

**Response Elements**

The following elements are returned by the service.

**exportTask**

Information about the export instance task.

Type: ExportTask object

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example request creates an Export VM task that makes a Windows instance available as an OVA.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=CreateInstanceExportTask
&Description=Example%20for%20docs
&InstanceId=i-1234567890abcdef0
```
&TargetEnvironment=VMWare
&ExportToS3.DiskImageFormat=VMDK
&ExportToS3.ContainerFormat=OVA
&ExportToS3.S3bucket=my-bucket-for-exported-vm
&ExportToS3.S3prefix=my-exports/
&AUTHPARAMS

Sample Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <exportTask>
    <exportTaskId>export-i-1234wxyz</exportTaskId>
    <description>Example for docs</description>
    <state>active</state>
    <statusMessage>Running</statusMessage>
    <instanceExport>
      <instanceId>i-1234567890abcdef0</instanceId>
      <targetEnvironment>VMWare</targetEnvironment>
    </instanceExport>
    <exportToS3>
      <diskImageFormat>VMDK</diskImageFormat>
      <containerFormat>OVA</containerFormat>
      <s3Bucket>my-bucket-for-exported-vm</s3Bucket>
      <s3Key>my-exports/ export-i-1234wxyz.ova</s3Key>
    </exportToS3>
  </exportTask>
</CreateInstanceExportTaskResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateInternetGateway

Creates an internet gateway for use with a VPC. After creating the internet gateway, you attach it to a VPC using AttachInternetGateway.

For more information, see Internet gateways in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TagSpecification.N

The tags to assign to the internet gateway.

Type: Array of TagSpecification objects

Required: No

Response Elements

The following elements are returned by the service.

internetGateway

Information about the internet gateway.

Type: InternetGateway object

requestId

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example creates an internet gateway.

Sample Request

https://ec2.amazonaws.com/?Action=CreateInternetGateway
&AUTHPARAMS

Sample Response

<CreateInternetGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <internetGateway>
    <internetGatewayId>igw-eaad4883</internetGatewayId>
    <attachmentSet/>
    <tagSet/>
  </internetGateway>
</CreateInternetGatewayResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CreateIpam

Create an IPAM. Amazon VPC IP Address Manager (IPAM) is a VPC feature that you can use to automate your IP address management workflows including assigning, tracking, troubleshooting, and auditing IP addresses across AWS Regions and accounts throughout your AWS Organization.

For more information, see Create an IPAM in the Amazon VPC IP AM User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**ClientToken**

A unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see Ensuring Idempotency.

Type: String

Required: No

**Description**

A description for the IPAM.

Type: String

Required: No

**DryRun**

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**OperatingRegion.N**

The operating Regions for the IPAM. Operating Regions are AWS Regions where the IPAM is allowed to manage IP address CIDRs. IPAM only discovers and monitors resources in the AWS Regions you select as operating Regions.
For more information about operating Regions, see [Create an IPAM](https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide) in the *Amazon VPC IPAM User Guide*.

**Type: Array of AddIpamOperatingRegion objects**

Array Members: Minimum number of 0 items. Maximum number of 50 items.

Required: No

**TagSpecification.N**

The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key *Owner* and the value *TeamA*, specify `tag:Owner` for the filter name and `TeamA` for the filter value.

**Type: Array of TagSpecification objects**

Required: No

**Tier**

IPAM is offered in a Free Tier and an Advanced Tier. For more information about the features available in each tier and the costs associated with the tiers, see [Amazon VPC pricing > IPAM tab](https://aws.amazon.com/aws-pricing/vpc/ipam/).

**Type: String**

Valid Values: `free` | `advanced`

Required: No

**Response Elements**

The following elements are returned by the service.

**ipam**

Information about the IPAM created.

**Type: Ipam object**

**requestId**

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateIpamPool

Create an IP address pool for Amazon VPC IP Address Manager (IPAM). In IPAM, a pool is a collection of contiguous IP addresses CIDRs. Pools enable you to organize your IP addresses according to your routing and security needs. For example, if you have separate routing and security needs for development and production applications, you can create a pool for each.

For more information, see Create a top-level pool in the Amazon VPC IPAM User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AddressFamily

The IP protocol assigned to this IPAM pool. You must choose either IPv4 or IPv6 protocol for a pool.

Type: String

Valid Values: ipv4 | ipv6

Required: Yes

AllocationDefaultNetmaskLength

The default netmask length for allocations added to this pool. If, for example, the CIDR assigned to this pool is 10.0.0.0/8 and you enter 16 here, new allocations will default to 10.0.0.0/16.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 128.

Required: No

AllocationMaxNetmaskLength

The maximum netmask length possible for CIDR allocations in this IPAM pool to be compliant. The maximum netmask length must be greater than the minimum netmask length. Possible netmask lengths for IPv4 addresses are 0 - 32. Possible netmask lengths for IPv6 addresses are 0 - 128.
Type: Integer

Valid Range: Minimum value of 0. Maximum value of 128.

Required: No

AllocationMinNetmaskLength

The minimum netmask length required for CIDR allocations in this IPAM pool to be compliant. The minimum netmask length must be less than the maximum netmask length. Possible netmask lengths for IPv4 addresses are 0 - 32. Possible netmask lengths for IPv6 addresses are 0 - 128.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 128.

Required: No

AllocationResourceTag.N

Tags that are required for resources that use CIDRs from this IPAM pool. Resources that do not have these tags will not be allowed to allocate space from the pool. If the resources have their tags changed after they have allocated space or if the allocation tagging requirements are changed on the pool, the resource may be marked as noncompliant.

Type: Array of RequestIpamResourceTag objects

Required: No

AutoImport

If selected, IPAM will continuously look for resources within the CIDR range of this pool and automatically import them as allocations into your IPAM. The CIDRs that will be allocated for these resources must not already be allocated to other resources in order for the import to succeed. IPAM will import a CIDR regardless of its compliance with the pool's allocation rules, so a resource might be imported and subsequently marked as noncompliant. If IPAM discovers multiple CIDRs that overlap, IPAM will import the largest CIDR only. If IPAM discovers multiple CIDRs with matching CIDRs, IPAM will randomly import one of them only.

A locale must be set on the pool for this feature to work.

Type: Boolean
Required: No

**AwsService**

Limits which service in AWS that the pool can be used in. "ec2", for example, allows users to use space for Elastic IP addresses and VPCs.

Type: String

Valid Values: ec2

Required: No

**ClientToken**

A unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see [Ensuring Idempotency](#).

Type: String

Required: No

**Description**

A description for the IPAM pool.

Type: String

Required: No

**DryRun**

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**IpamScopeId**

The ID of the scope in which you would like to create the IPAM pool.

Type: String

Required: Yes

---

**Request Parameters**

API Version 2016-11-15 320
**Locale**

In IPAM, the locale is the AWS Region where you want to make an IPAM pool available for allocations. Only resources in the same Region as the locale of the pool can get IP address allocations from the pool. You can only allocate a CIDR for a VPC, for example, from an IPAM pool that shares a locale with the VPC's Region. Note that once you choose a Locale for a pool, you cannot modify it. If you do not choose a locale, resources in Regions others than the IPAM's home region cannot use CIDRs from this pool.

Possible values: Any AWS Region, such as us-east-1.

Type: String

Required: No

**PublicIpSource**

The IP address source for pools in the public scope. Only used for provisioning IP address CIDRs to pools in the public scope. Default is byoip. For more information, see [Create IPv6 pools](#) in the *Amazon VPC IPAM User Guide*. By default, you can add only one Amazon-provided IPv6 CIDR block to a top-level IPv6 pool if PublicIpSource is amazon. For information on increasing the default limit, see [Quotas for your IPAM](#) in the *Amazon VPC IPAM User Guide*.

Type: String

Valid Values: amazon | byoip

Required: No

**PubliclyAdvertisable**

Determines if the pool is publicly advertisable. This option is not available for pools with AddressFamily set to ipv4.

Type: Boolean

Required: No

**SourceIpamPoolId**

The ID of the source IPAM pool. Use this option to create a pool within an existing pool. Note that the CIDR you provision for the pool within the source pool must be available in the source pool's CIDR range.
Type: String
Required: No

**SourceResource**

The resource used to provision CIDRs to a resource planning pool.

Type: [IpamPoolSourceResourceRequest](#) object
Required: No

**TagSpecification.N**

The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key `Owner` and the value `TeamA`, specify `tag:Owner` for the filter name and `TeamA` for the filter value.

Type: Array of [TagSpecification](#) objects
Required: No

**Response Elements**

The following elements are returned by the service.

**ipamPool**

Information about the IPAM pool created.

Type: [IpamPool](#) object

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateIpamResourceDiscovery

Creates an IPAM resource discovery. A resource discovery is an IPAM component that enables IPAM to manage and monitor resources that belong to the owning account.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

A client token for the IPAM resource discovery.

Type: String

Required: No

Description

A description for the IPAM resource discovery.

Type: String

Required: No

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

OperatingRegion.N

Operating Regions for the IPAM resource discovery. Operating Regions are AWS Regions where the IPAM is allowed to manage IP address CIDRs. IPAM only discovers and monitors resources in the AWS Regions you select as operating Regions.

Type: Array of AddIpamOperatingRegion objects
Array Members: Minimum number of 0 items. Maximum number of 50 items.

Required: No

**TagSpecification.N**

Tag specifications for the IPAM resource discovery.

Type: Array of TagSpecification objects

Required: No

**Response Elements**

The following elements are returned by the service.

**ipamResourceDiscovery**

An IPAM resource discovery.

Type: IpamResourceDiscovery object

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see Common client error codes.

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateIpamScope

Create an IPAM scope. In IPAM, a scope is the highest-level container within IPAM. An IPAM contains two default scopes. Each scope represents the IP space for a single network. The private scope is intended for all private IP address space. The public scope is intended for all public IP address space. Scopes enable you to reuse IP addresses across multiple unconnected networks without causing IP address overlap or conflict.

For more information, see Add a scope in the Amazon VPC IPAM User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

A unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see Ensuring Idempotency.

Type: String

Required: No

Description

A description for the scope you're creating.

Type: String

Required: No

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
IpamId

The ID of the IPAM for which you're creating this scope.

Type: String

Required: Yes

TagSpecification.N

The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.

Type: Array of TagSpecification objects

Required: No

Response Elements

The following elements are returned by the service.

ipamScope

Information about the created scope.

Type: IpamScope object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateKeyPair

Creates an ED25519 or 2048-bit RSA key pair with the specified name and in the specified PEM or PPK format. Amazon EC2 stores the public key and displays the private key for you to save to a file. The private key is returned as an unencrypted PEM encoded PKCS#1 private key or an unencrypted PPK formatted private key for use with PuTTY. If a key with the specified name already exists, Amazon EC2 returns an error.

The key pair returned to you is available only in the AWS Region in which you create it. If you prefer, you can create your own key pair using a third-party tool and upload it to any Region using ImportKeyPair.

You can have up to 5,000 key pairs per AWS Region.

For more information, see Amazon EC2 key pairs in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Ensures that the request is checked for required permissions, without actually making the request, and provides an error response. If you have the required permissions, the response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

KeyFormat

The format of the key pair.

Default: pem
Type: String
Valid Values: pem | ppk
Required: No
**KeyName**

A unique name for the key pair.

Constraints: Up to 255 ASCII characters

Type: String

Required: Yes

**KeyType**

The type of key pair. Note that ED25519 keys are not supported for Windows instances.

Default: rsa

Type: String

Valid Values: rsa | ed25519

Required: No

**TagSpecification.N**

The tags to apply to the new key pair.

Type: Array of [TagSpecification](#) objects

Required: No

---

**Response Elements**

The following elements are returned by the service.

**keyFingerprint**

- For RSA key pairs, the key fingerprint is the SHA-1 digest of the DER encoded private key.
- For ED25519 key pairs, the key fingerprint is the base64-encoded SHA-256 digest, which is the default for OpenSSH, starting with OpenSSH 6.8.

Type: String

**keyMaterial**

An unencrypted PEM encoded RSA or ED25519 private key.
Type: String

**keyName**

The name of the key pair.

Type: String

**keyPairId**

The ID of the key pair.

Type: String

**requestId**

The ID of the request.

Type: String

**tagSet**

Any tags applied to the key pair.

Type: Array of **Tag** objects

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example request creates a key pair named `my-key-pair`, and applies a tag with a key of `purpose` and a value of `production`.

**Sample Request**

```plaintext
https://ec2.amazonaws.com/?Action=CreateKeyPair
&KeyName=my-key-pair
&TagSpecification.1.ResourceType=key-pair
&TagSpecification.1.Tag.1.Key=purpose
```
&TagSpecification.1.Tag.1.Value=production
&AUTHPARAMS

Sample Response

```xml
<CreateKeyPairResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>1b5b5bcf-3670-4c16-83d7-c2c9example</requestId>
  <keyName>my-key-pair</keyName>
  <keyPairId>key-abcd12345eEXAMPLE</keyPairId>
  <keyMaterial>---- BEGIN RSA PRIVATE KEY ----
MIICiTCCAfICCQD6m7oRw0uX0jANBgqkqhkiG9w0BAQUFAWADCBiDELMAkGA1UEBhMCVVMxiajBnNBAgTALBMRAwDgYDVQQKEwZBbWF6b24xMDASBgNVBAsTC0lBTSBDb25zYWMxHzAd
------- END RSA PRIVATE KEY ----</keyMaterial>
  <tagSet>
    <item>
      <key>purpose</key>
      <value>production</value>
    </item>
  </tagSet>
</CreateKeyPairResponse>
```

Saving the file

Create a file named `my-key-pair.pem` and paste the entire key from the response into this file. Keep this file in a safe place; it is required to decrypt login information when you connect to an instance using this key pair. If you're using an SSH client on a Linux computer to connect to your instance, use the following command to set the permissions of your private key file so that only you can read it.
Sample Request

chmod 400 my-key-pair.pem

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateLaunchTemplate

Creates a launch template.

A launch template contains the parameters to launch an instance. When you launch an instance using RunInstances, you can specify a launch template instead of providing the launch parameters in the request. For more information, see Launch an instance from a launch template in the Amazon Elastic Compute Cloud User Guide.

If you want to clone an existing launch template as the basis for creating a new launch template, you can use the Amazon EC2 console. The API, SDKs, and CLI do not support cloning a template. For more information, see Create a launch template from an existing launch template in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier you provide to ensure the idempotency of the request. For more information, see Ensuring idempotency.

Constraint: Maximum 128 ASCII characters.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

LaunchTemplateData

The information for the launch template.
Type: RequestLaunchTemplateData object

Required: Yes

LaunchTemplateName

A name for the launch template.

Type: String


Pattern: [a-zA-Z0-9\((\)\.\-/_]+

Required: Yes

TagSpecification.N

The tags to apply to the launch template on creation. To tag the launch template, the resource type must be launch-template.

Note

To specify the tags for the resources that are created when an instance is launched, you must use the TagSpecifications parameter in the launch template data structure.

Type: Array of TagSpecification objects

Required: No

VersionDescription

A description for the first version of the launch template.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 255.

Required: No

Response Elements

The following elements are returned by the service.
launchTemplate

Information about the launch template.

Type: LaunchTemplate object

requestId

The ID of the request.

Type: String

warning

If the launch template contains parameters or parameter combinations that are not valid, an error code and an error message are returned for each issue that's found.

Type: ValidationWarning object

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

The following example creates a launch template that specifies AMI ami-1a2b3c4d and an instance type of t2.micro.

Sample Request

https://ec2.amazonaws.com/?Action=CreateLaunchTemplate
&LaunchTemplateName=MyLaunchTemplate
&VersionDescription=FirstVersion
&LaunchTemplateData.ImageId=ami-1a2b3c4d
&LaunchTemplateData.InstanceType=t2.micro
&AUTHPARAMS

Sample Response

</CreateLaunchTemplateResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
Example 2

The following example creates a launch template that specifies the subnet in which to launch the instance (subnet-7b16de0c), assigns a public IP address and an IPv6 address to the instance, and creates a tag for the instance (Name=webserver).

Sample Request

https://ec2.amazonaws.com/?Action=CreateLaunchTemplate
&LaunchTemplateName=TemplateForWebServer
&VersionDescription=WebVersion1
&LaunchTemplateData.ImageId=ami-8c1be5f6
&LaunchTemplateData.InstanceType=t2.micro
&LaunchTemplateData.NetworkInterface.1.AssociatePublicIpAddress=true
&LaunchTemplateData.NetworkInterface.1.DeviceIndex=0
&LaunchTemplateData.NetworkInterface.1.SubnetId=subnet-7b16de0c
&LaunchTemplateData.NetworkInterface.1.Ipv6AddressCount=1
&LaunchTemplateData.TagSpecification.1.ResourceType=instance
&LaunchTemplateData.TagSpecification.1.Tag.1.Key=Name
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CreateLaunchTemplateVersion

Creates a new version of a launch template. You can specify an existing version of launch template from which to base the new version.

Launch template versions are numbered in the order in which they are created. You cannot specify, change, or replace the numbering of launch template versions.

Launch templates are immutable; after you create a launch template, you can't modify it. Instead, you can create a new version of the launch template that includes any changes you require.

For more information, see Modify a launch template (manage launch template versions) in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier you provide to ensure the idempotency of the request. For more information, see Ensuring idempotency.

Constraint: Maximum 128 ASCII characters.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

LaunchTemplateData

The information for the launch template.
Type: RequestLaunchTemplateData object

Required: Yes

LaunchTemplateId

The ID of the launch template.

You must specify either the LaunchTemplateId or the LaunchTemplateName, but not both.

Type: String

Required: No

LaunchTemplateName

The name of the launch template.

You must specify the LaunchTemplateName or the LaunchTemplateId, but not both.

Type: String


Pattern: [a-zA-Z0-9\(\)\._/-]+

Required: No

ResolveAlias

If true, and if a Systems Manager parameter is specified for ImageId, the AMI ID is displayed in the response for imageID. For more information, see Use a Systems Manager parameter instead of an AMI ID in the Amazon Elastic Compute Cloud User Guide.

Default: false

Type: Boolean

Required: No

SourceVersion

The version number of the launch template version on which to base the new version. The new version inherits the same launch parameters as the source version, except for parameters that
you specify in LaunchTemplateData. Snapshots applied to the block device mapping are ignored when creating a new version unless they are explicitly included.

Type: String

Required: No

**VersionDescription**

A description for the version of the launch template.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 255.

Required: No

**Response Elements**

The following elements are returned by the service.

**launchTemplateVersion**

Information about the launch template version.

Type: [LaunchTemplateVersion](#) object

**requestId**

The ID of the request.

Type: String

**warning**

If the new version of the launch template contains parameters or parameter combinations that are not valid, an error code and an error message are returned for each issue that's found.

Type: [ValidationWarning](#) object

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
Examples

Example

The following example creates a new launch template version for launch template MyLaunchTemplate and uses version 2 of the launch template as the base for the new version. The new launch template uses ami-aabbccdd. All other launch template data is inherited from the source version.

Sample Request

https://ec2.amazonaws.com/?Action=CreateLaunchTemplate
&SourceVersion=2
&LaunchTemplateName=MyLaunchTemplate
&VersionDescription=VersionWithNewAMI
&LaunchTemplateData.ImageId=ami-aabbccdd
&AUTHPARAMS

Sample Response

  <requestId>6657423a-2616-461a-9ce5-3c65example</requestId>
  <launchTemplateVersion>
    <createTime>2017-10-31T11:56:00.000Z</createTime>
    <createdBy>arn:aws:iam::123456789012:root</createdBy>
    <defaultVersion>false</defaultVersion>
    <launchTemplateData>
      <imageId>ami-aabbccdd</imageId>
      <instanceType>t2.micro</instanceType>
    </launchTemplateData>
  </launchTemplateVersion>
</CreateLaunchTemplateVersionResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CreateLocalGatewayRoute

Creates a static route for the specified local gateway route table. You must specify one of the following targets:

- LocalGatewayVirtualInterfaceGroupId
- NetworkInterfaceId

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DestinationCidrBlock

The CIDR range used for destination matches. Routing decisions are based on the most specific match.

Type: String

Required: No

DestinationPrefixListId

The ID of the prefix list. Use a prefix list in place of DestinationCidrBlock. You cannot use DestinationPrefixListId and DestinationCidrBlock in the same request.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
LocalGatewayRouteTableId

The ID of the local gateway route table.

Type: String

Required: Yes

LocalGatewayVirtualInterfaceGroupId

The ID of the virtual interface group.

Type: String

Required: No

NetworkInterfaceId

The ID of the network interface.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

route

Information about the route.

Type: LocalGatewayRoute object

Errors

For information about the errors that are common to all actions, see Common client error codes.
For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateLocalGatewayRouteTable

Creates a local gateway route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**LocalGatewayId**

The ID of the local gateway.

Type: String

Required: Yes

**Mode**

The mode of the local gateway route table.

Type: String

Valid Values: direct-vpc-routing | coip

Required: No

**TagSpecification.N**

The tags assigned to the local gateway route table.

Type: Array of TagSpecification objects

Required: No
Response Elements

The following elements are returned by the service.

localGatewayRouteTable

Information about the local gateway route table.

Type: LocalGatewayRouteTable object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateLocalGatewayRouteTableVirtualInterfaceGroupAssociation

Creates a local gateway route table virtual interface group association.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**LocalGatewayRouteTableId**

The ID of the local gateway route table.

Type: String

Required: Yes

**LocalGatewayVirtualInterfaceGroupId**

The ID of the local gateway route table virtual interface group association.

Type: String

Required: Yes

**TagSpecification.N**

The tags assigned to the local gateway route table virtual interface group association.

Type: Array of TagSpecification objects

Required: No
Response Elements

The following elements are returned by the service.

**localGatewayRouteTableVirtualInterfaceGroupAssociation**

Information about the local gateway route table virtual interface group association.

Type: `LocalGatewayRouteTableVirtualInterfaceGroupAssociation` object

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateLocalGatewayRouteTableVpcAssociation

Associates the specified VPC with the specified local gateway route table.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**LocalGatewayRouteTableId**

The ID of the local gateway route table.

Type: String

Required: Yes

**TagSpecification.N**

The tags to assign to the local gateway route table VPC association.

Type: Array of [TagSpecification](#) objects

Required: No

**VpcId**

The ID of the VPC.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

**localGatewayRouteTableVpcAssociation**

Information about the association.

Type: [LocalGatewayRouteTableVpcAssociation object](#)

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateManagedPrefixList

Creates a managed prefix list. You can specify one or more entries for the prefix list. Each entry consists of a CIDR block and an optional description.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**AddressFamily**

The IP address type.

Valid Values: IPv4 | IPv6

Type: String

Required: Yes

**ClientToken**

Unique, case-sensitive identifier you provide to ensure the idempotency of the request. For more information, see Ensuring Idempotency.

Constraints: Up to 255 UTF-8 characters in length.

Type: String

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Entry.N**

One or more entries for the prefix list.
Type: Array of **AddPrefixListEntry** objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

**MaxEntries**

The maximum number of entries for the prefix list.

Type: Integer

Required: Yes

**PrefixListName**

A name for the prefix list.

Constraints: Up to 255 characters in length. The name cannot start with com.amazonaws.

Type: String

Required: Yes

**TagSpecification.N**

The tags to apply to the prefix list during creation.

Type: Array of **TagSpecification** objects

Required: No

**Response Elements**

The following elements are returned by the service.

**prefixList**

Information about the prefix list.

Type: **ManagedPrefixList** object

**requestId**

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example creates a managed prefix list with a maximum of 10 entries, and adds 2 entries. The prefix list support IPv4 CIDR blocks.

Sample Request

https://ec2.amazonaws.com/?Action=CreateManagedPrefixList
&PrefixListName=tgw-attachments
&Entry.1.Cidr=10.0.0.0/16
&Entry.1.Description=vpc-a
&Entry.2.Cidr=10.2.0.0/16
&Entry.2.Description=vpc-b
&MaxEntries=10
&AddressFamily=IPv4
&AUTHPARAMS

Sample Response

<CreateManagedPrefixListResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>2989de6e-5305-49c7-809a-example</requestId>
  <prefixList>
    <addressFamily>IPv4</addressFamily>
    <maxEntries>10</maxEntries>
    <ownerId>123456789012</ownerId>
    <prefixListArn>arn:aws:ec2:us-east-1:123456789012:prefix-list/pl-0123123123123abcd</prefixListArn>
    <prefixListId>pl-0123123123123abcd</prefixListId>
    <prefixListName>tgw-attachments</prefixListName>
    <state>create-in-progress</state>
    <tagSet/>
    <version>1</version>
  </prefixList>
</CreateManagedPrefixListResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateNatGateway

Creates a NAT gateway in the specified subnet. This action creates a network interface in the specified subnet with a private IP address from the IP address range of the subnet. You can create either a public NAT gateway or a private NAT gateway.

With a public NAT gateway, internet-bound traffic from a private subnet can be routed to the NAT gateway, so that instances in a private subnet can connect to the internet.

With a private NAT gateway, private communication is routed across VPCs and on-premises networks through a transit gateway or virtual private gateway. Common use cases include running large workloads behind a small pool of allowlisted IPv4 addresses, preserving private IPv4 addresses, and communicating between overlapping networks.

For more information, see NAT gateways in the Amazon VPC User Guide.

⚠️ Important

When you create a public NAT gateway and assign it an EIP or secondary EIPs, the network border group of the EIPs must match the network border group of the Availability Zone (AZ) that the public NAT gateway is in. If it's not the same, the NAT gateway will fail to launch. You can see the network border group for the subnet's AZ by viewing the details of the subnet. Similarly, you can view the network border group of an EIP by viewing the details of the EIP address. For more information about network border groups and EIPs, see Allocate an Elastic IP address in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AllocationId

[Public NAT gateways only] The allocation ID of an Elastic IP address to associate with the NAT gateway. You cannot specify an Elastic IP address with a private NAT gateway. If the Elastic IP address is associated with another resource, you must first disassociate it.

Type: String
Required: No

**ClientToken**

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see [How to ensure idempotency](#).

Constraint: Maximum 64 ASCII characters.

Type: String

Required: No

**ConnectivityType**

Indicates whether the NAT gateway supports public or private connectivity. The default is public connectivity.

Type: String

Valid Values: private | public

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**PrivateIpAddress**

The private IPv4 address to assign to the NAT gateway. If you don't provide an address, a private IPv4 address will be automatically assigned.

Type: String

Required: No

**SecondaryAllocationId.N**

Secondary EIP allocation IDs. For more information, see [Create a NAT gateway](#) in the Amazon VPC User Guide.
SecondaryPrivateIpAddress.N

Secondary private IPv4 addresses. For more information about secondary addresses, see Create a NAT gateway in the Amazon VPC User Guide.

TagSpecification.N

The tags to assign to the NAT gateway.

Response Elements

The following elements are returned by the service.
clientToken

Unique, case-sensitive identifier to ensure the idempotency of the request. Only returned if a client token was provided in the request.

Type: String

natGateway

Information about the NAT gateway.

Type: NatGateway object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example creates a public NAT gateway in the specified subnet and associates the Elastic IP address with the specified allocation ID to the NAT gateway.

Sample Request

https://ec2.amazonaws.com/?Action=CreateNatGateway
&SubnetId=subnet-1234567890abcdef0
&AllocationId=eipalloc-0abcdef1234567890

Sample Response

  <requestId>1b74dc5c-bcda-403f-867d-example</requestId>
  <natGateway>
Example 2

This example creates a private NAT gateway in the specified subnet.

Sample Request

https://ec2.amazonaws.com/?Action=CreateNatGateway
&SubnetId=subnet-1234567890abcdef0
&ConnectivityType=private
&AUTHPARAMS

Sample Response

  <requestId>1b74dc5c-bcda-403f-867d-example</requestId>
  <natGateway>
    <subnetId>subnet-1234567890abcdef0</subnetId>
    <natGatewayAddressSet>
      <item>
        <networkInterfaceId>eni-1a2b3c4d5e6f78901</networkInterfaceId>
        <privateIp>10.0.1.26</privateIp>
      </item>
    </natGatewayAddressSet>
    <createTime>2021-06-05T14:00:55.416Z</createTime>
    <vpcId>vpc-0598c7d356eba48d7</vpcId>
    <natGatewayId>nat-04e77a5e9c34432f9</natGatewayId>
  </natGateway>
</CreateNatGatewayResponse>
<connectivityType>private</connectivityType>
<state>pending</state>
</natGateway>
</CreateNatGatewayResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateNetworkAcl

Creates a network ACL in a VPC. Network ACLs provide an optional layer of security (in addition to security groups) for the instances in your VPC.

For more information, see Network ACLs in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TagSpecification.N

The tags to assign to the network ACL.

Type: Array of TagSpecification objects

Required: No

VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
**networkAcl**

Information about the network ACL.

Type: `NetworkAcl` object

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example creates a network ACL in the specified IPv6-enabled VPC. The response includes default IPv4 and IPv6 entries for egress and ingress traffic, each with a high rule number. These are the last entries we process to decide whether traffic is allowed in or out of an associated subnet. If the traffic doesn't match any rules with a lower rule number, then these default entries ultimately deny the traffic.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=CreateNetworkAcl
&VpcId=vpc-11ad4878
&AUTHPARAMS
```

**Sample Response**

```
<CreateNetworkAclResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <networkAcl>
    <networkAclId>acl-5fb85d36</networkAclId>
    <vpcId>vpc-11ad4878</vpcId>
    <default>false</default>
  </entrySet>
</CreateNetworkAclResponse>
```
<ruleNumber>32767</ruleNumber>
<protocol>all</protocol>
<ruleAction>deny</ruleAction>
<egress>true</egress>
<cidrBlock>0.0.0.0/0</cidrBlock>
</item>

<item>
<ruleNumber>32767</ruleNumber>
<protocol>all</protocol>
<ruleAction>deny</ruleAction>
<egress>false</egress>
<cidrBlock>0.0.0.0/0</cidrBlock>
</item>

<item>
<ruleNumber>32768</ruleNumber>
<protocol>all</protocol>
<ruleAction>deny</ruleAction>
<egress>true</egress>
<ipv6CidrBlock>::/0</ipv6CidrBlock>
</item>

<item>
<ruleNumber>32768</ruleNumber>
<protocol>all</protocol>
<ruleAction>deny</ruleAction>
<egress>false</egress>
<ipv6CidrBlock>::/0</ipv6CidrBlock>
</item>
</entrySet>
<associationSet/>
<tagSet/>
</networkAcl>
</CreateNetworkAclResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateNetworkAclEntry

Creates an entry (a rule) in a network ACL with the specified rule number. Each network ACL has a set of numbered ingress rules and a separate set of numbered egress rules. When determining whether a packet should be allowed in or out of a subnet associated with the ACL, we process the entries in the ACL according to the rule numbers, in ascending order. Each network ACL has a set of ingress rules and a separate set of egress rules.

We recommend that you leave room between the rule numbers (for example, 100, 110, 120, ...), and not number them one right after the other (for example, 101, 102, 103, ...). This makes it easier to add a rule between existing ones without having to renumber the rules.

After you add an entry, you can't modify it; you must either replace it, or create an entry and delete the old one.

For more information about network ACLs, see Network ACLs in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CidrBlock

The IPv4 network range to allow or deny, in CIDR notation (for example 172.16.0.0/24). We modify the specified CIDR block to its canonical form; for example, if you specify 100.68.0.18/18, we modify it to 100.68.0.0/18.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
**Egress**

Indicates whether this is an egress rule (rule is applied to traffic leaving the subnet).

Type: Boolean

Required: Yes

**Icmp**

ICMP protocol: The ICMP or ICMPv6 type and code. Required if specifying protocol 1 (ICMP) or protocol 58 (ICMPv6) with an IPv6 CIDR block.

Type: IcmpTypeCode object

Required: No

**Ipv6CidrBlock**

The IPv6 network range to allow or deny, in CIDR notation (for example 2001:db8:1234:1a00::/64).

Type: String

Required: No

**NetworkAclId**

The ID of the network ACL.

Type: String

Required: Yes

**PortRange**

TCP or UDP protocols: The range of ports the rule applies to. Required if specifying protocol 6 (TCP) or 17 (UDP).

Type: PortRange object

Required: No

**Protocol**

The protocol number. A value of "-1" means all protocols. If you specify "-1" or a protocol number other than "6" (TCP), "17" (UDP), or "1" (ICMP), traffic on all ports is allowed, regardless
of any ports or ICMP types or codes that you specify. If you specify protocol "58" (ICMPv6) and specify an IPv4 CIDR block, traffic for all ICMP types and codes allowed, regardless of any that you specify. If you specify protocol "58" (ICMPv6) and specify an IPv6 CIDR block, you must specify an ICMP type and code.

Type: String

Required: Yes

**RuleAction**

Indicates whether to allow or deny the traffic that matches the rule.

Type: String

Valid Values: allow | deny

Required: Yes

**RuleNumber**

The rule number for the entry (for example, 100). ACL entries are processed in ascending order by rule number.

Constraints: Positive integer from 1 to 32766. The range 32767 to 65535 is reserved for internal use.

Type: Integer

Required: Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**return**

Is true if the request succeeds, and an error otherwise.
Type: Boolean

**Errors**

For information about the errors that are common to all actions, see Common client error codes.

**Examples**

**Example 1**

This example creates an entry with rule number 110 in the specified network ACL. The rule allows ingress traffic from any IPv4 address (0.0.0.0/0) on UDP port 53.

**Sample Request**

```xml
https://ec2.amazonaws.com/?Action=CreateNetworkAclEntry
&NetworkAclId=acl-2cb85d45
&RuleNumber=110
&Protocol="17"
&RuleAction=allow
&Egress=false
&CidrBlock=0.0.0.0/0
&PortRange.From=53
&PortRange.To=53

AUTHPARAMS
```

**Sample Response**

```xml
<CreateNetworkAclEntryResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</CreateNetworkAclEntryResponse>
```

**Example 2**

This example creates an entry with rule number 120 in the specified network ACL. The rule allows ingress traffic from any IPv6 address (:/0) on TCP port 80.

**Sample Request**

```xml
https://ec2.amazonaws.com/?Action=CreateNetworkAclEntry
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateNetworkInsightsAccessScope

Creates a Network Access Scope.

AWS Network Access Analyzer enables cloud networking and cloud operations teams to verify that their networks on AWS conform to their network security and governance objectives. For more information, see the AWS Network Access Analyzer Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to ensure idempotency.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ExcludePath.N

The paths to exclude.

Type: Array of AccessScopePathRequest objects

Required: No

MatchPath.N

The paths to match.
Type: Array of `AccessScopePathRequest` objects

Required: No

**TagSpecification.N**

The tags to apply.

Type: Array of `TagSpecification` objects

Required: No

**Response Elements**

The following elements are returned by the service.

**networkInsightsAccessScope**

The Network Access Scope.

Type: `NetworkInsightsAccessScope` object

**networkInsightsAccessScopeContent**

The Network Access Scope content.

Type: `NetworkInsightsAccessScopeContent` object

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CreateNetworkInsightsPath

Creates a path to analyze for reachability.

Reachability Analyzer enables you to analyze and debug network reachability between two resources in your virtual private cloud (VPC). For more information, see the Reachability Analyzer Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to ensure idempotency.

Type: String

Required: Yes

Destination

The ID or ARN of the destination. If the resource is in another account, you must specify an ARN.

Type: String

Required: No

DestinationIp

The IP address of the destination.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 15.

Pattern: ^([0-9]{1,3}\.){3}[0-9]{1,3}$

Required: No

DestinationPort

The destination port.
<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type: Integer</td>
<td></td>
<td>Valid Range: Minimum value of 0. Maximum value of 65535. Required: No</td>
</tr>
<tr>
<td>DryRun</td>
<td>Boolean</td>
<td>Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation. Required: No</td>
</tr>
<tr>
<td>FilterAtDestination</td>
<td>PathRequestFilter object</td>
<td>Scopes the analysis to network paths that match specific filters at the destination. If you specify this parameter, you can't specify the parameter for the destination IP address. Required: No</td>
</tr>
<tr>
<td>FilterAtSource</td>
<td>PathRequestFilter object</td>
<td>Scopes the analysis to network paths that match specific filters at the source. If you specify this parameter, you can't specify the parameters for the source IP address or the destination port. Required: No</td>
</tr>
<tr>
<td>Protocol</td>
<td>String</td>
<td>The protocol. Valid Values: tcp</td>
</tr>
<tr>
<td>Source</td>
<td></td>
<td>The ID or ARN of the source. If the resource is in another account, you must specify an ARN.</td>
</tr>
</tbody>
</table>
Type: String
Required: Yes

**SourceIp**

The IP address of the source.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 15.

Pattern: ^([0-9]{1,3}\.){3}[0-9]{1,3}$

Required: No

**TagSpecification.N**

The tags to add to the path.

Type: Array of `TagSpecification` objects

Required: No

**Response Elements**

The following elements are returned by the service.

**networkInsightsPath**

Information about the path.

Type: `NetworkInsightsPath` object

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateNetworkInterface

Creates a network interface in the specified subnet.

The number of IP addresses you can assign to a network interface varies by instance type. For more information, see IP Addresses Per ENI Per Instance Type in the Amazon Virtual Private Cloud User Guide.

For more information about network interfaces, see Elastic network interfaces in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see Ensuring Idempotency.

Type: String

Required: No

ConnectionTrackingSpecification

A connection tracking specification for the network interface.

Type: ConnectionTrackingSpecificationRequest object

Required: No

Description

A description for the network interface.

Type: String

Required: No
DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

EnablePrimaryIpv6

If you're creating a network interface in a dual-stack or IPv6-only subnet, you have the option to assign a primary IPv6 IP address. A primary IPv6 address is an IPv6 GUA address associated with an ENI that you have enabled to use a primary IPv6 address. Use this option if the instance that this ENI will be attached to relies on its IPv6 address not changing. AWS will automatically assign an IPv6 address associated with the ENI attached to your instance to be the primary IPv6 address. Once you enable an IPv6 GUA address to be a primary IPv6, you cannot disable it. When you enable an IPv6 GUA address to be a primary IPv6, the first IPv6 GUA will be made the primary IPv6 address until the instance is terminated or the network interface is detached. If you have multiple IPv6 addresses associated with an ENI attached to your instance and you enable a primary IPv6 address, the first IPv6 GUA address associated with the ENI becomes the primary IPv6 address.

Type: Boolean

Required: No

InterfaceType

The type of network interface. The default is interface.

Type: String

Valid Values: interface | efa | trunk

Required: No

Ipv4Prefix.N

The IPv4 prefixes assigned to the network interface.

You can't specify IPv4 prefixes if you've specified one of the following: a count of IPv4 prefixes, specific private IPv4 addresses, or a count of private IPv4 addresses.
Type: Array of `Ipv4PrefixSpecificationRequest` objects

Required: No

**Ipv4PrefixCount**

The number of IPv4 prefixes that AWS automatically assigns to the network interface.

You can't specify a count of IPv4 prefixes if you've specified one of the following: specific IPv4 prefixes, specific private IPv4 addresses, or a count of private IPv4 addresses.

Type: Integer

Required: No

**Ipv6AddressCount**

The number of IPv6 addresses to assign to a network interface. Amazon EC2 automatically selects the IPv6 addresses from the subnet range.

You can't specify a count of IPv6 addresses using this parameter if you've specified one of the following: specific IPv6 addresses, specific IPv6 prefixes, or a count of IPv6 prefixes.

If your subnet has the `AssignIpv6AddressOnCreation` attribute set, you can override that setting by specifying 0 as the IPv6 address count.

Type: Integer

Required: No

**Ipv6Addresses.N**

The IPv6 addresses from the IPv6 CIDR block range of your subnet.

You can't specify IPv6 addresses using this parameter if you've specified one of the following: a count of IPv6 addresses, specific IPv6 prefixes, or a count of IPv6 prefixes.

Type: Array of `InstanceIpv6Address` objects

Required: No

**Ipv6Prefix.N**

The IPv6 prefixes assigned to the network interface.

You can't specify IPv6 prefixes if you've specified one of the following: a count of IPv6 prefixes, specific IPv6 addresses, or a count of IPv6 addresses.
Type: Array of `Ipv6PrefixSpecificationRequest` objects

Required: No

**Ipv6PrefixCount**

The number of IPv6 prefixes that AWS automatically assigns to the network interface.

You can't specify a count of IPv6 prefixes if you've specified one of the following: specific IPv6 prefixes, specific IPv6 addresses, or a count of IPv6 addresses.

Type: Integer

Required: No

**PrivateIpAddress**

The primary private IPv4 address of the network interface. If you don't specify an IPv4 address, Amazon EC2 selects one for you from the subnet's IPv4 CIDR range. If you specify an IP address, you cannot indicate any IP addresses specified in `privateIpAddresses` as primary (only one IP address can be designated as primary).

Type: String

Required: No

**PrivateIpAddresses.N**

The private IPv4 addresses.

You can't specify private IPv4 addresses if you've specified one of the following: a count of private IPv4 addresses, specific IPv4 prefixes, or a count of IPv4 prefixes.

Type: Array of `PrivateIpAddressSpecification` objects

Required: No

**SecondaryPrivateIpAddressCount**

The number of secondary private IPv4 addresses to assign to a network interface. When you specify a number of secondary IPv4 addresses, Amazon EC2 selects these IP addresses within the subnet's IPv4 CIDR range. You can't specify this option and specify more than one private IP address using `privateIpAddresses`.

You can't specify a count of private IPv4 addresses if you've specified one of the following: specific private IPv4 addresses, specific IPv4 prefixes, or a count of IPv4 prefixes.
Type: Integer
Required: No

**SecurityGroupId.N**

The IDs of one or more security groups.

Type: Array of strings
Required: No

**SubnetId**

The ID of the subnet to associate with the network interface.

Type: String
Required: Yes

**TagSpecification.N**

The tags to apply to the new network interface.

Type: Array of [TagSpecification](#) objects
Required: No

### Response Elements

The following elements are returned by the service.

**clientToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

**networkInterface**

Information about the network interface.

Type: [NetworkInterface](#) object

**requestId**

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example creates a network interface in the specified subnet with a primary IPv4 address that is automatically selected by Amazon EC2.

Sample Request

https://ec2.amazonaws.com/?Action=CreateNetworkInterface
&SubnetId=subnet-b2a249da

Sample Response

  <requestId>8dbe591e-5a22-48cb-b948-example</requestId>
  <networkInterface>
    <networkInterfaceId>eni-cfca76a6</networkInterfaceId>
    <subnetId>subnet-b2a249da</subnetId>
    <vpcId>vpc-c31dafaa</vpcId>
    <availabilityZone>ap-southeast-1b</availabilityZone>
    <description/>
    <ownerId>251839141158</ownerId>
    <requesterManaged>false</requesterManaged>
    <status>available</status>
    <macAddress>02:74:b0:72:79:61</macAddress>
    <privateIpAddress>10.0.2.157</privateIpAddress>
    <privateDnsName>ip-10-0-2-157.ap-southeast-1.compute.internal</privateDnsName>
    <sourceDestCheck>true</sourceDestCheck>
    <groupSet>
      <item>
        <groupId>sg-1a2b3c4d</groupId>
        <groupName>default</groupName>
      </item>
    </groupSet>
  </networkInterface>
</CreateNetworkInterfaceResponse>
Example 2

This example creates a network interface in the specified subnet with a primary IPv4 address of 10.0.2.140 and four secondary private IPv4 addresses that are automatically selected by Amazon EC2.

Sample Request

https://ec2.amazonaws.com/?Action=CreateNetworkInterface
&PrivateIpAddresses.1.Primary=true
&PrivateIpAddresses.1.PrivateIpAddress=10.0.2.140
&SecondaryPrivateIpAddressCount=4
&SubnetId=subnet-a61dafcf
&AUTHPARAMS

Sample Response

  <requestId>bd78c839-0895-4fac-a17f-example</requestId>
  <networkInterface>
    <networkInterfaceId>eni-1bcb7772</networkInterfaceId>
    <subnetId>subnet-a61dafcf</subnetId>
    <vpcId>vpc-c31dafaf</vpcId>
    <availabilityZone>ap-southeast-1b</availabilityZone>
    <description/>
    <ownerId>251839141158</ownerId>
    <requesterManaged>false</requesterManaged>
    <status>pending</status>
    <macAddress>02:74:b0:70:7f:1a</macAddress>
</CreateNetworkInterfaceResponse>
Example 3

This example creates a network interface with a primary private IPv4 address of 10.0.2.130 and two secondary IPv4 addresses of 10.0.2.132 and 10.0.2.133.

Sample Request

https://ec2.amazonaws.com/?Action=CreateNetworkInterface
Example 4

This example creates a network interface with a primary private IPv4 address of 10.0.2.130 and two IPv6 addresses that are selected by Amazon EC2.

Sample Request

https://ec2.amazonaws.com/?Action=CreateNetworkInterface
&PrivateIpAddresses.1.Primary=true
&PrivateIpAddresses.1.PrivateIpAddress=10.0.2.130
&Ipv6AddressCount=2
&SubnetId=subnet-a61dafcf

Sample Response

  <requestId>a9565f4c-f928-4113-859b-example</requestId>
  <networkInterface>
    <networkInterfaceId>eni-41c47828</networkInterfaceId>
    <subnetId>subnet-a61dafcf</subnetId>
    <vpcId>vpc-c31dafaa</vpcId>
    <availabilityZone>ap-southeast-1b</availabilityZone>
    <description/>
    <ownerId>251839141158</ownerId>
    <requesterManaged>false</requesterManaged>
    <status>pending</status>
    <macAddress>02:74:b0:78:bf:ab</macAddress>
    <privateIpAddress>10.0.2.130</privateIpAddress>
    <sourceDestCheck>true</sourceDestCheck>
    <groupSet>
      <item>
        <groupId>sg-188d9f74</groupId>
      </item>
    </groupSet>
  </networkInterface>
</CreateNetworkInterfaceResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateNetworkInterfacePermission

Grants an AWS-authorized account permission to attach the specified network interface to an instance in their account.

You can grant permission to a single AWS account only, and only one account at a time.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**AwsAccountId**

The AWS account ID.

Type: String

Required: No

**AwsService**

The AWS service. Currently not supported.

Type: String

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**NetworkInterfaceId**

The ID of the network interface.

Type: String
Required: Yes

Permission

The type of permission to grant.

Type: String

Valid Values: INSTANCE-ATTACH | EIP-ASSOCIATE

Required: Yes

Response Elements

The following elements are returned by the service.

interfacePermission

Information about the permission for the network interface.

Type: NetworkInterfacePermission object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example grants permission to account 123456789012 to attach network interface eni-1a2b3c4d to an instance.

Sample Request

https://ec2.amazonaws.com/?Action=CreateNetworkInterfacePermission
&NetworkInterfaceId=eni-1a2b3c4d
&AwsAccountId=123456789012
&Permission=INSTANCE-ATTACH
&AUTHPARAMS

Sample Response

```xml
  <requestId>e9633d41-093e-4944-981b-ca7example</requestId>
  <interfacePermission>
    <awsAccountId>123456789012</awsAccountId>
    <networkInterfaceId>eni-1a2b3c4d</networkInterfaceId>
    <networkInterfacePermissionId>eni-perm-06fd19020ede149ea</networkInterfacePermissionId>
    <permission>INSTANCE-ATTACH</permission>
    <permissionState>
      <state>GRANTED</state>
    </permissionState>
  </interfacePermission>
</CreateNetworkInterfacePermissionResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreatePlacementGroup

Creates a placement group in which to launch instances. The strategy of the placement group determines how the instances are organized within the group.

A cluster placement group is a logical grouping of instances within a single Availability Zone that benefit from low network latency, high network throughput. A spread placement group places instances on distinct hardware. A partition placement group places groups of instances in different partitions, where instances in one partition do not share the same hardware with instances in another partition.

For more information, see Placement groups in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**GroupName**

A name for the placement group. Must be unique within the scope of your account for the Region.

Constraints: Up to 255 ASCII characters

Type: String

Required: No

**PartitionCount**

The number of partitions. Valid only when Strategy is set to partition.
Type: Integer
Required: No

**SpreadLevel**

Determines how placement groups spread instances.
- Host – You can use host only with Outpost placement groups.
- Rack – No usage restrictions.

Type: String
Valid Values: host | rack
Required: No

**Strategy**

The placement strategy.

Type: String
Valid Values: cluster | spread | partition
Required: No

**TagSpecification.N**

The tags to apply to the new placement group.

Type: Array of TagSpecification objects
Required: No

**Response Elements**

The following elements are returned by the service.

**placementGroup**

Information about the placement group.

Type: PlacementGroup object
requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example creates a cluster placement group named XYZ-cluster, and applies a tag with a key of purpose and a value of production.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreatePlacementGroup
&GroupName=XYZ-cluster
&Strategy=cluster
&TagSpecification.1.ResourceType=placement-group
&TagSpecification.1.Tag.1.Key=purpose
&TagSpecification.1.Tag.1.Value=production
```

Sample Response

```
  <requestId>1bbcaf48-7155-4154-a7ac-c6031EXAMPLE</requestId>
  <return>true</return>
  <placementGroup>
    <groupName>XYZ-cluster</groupName>
    <groupId>pg-0bea00ad0bexample</groupId>
    <strategy>cluster</strategy>
    <state>available</state>
    <tagSet>
      <item>
        <key>purpose</key>
        <value>production</value>
      </item>
    </tagSet>
  </placementGroup>
</CreatePlacementGroupResponse>
```
Example

This example creates a partition placement group named HDFS-Group-A with five partitions.

Sample Request

https://ec2.amazonaws.com/?Action=CreatePlacementGroup
&GroupName=HDFS-Group-A
&Strategy=partition
&PartitionCount=5
&AUTHPARAMS

Sample Response

  <requestId>1bbcaf48-7155-4154-a7ac-c6031EXAMPLE</requestId>
  <return>true</return>
  <placementGroup>
    <groupName>HDFS-Group-A</groupName>
    <groupId>pg-0fc13f6eb3example</groupId>
    <strategy>partition</strategy>
    <state>available</state>
    <partitionCount>5</partitionCount>
  </placementGroup>
</CreatePlacementGroupResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CreatePublicIpv4Pool

Creates a public IPv4 address pool. A public IPv4 pool is an EC2 IP address pool required for the public IPv4 CIDRs that you own and bring to AWS to manage with IPAM. IPv6 addresses you bring to AWS, however, use IPAM pools only. To monitor the status of pool creation, use DescribePublicIpv4Pools.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TagSpecification.N

The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.

Type: Array of TagSpecification objects

Required: No

Response Elements

The following elements are returned by the service.

poolId

The ID of the public IPv4 pool.
Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateReplaceRootVolumeTask

Replaces the EBS-backed root volume for a running instance with a new volume that is restored to the original root volume's launch state, that is restored to a specific snapshot taken from the original root volume, or that is restored from an AMI that has the same key characteristics as that of the instance.

For more information, see Replace a root volume in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier you provide to ensure the idempotency of the request. If you do not specify a client token, a randomly generated token is used for the request to ensure idempotency. For more information, see Ensuring idempotency.

Type: String

Required: No

DeleteReplacedRootVolume

Indicates whether to automatically delete the original root volume after the root volume replacement task completes. To delete the original root volume, specify true. If you choose to keep the original root volume after the replacement task completes, you must manually delete it when you no longer need it.

Type: Boolean

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
ImageId

The ID of the AMI to use to restore the root volume. The specified AMI must have the same product code, billing information, architecture type, and virtualization type as that of the instance.

If you want to restore the replacement volume from a specific snapshot, or if you want to restore it to its launch state, omit this parameter.

Type: String

Required: No

InstanceId

The ID of the instance for which to replace the root volume.

Type: String

Required: Yes

SnapshotId

The ID of the snapshot from which to restore the replacement root volume. The specified snapshot must be a snapshot that you previously created from the original root volume.

If you want to restore the replacement root volume to the initial launch state, or if you want to restore the replacement root volume from an AMI, omit this parameter.

Type: String

Required: No

TagSpecification.N

The tags to apply to the root volume replacement task.

Type: Array of TagSpecification objects

Required: No

Response Elements

The following elements are returned by the service.
replaceRootVolumeTask

Information about the root volume replacement task.

Type: ReplaceRootVolumeTask object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateReservedInstancesListing

Creates a listing for Amazon EC2 Standard Reserved Instances to be sold in the Reserved Instance Marketplace. You can submit one Standard Reserved Instance listing at a time. To get a list of your Standard Reserved Instances, you can use the DescribeReservedInstances operation.

Note
Only Standard Reserved Instances can be sold in the Reserved Instance Marketplace. Convertible Reserved Instances cannot be sold.

The Reserved Instance Marketplace matches sellers who want to resell Standard Reserved Instance capacity that they no longer need with buyers who want to purchase additional capacity. Reserved Instances bought and sold through the Reserved Instance Marketplace work like any other Reserved Instances.

To sell your Standard Reserved Instances, you must first register as a seller in the Reserved Instance Marketplace. After completing the registration process, you can create a Reserved Instance Marketplace listing of some or all of your Standard Reserved Instances, and specify the upfront price to receive for them. Your Standard Reserved Instance listings then become available for purchase. To view the details of your Standard Reserved Instance listing, you can use the DescribeReservedInstancesListings operation.

For more information, see Reserved Instance Marketplace in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier you provide to ensure idempotency of your listings. This helps avoid duplicate listings. For more information, see Ensuring Idempotency.

Type: String
Required: Yes
InstanceCount

The number of instances that are a part of a Reserved Instance account to be listed in the Reserved Instance Marketplace. This number should be less than or equal to the instance count associated with the Reserved Instance ID specified in this call.

Type: Integer

Required: Yes

PriceSchedules.

A list specifying the price of the Standard Reserved Instance for each month remaining in the Reserved Instance term.

Type: Array of PriceScheduleSpecification objects

Required: Yes

ReservedInstancesId

The ID of the active Standard Reserved Instance.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

describedInstancesListingsSet

Information about the Standard Reserved Instance listing.

Type: Array of ReservedInstancesListing objects
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example creates a Reserved Instance Marketplace listing from the specified Standard Reserved Instance, which has 11 months remaining in its term. In this example, we set the upfront price at $2.50, and the price drops over the course of the 11-month term if the instance is still not sold.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateReservedInstancesListing
&ClientToken=myIdempToken1
&InstanceCount=1
&PriceSchedules.1.Price=2.5
&PriceSchedules.1.Term=11
&PriceSchedules.2.Price=2.0
&PriceSchedules.2.Term=8
&PriceSchedules.3.Price=1.5
&PriceSchedules.3.Term=5
&PriceSchedules.4.Price=0.7
&PriceSchedules.4.Term=3
&PriceSchedules.5.Price=0.1
&PriceSchedules.5.Term=1
&ReservedInstancesId=e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE
&AUTHPARAMS
```

Sample Response

```
<CreateReservedInstancesListingResponse>
   <requestId>a42481af-355a-4e9e-b291-bd18deexample</requestId>
   <reservedInstancesListingsSet>
      <item>
         <reservedInstancesListingId>5ec28771-05ff-4b9b-aa31-9e57dEXAMPLE</reservedInstancesListingId>
         <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesId>
         <createDate>2012-07-17T17:11:09.449Z</createDate>
         <updateDate>2012-07-17T17:11:09.468Z</updateDate>
         <status>active</status>
      </item>
   </reservedInstancesListingsSet>
</CreateReservedInstancesListingResponse>
```
<statusMessage>ACTIVE</statusMessage>
<instanceCounts>
  <item>
    <state>Available</state>
    <instanceCount>1</instanceCount>
  </item>
  <item>
    <state>Sold</state>
    <instanceCount>0</instanceCount>
  </item>
  <item>
    <state>CANCELLED</state>
    <instanceCount>0</instanceCount>
  </item>
  <item>
    <state>PENDING</state>
    <instanceCount>0</instanceCount>
  </item>
</instanceCounts>
<priceSchedules>
  <item>
    <term>11</term>
    <price>2.5</price>
    <currencyCode>USD</currencyCode>
    <active>true</active>
  </item>
  <item>
    <term>10</term>
    <price>2.5</price>
    <currencyCode>USD</currencyCode>
    <active>false</active>
  </item>
  <item>
    <term>9</term>
    <price>2.5</price>
    <currencyCode>USD</currencyCode>
    <active>false</active>
  </item>
  <item>
    <term>8</term>
    <price>2.0</price>
    <currencyCode>USD</currencyCode>
    <active>false</active>
  </item>
</priceSchedules>
<item>
  <term>7</term>
  <price>2.0</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
<item>
  <term>6</term>
  <price>2.0</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
<item>
  <term>5</term>
  <price>1.5</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
<item>
  <term>4</term>
  <price>1.5</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
<item>
  <term>3</term>
  <price>0.7</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
<item>
  <term>2</term>
  <price>0.7</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
<item>
  <term>1</term>
  <price>0.1</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
</priceSchedules>
<tagSet/>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateRestoreImageTask

Starts a task that restores an AMI from an Amazon S3 object that was previously created by using CreateStoreImageTask.

To use this API, you must have the required permissions. For more information, see Permissions for storing and restoring AMIs using Amazon S3 in the Amazon EC2 User Guide.

For more information, see Store and restore an AMI using Amazon S3 in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Bucket

The name of the Amazon S3 bucket that contains the stored AMI object.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Name

The name for the restored AMI. The name must be unique for AMIs in the Region for this account. If you do not provide a name, the new AMI gets the same name as the original AMI.

Type: String

Required: No
**ObjectKey**

The name of the stored AMI object in the bucket.

Type: String

Required: Yes

**TagSpecification.N**

The tags to apply to the AMI and snapshots on restoration. You can tag the AMI, the snapshots, or both.

- To tag the AMI, the value for `ResourceType` must be `image`.
- To tag the snapshots, the value for `ResourceType` must be `snapshot`. The same tag is applied to all of the snapshots that are created.

Type: Array of `TagSpecification` objects

Required: No

**Response Elements**

The following elements are returned by the service.

**imageId**

The AMI ID.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateRoute

Creates a route in a route table within a VPC.

You must specify either a destination CIDR block or a prefix list ID. You must also specify exactly one of the resources from the parameter list.

When determining how to route traffic, we use the route with the most specific match. For example, traffic is destined for the IPv4 address 192.0.2.3, and the route table includes the following two IPv4 routes:

- 192.0.2.0/24 (goes to some target A)
- 192.0.2.0/28 (goes to some target B)

Both routes apply to the traffic destined for 192.0.2.3. However, the second route in the list covers a smaller number of IP addresses and is therefore more specific, so we use that route to determine where to target the traffic.

For more information about route tables, see Route tables in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CarrierGatewayId

The ID of the carrier gateway.

You can only use this option when the VPC contains a subnet which is associated with a Wavelength Zone.

Type: String

Required: No

CoreNetworkArn

The Amazon Resource Name (ARN) of the core network.

Type: String
Required: No

**DestinationCidrBlock**

The IPv4 CIDR address block used for the destination match. Routing decisions are based on the most specific match. We modify the specified CIDR block to its canonical form; for example, if you specify `100.68.0.18/18`, we modify it to `100.68.0.0/18`.

Type: String

Required: No

**DestinationIpv6CidrBlock**

The IPv6 CIDR block used for the destination match. Routing decisions are based on the most specific match.

Type: String

Required: No

**DestinationPrefixListId**

The ID of a prefix list used for the destination match.

Type: String

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**EgressOnlyInternetGatewayId**

[IPv6 traffic only] The ID of an egress-only internet gateway.

Type: String

Required: No
**GatewayId**

The ID of an internet gateway or virtual private gateway attached to your VPC.

Type: String

Required: No

**InstanceId**

The ID of a NAT instance in your VPC. The operation fails if you specify an instance ID unless exactly one network interface is attached.

Type: String

Required: No

**LocalGatewayId**

The ID of the local gateway.

Type: String

Required: No

**NatGatewayId**

[IPv4 traffic only] The ID of a NAT gateway.

Type: String

Required: No

**NetworkInterfaceId**

The ID of a network interface.

Type: String

Required: No

**RouteTableId**

The ID of the route table for the route.

Type: String
Required: Yes

**TransitGatewayId**

The ID of a transit gateway.

Type: String

Required: No

**VpcEndpointId**

The ID of a VPC endpoint. Supported for Gateway Load Balancer endpoints only.

Type: String

Required: No

**VpcPeeringConnectionId**

The ID of a VPC peering connection.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**return**

Returns `true` if the request succeeds; otherwise, it returns an error.

Type: Boolean

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
Examples

Example 1

This example creates a route in the route table with the ID rtb-1122334455667788a. The route matches all IPv4 traffic (0.0.0.0/0) and routes it to the internet gateway with the ID igw-eaad4883.

Sample Request

https://ec2.amazonaws.com/?Action=CreateRoute
&RouteTableId=rtb-1122334455667788a
&DestinationCidrBlock=0.0.0.0/0
&GatewayId=igw-eaad4883
&AUTHPARAMS

Example 2

This example creates a route in the route table with the ID rtb-1122334455667788a. The route sends all IPv4 traffic (0.0.0.0/0) to the NAT instance with the ID i-1234567890abcdef0.

Sample Request

https://ec2.amazonaws.com/?Action=CreateRoute
&RouteTableId=rtb-1122334455667788a
&DestinationCidrBlock=0.0.0.0/0
&InstanceId=i-1234567890abcdef0
&AUTHPARAMS

Example 3

This example creates a route in route table rtb-1122334455667788a. The route matches traffic for the IPv4 CIDR block 10.0.0.0/16 and routes it to VPC peering connection, pcx-111aaa22. This route enables IPv4 traffic to be directed to the other peered VPC in the VPC peering connection.

Sample Request

https://ec2.amazonaws.com/?Action=CreateRoute
&RouteTableId=rtb-1122334455667788a&DestinationCidrBlock=10.0.0.0/16
Example 4

This example creates a route in route table `rtb-1122334455667788a`. The route sends all IPv6 traffic `::/0` to an egress-only internet gateway.

Sample Request

```plaintext
https://ec2.amazonaws.com/?Action=CreateRoute
&RouteTableId=rtb-1122334455667788a
&DestinationIpv6CidrBlock=::/0
&EgressOnlyInternetGatewayId=eigw-1234567890abc1234
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateRouteTable

Creates a route table for the specified VPC. After you create a route table, you can add routes and associate the table with a subnet.

For more information, see Route tables in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

TagSpecification.N

The tags to assign to the route table.

Type: Array of TagSpecification objects
Required: No

VpcId

The ID of the VPC.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

routeTable

Information about the route table.

Type: RouteTable object

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example creates a route table for the VPC with the ID vpc-1122334455667788a. By default, every route table includes a local route that enables traffic to flow within the VPC. The following response shows that route.

Sample Request

https://ec2.amazonaws.com/?Action=CreateRouteTable
&VpcId=vpc-1122334455667788a
&AUTHPARAMS

Sample Response

<CreateRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <routeTable>
        <routeTableId>rtb-029e01e661a8fffd9</routeTableId>
        <vpcId>vpc-11ad4878</vpcId>
        <routeSet>
            <item>
                <destinationCidrBlock>10.0.0.0/22</destinationCidrBlock>
                <gatewayId>local</gatewayId>
                <state>active</state>
            </item>
        </routeSet>
    </routeTable>
</CreateRouteTableResponse>
Example 2

This example creates a route table for a VPC that has an associated IPv6 CIDR block. The route table includes a local route that enables IPv6 traffic to flow within the VPC.

Sample Request

https://ec2.amazonaws.com/?Action=CreateRouteTable
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS

Sample Response

<CreateRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <routeTable>
    <routeTableId>rtb-8bda6cef</routeTableId>
    <vpcId>vpc-1a2b3c4d</vpcId>
    <routeSet>
      <item>
        <destinationCidrBlock>10.0.0.0/16</destinationCidrBlock>
        <gatewayId>local</gatewayId>
        <state>active</state>
        <origin>CreateRouteTable</origin>
      </item>
      <item>
        <destinationIpv6CidrBlock>2001:db8:1234:1a00::/56</destinationIpv6CidrBlock>
        <gatewayId>local</gatewayId>
        <state>active</state>
        <origin>CreateRouteTable</origin>
      </item>
    </routeSet>
  </routeTable>
</CreateRouteTableResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateSecurityGroup

Creates a security group.

A security group acts as a virtual firewall for your instance to control inbound and outbound traffic. For more information, see Amazon EC2 security groups in the Amazon Elastic Compute Cloud User Guide and Security groups for your VPC in the Amazon Virtual Private Cloud User Guide.

When you create a security group, you specify a friendly name of your choice. You can’t have two security groups for the same VPC with the same name.

You have a default security group for use in your VPC. If you don’t specify a security group when you launch an instance, the instance is launched into the appropriate default security group. A default security group includes a default rule that grants instances unrestricted network access to each other.

You can add or remove rules from your security groups using AuthorizeSecurityGroupIngress, AuthorizeSecurityGroupEgress, RevokeSecurityGroupIngress, and RevokeSecurityGroupEgress.

For more information about VPC security group limits, see Amazon VPC Limits.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

GroupDescription

A description for the security group.

Constraints: Up to 255 characters in length

Valid characters: a-z, A-Z, 0-9, spaces, and _-/:@[]+=\;{}!*
Type: String
Required: Yes

**GroupName**

The name of the security group.

Constraints: Up to 255 characters in length. Cannot start with sg-.

Valid characters: a-z, A-Z, 0-9, spaces, and _-/:@#*=+$%

Type: String
Required: Yes

**TagSpecification.N**

The tags to assign to the security group.

Type: Array of TagSpecification objects

Required: No

**VpcId**

The ID of the VPC. Required for a nondefault VPC.

Type: String
Required: No

**Response Elements**

The following elements are returned by the service.

**groupId**

The ID of the security group.

Type: String

**requestId**

The ID of the request.
Type: String

tagSet

The tags assigned to the security group.

Type: Array of Tag objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example creates a security group named WebServerSG for the specified VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateSecurityGroup
&GroupName=WebServerSG
&GroupDescription=Web Servers
&VpcId=vpc-3325caf2

Sample Response

```
```xml
    <requestId>59dbff89-35bd-4ec9-99ed-be587EXAMPLE</requestId>
    <return>true</return>
    <groupId>sg-0a42d66a</groupId>
</CreateSecurityGroupResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CreateSnapshot

Creates a snapshot of an EBS volume and stores it in Amazon S3. You can use snapshots for backups, to make copies of EBS volumes, and to save data before shutting down an instance.

You can create snapshots of volumes in a Region and volumes on an Outpost. If you create a snapshot of a volume in a Region, the snapshot must be stored in the same Region as the volume. If you create a snapshot of a volume on an Outpost, the snapshot can be stored on the same Outpost as the volume, or in the Region for that Outpost.

When a snapshot is created, any AWS Marketplace product codes that are associated with the source volume are propagated to the snapshot.

You can take a snapshot of an attached volume that is in use. However, snapshots only capture data that has been written to your Amazon EBS volume at the time the snapshot command is issued; this might exclude any data that has been cached by any applications or the operating system. If you can pause any file systems on the volume long enough to take a snapshot, your snapshot should be complete. However, if you cannot pause all file writes to the volume, you should unmount the volume from within the instance, issue the snapshot command, and then remount the volume to ensure a consistent and complete snapshot. You may remount and use your volume while the snapshot status is pending.

When you create a snapshot for an EBS volume that serves as a root device, we recommend that you stop the instance before taking the snapshot.

Snapshots that are taken from encrypted volumes are automatically encrypted. Volumes that are created from encrypted snapshots are also automatically encrypted. Your encrypted volumes and any associated snapshots always remain protected.

You can tag your snapshots during creation. For more information, see Tag your Amazon EC2 resources in the Amazon Elastic Compute Cloud User Guide.

For more information, see Amazon Elastic Block Store and Amazon EBS encryption in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.
Description

A description for the snapshot.

Type: String

Required: No

DryRun

 Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

OutpostArn

The Amazon Resource Name (ARN) of the Outpost on which to create a local snapshot.

- To create a snapshot of a volume in a Region, omit this parameter. The snapshot is created in the same Region as the volume.
- To create a snapshot of a volume on an Outpost and store the snapshot in the Region, omit this parameter. The snapshot is created in the Region for the Outpost.
- To create a snapshot of a volume on an Outpost and store the snapshot on an Outpost, specify the ARN of the destination Outpost. The snapshot must be created on the same Outpost as the volume.

For more information, see Create local snapshots from volumes on an Outpost in the Amazon Elastic Compute Cloud User Guide.

Type: String

Required: No

TagSpecification.N

The tags to apply to the snapshot during creation.

Type: Array of TagSpecification objects

Required: No
**VolumeId**

The ID of the Amazon EBS volume.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**dataEncryptionKeyId**

The data encryption key identifier for the snapshot. This value is a unique identifier that corresponds to the data encryption key that was used to encrypt the original volume or snapshot copy. Because data encryption keys are inherited by volumes created from snapshots, and vice versa, if snapshots share the same data encryption key identifier, then they belong to the same volume/snapshot lineage. This parameter is only returned by `DescribeSnapshots`.

Type: String

description

The description for the snapshot.

Type: String

encrypted

Indicates whether the snapshot is encrypted.

Type: Boolean

kmsKeyId

The Amazon Resource Name (ARN) of the AWS Key Management Service (AWS KMS) KMS key that was used to protect the volume encryption key for the parent volume.

Type: String

outpostArn

The ARN of the Outpost on which the snapshot is stored. For more information, see [Amazon EBS local snapshots on Outposts](https://docs.aws.amazon.com/AmazonEBS/UserGuide/ebs-outpost-overview.html) in the *Amazon Elastic Compute Cloud User Guide*. 
**ownerAlias**

The AWS owner alias, from an Amazon-maintained list (amazon). This is not the user-configured AWS account alias set using the IAM console.

Type: String

**ownerId**

The ID of the AWS account that owns the EBS snapshot.

Type: String

**progress**

The progress of the snapshot, as a percentage.

Type: String

**requestId**

The ID of the request.

Type: String

**restoreExpiryTime**

Only for archived snapshots that are temporarily restored. Indicates the date and time when a temporarily restored snapshot will be automatically re-archived.

Type: Timestamp

**snapshotId**

The ID of the snapshot. Each snapshot receives a unique identifier when it is created.

Type: String

**sseType**

Reserved for future use.

Type: String

Valid Values: sse-ebs | sse-kms | none
**startTime**

The time stamp when the snapshot was initiated.

Type: Timestamp

**status**

The snapshot state.

Type: String

Valid Values: pending | completed | error | recoverable | recovering

**statusMessage**

Encrypted Amazon EBS snapshots are copied asynchronously. If a snapshot copy operation fails (for example, if the proper AWS Key Management Service (AWS KMS) permissions are not obtained) this field displays error state details to help you diagnose why the error occurred. This parameter is only returned by [DescribeSnapshots](https://docs.aws.amazon.com/AWSEC2/latest/APIReference/API_DescribeSnapshots.html).

Type: String

**storageTier**

The storage tier in which the snapshot is stored. **standard** indicates that the snapshot is stored in the standard snapshot storage tier and that it is ready for use. **archive** indicates that the snapshot is currently archived and that it must be restored before it can be used.

Type: String

Valid Values: archive | standard

**tagSet**

Any tags assigned to the snapshot.

Type: Array of [Tag](https://docs.aws.amazon.com/AWSEC2/latest/APIReference/Tagging.html) objects

**volumeId**

The ID of the volume that was used to create the snapshot. Snapshots created by the [CopySnapshot](https://docs.aws.amazon.com/AWSEC2/latest/APIReference/API_CopySnapshot.html) action have an arbitrary volume ID that should not be used for any purpose.

Type: String
**volumeSize**

The size of the volume, in GiB.

Type: Integer

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example creates a snapshot of the volume with the ID `vol-1234567890abcdef0`.

**Sample Request**

```plaintext
https://ec2.amazonaws.com/?Action=CreateSnapshot
&VolumeId=vol-1234567890abcdef0
&Description=Daily+Backup

AUTHPARAMS
```

**Sample Response**

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <snapshotId>snap-1234567890abcdef0</snapshotId>
  <volumeId>vol-1234567890abcdef0</volumeId>
  <status>pending</status>
  <startTime>YYYY-MM-DDTHH:MM:SS.000Z</startTime>
  <progress>60%</progress>
  <ownerId>111122223333</ownerId>
  <volumeSize>30</volumeSize>
  <description>Daily Backup</description>
</CreateSnapshotResponse>
```

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateSnapshots

Creates crash-consistent snapshots of multiple EBS volumes and stores the data in S3. Volumes are chosen by specifying an instance. Any attached volumes will produce one snapshot each that is crash-consistent across the instance.

You can include all of the volumes currently attached to the instance, or you can exclude the root volume or specific data (non-root) volumes from the multi-volume snapshot set.

You can create multi-volume snapshots of instances in a Region and instances on an Outpost. If you create snapshots from an instance in a Region, the snapshots must be stored in the same Region as the instance. If you create snapshots from an instance on an Outpost, the snapshots can be stored on the same Outpost as the instance, or in the Region for that Outpost.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CopyTagsFromSource

Copies the tags from the specified volume to corresponding snapshot.

Type: String

Valid Values: volume

Required: No

Description

A description propagated to every snapshot specified by the instance.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.
Type: Boolean
Required: No

**InstanceSpecification**

The instance to specify which volumes should be included in the snapshots.

Type: **InstanceSpecification** object
Required: Yes

**OutpostArn**

The Amazon Resource Name (ARN) of the Outpost on which to create the local snapshots.

- To create snapshots from an instance in a Region, omit this parameter. The snapshots are created in the same Region as the instance.
- To create snapshots from an instance on an Outpost and store the snapshots in the Region, omit this parameter. The snapshots are created in the Region for the Outpost.
- To create snapshots from an instance on an Outpost and store the snapshots on an Outpost, specify the ARN of the destination Outpost. The snapshots must be created on the same Outpost as the instance.

For more information, see [Create multi-volume local snapshots from instances on an Outpost](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/create-snapshot-outpost.html) in the *Amazon Elastic Compute Cloud User Guide*.

Type: String
Required: No

**TagSpecification.N**

Tags to apply to every snapshot specified by the instance.

Type: Array of **TagSpecification** objects
Required: No

**Response Elements**

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

snapshotSet

List of snapshots.

Type: Array of SnapshotInfo objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateSpotDatafeedSubscription

Creates a data feed for Spot Instances, enabling you to view Spot Instance usage logs. You can create one data feed per AWS account. For more information, see [Spot Instance data feed](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/SpotInstanceDataFeed.html) in the *Amazon EC2 User Guide for Linux Instances*.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/common-query-parameters.html).

**Bucket**

The name of the Amazon S3 bucket in which to store the Spot Instance data feed. For more information about bucket names, see [Rules for bucket naming](https://docs.aws.amazon.com/AmazonS3/latest/userguide/RulesForBucketNaming.html) in the *Amazon S3 Developer Guide*.

- **Type:** String
- **Required:** Yes

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is *DryRunOperation*. Otherwise, it is *UnauthorizedOperation*.

- **Type:** Boolean
- **Required:** No

**Prefix**

The prefix for the data feed file names.

- **Type:** String
- **Required:** No

**Response Elements**

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

spotDatafeedSubscription

The Spot Instance data feed subscription.

Type: SpotDatafeedSubscription object

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example creates a Spot Instance data feed for the account.

Sample Request

https://ec2.amazonaws.com/?Action=CreateSpotDatafeedSubscription
&Bucket=my-s3-bucket
&AUTHPARAMS

Sample Response

<CreateSpotDatafeedSubscriptionResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <spotDatafeedSubscription>
    <ownerId>123456789012</ownerId>
    <bucket>my-s3-bucket</bucket>
    <prefix>spotdata_</prefix>
    <state>Active</state>
  </spotDatafeedSubscription>
</CreateSpotDatafeedSubscriptionResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateStoreImageTask

Stores an AMI as a single object in an Amazon S3 bucket.

To use this API, you must have the required permissions. For more information, see Permissions for storing and restoring AMIs using Amazon S3 in the Amazon EC2 User Guide.

For more information, see Store and restore an AMI using Amazon S3 in the Amazon EC2 User Guide.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**Bucket**

The name of the Amazon S3 bucket in which the AMI object will be stored. The bucket must be in the Region in which the request is being made. The AMI object appears in the bucket only after the upload task has completed.

Type: String

Required: Yes

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**ImageId**

The ID of the AMI.

Type: String

Required: Yes
**S3ObjectTag.N**

The tags to apply to the AMI object that will be stored in the Amazon S3 bucket.

Type: Array of [S3ObjectTag](#) objects

Required: No

**Response Elements**

The following elements are returned by the service.

- **objectKey**
  
  The name of the stored AMI object in the S3 bucket.

  Type: String

- **requestId**
  
  The ID of the request.

  Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
See Also

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateSubnet

Creates a subnet in the specified VPC. For an IPv4 only subnet, specify an IPv4 CIDR block. If the VPC has an IPv6 CIDR block, you can create an IPv6 only subnet or a dual stack subnet instead. For an IPv6 only subnet, specify an IPv6 CIDR block. For a dual stack subnet, specify both an IPv4 CIDR block and an IPv6 CIDR block.

A subnet CIDR block must not overlap the CIDR block of an existing subnet in the VPC. After you create a subnet, you can't change its CIDR block.

The allowed size for an IPv4 subnet is between a /28 netmask (16 IP addresses) and a /16 netmask (65,536 IP addresses). AWS reserves both the first four and the last IPv4 address in each subnet's CIDR block. They're not available for your use.

If you've associated an IPv6 CIDR block with your VPC, you can associate an IPv6 CIDR block with a subnet when you create it.

If you add more than one subnet to a VPC, they're set up in a star topology with a logical router in the middle.

When you stop an instance in a subnet, it retains its private IPv4 address. It's therefore possible to have a subnet with no running instances (they're all stopped), but no remaining IP addresses available.

For more information, see Subnets in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AvailabilityZone

The Availability Zone or Local Zone for the subnet.

Default: AWS selects one for you. If you create more than one subnet in your VPC, we do not necessarily select a different zone for each subnet.

To create a subnet in a Local Zone, set this value to the Local Zone ID, for example us-west-2-1ax-1a. For information about the Regions that support Local Zones, see Local Zones locations.
To create a subnet in an Outpost, set this value to the Availability Zone for the Outpost and specify the Outpost ARN.

Type: String
Required: No

**AvailabilityZoneId**

The AZ ID or the Local Zone ID of the subnet.

Type: String
Required: No

**CidrBlock**

The IPv4 network range for the subnet, in CIDR notation. For example, 10.0.0.0/24. We modify the specified CIDR block to its canonical form; for example, if you specify 100.68.0.18/18, we modify it to 100.68.0.0/18.

This parameter is not supported for an IPv6 only subnet.

Type: String
Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

**Ipv4IpamPoolId**

An IPv4 IPAM pool ID for the subnet.

Type: String
Required: No

**Ipv4NetmaskLength**

An IPv4 netmask length for the subnet.
Type: Integer
Required: No

**Ipv6CidrBlock**

The IPv6 network range for the subnet, in CIDR notation. This parameter is required for an IPv6 only subnet.

Type: String
Required: No

**Ipv6IpamPoolId**

An IPv6 IPAM pool ID for the subnet.

Type: String
Required: No

**Ipv6Native**

Indicates whether to create an IPv6 only subnet.

Type: Boolean
Required: No

**Ipv6NetmaskLength**

An IPv6 netmask length for the subnet.

Type: Integer
Required: No

**OutpostArn**

The Amazon Resource Name (ARN) of the Outpost. If you specify an Outpost ARN, you must also specify the Availability Zone of the Outpost subnet.

Type: String
Required: No

**TagSpecification.N**

The tags to assign to the subnet.
Type: Array of **TagSpecification** objects

Required: No

**VpcId**

The ID of the VPC.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**subnet**

Information about the subnet.

Type: **Subnet** object

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example 1**

This example creates a subnet with CIDR block 10.0.1.0/24 in the VPC with the ID vpc-1a2b3c4d.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=CreateSubnet
&VpcId=vpc-1a2b3c4d
```
Sample Response

```
<CreateSubnetResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>e6cb93f0-eb09-40ee-b9aa-16db90a0524f</requestId>
  <subnet>
    <subnetId>subnet-0397b6c47c42e4dc0</subnetId>
    <state>pending</state>
    <ownerId>111122223333</ownerId>
    <vpcId>vpc-06b7830650EXAMPLE</vpcId>
    <cidrBlock>10.0.0.0/24</cidrBlock>
    <ipv6CidrBlockAssociationSet/>
    <availableIpAddressCount>251</availableIpAddressCount>
    <availabilityZone>us-east-2a</availabilityZone>
    <availabilityZoneId>use2-az1</availabilityZoneId>
    <defaultForAz>false</defaultForAz>
    <mapPublicIpOnLaunch>false</mapPublicIpOnLaunch>
    <assignIpv6AddressOnCreation>false</assignIpv6AddressOnCreation>
  </subnet>
</CreateSubnetResponse>
```

Example 2

This example creates a subnet with an IPv6 CIDR block in the VPC vpc-1a2b3c4d.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateSubnet
&VpcId=vpc-07e8fffd50fEXAMPLE
&CidrBlock=10.0.1.0/24
&Ipv6CidrBlock=2600:1f16:115:200::/64
&AUTHPARAMS
```

Sample Response

```
<CreateSubnetResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <subnet>
```

Example 3

This example creates a subnet with an IPv6 CIDR block in the specified Local Zone.

Sample Request

https://ec2.amazonaws.com/?Action=CreateSubnet
&VpcId=vpc-07e8fffd50fEXAMPLE
&CidrBlock=10.0.0.0/24
&Ipv6CidrBlock=2600:1f16:115:200::/64
&AvailabilityZone=us-west-2-lax-1a
&AUTHPARAMS

Sample Response

<CreateSubnetResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <subnet>
    <subnetId>subnet-02bf4c428bEXAMPLE</subnetId>
    <state>available</state>
    <ownerId>111122223333</ownerId>
    <vpcId>vpc-07e8fffd50fEXAMPLE</vpcId>
    <cidrBlock>10.0.0.0/24</cidrBlock>
    <ipv6CidrBlockAssociationSet>
      <item>
        <ipv6CidrBlock>2600:1f16:115:200::/64</ipv6CidrBlock>
        <associationId>subnet-cidr-assoc-002afb9f3cEXAMPLE</associationId>
        <ipv6CidrBlockState>
          <state>associated</state>
        </ipv6CidrBlockState>
      </item>
    </ipv6CidrBlockAssociationSet>
    <availableIpAddressCount>251</availableIpAddressCount>
    <availabilityZone>us-east-2b</availabilityZone>
    <availabilityZoneId>use2-az2</availabilityZoneId>
    <defaultForAz>false</defaultForAz>
    <mapPublicIpOnLaunch>false</mapPublicIpOnLaunch>
    <assignIpv6AddressOnCreation>false</assignIpv6AddressOnCreation>
  </subnet>
</CreateSubnetResponse>
<subnetId>subnet-093cb4a1ecEXAMPLE</subnetId>

<state>available</state>
<ownerId>111122223333</ownerId>
<vpcId>vpc-07d80f9e1a43298172</vpcId>
<cidrBlock>10.0.0.0/24</cidrBlock>
<ipv6CidrBlockAssociationSet>
  <item>
    <ipv6CidrBlock>2600:1f16:115:200::/64</ipv6CidrBlock>
    <associationId>subnet-cidr-assoc-002af9f3cEXAMPLE</associationId>
    <ipv6CidrBlockState>
      <state>associated</state>
    </ipv6CidrBlockState>
  </item>
</ipv6CidrBlockAssociationSet>
<availableIpAddressCount>251</availableIpAddressCount>
<availabilityZone>us-west-2-lax-1a</availabilityZone>
<availabilityZoneId>usw2-lax1-az1</availabilityZoneId>
<defaultForAz>false</defaultForAz>
<mapPublicIpOnLaunch>false</mapPublicIpOnLaunch>
<assignIpv6AddressOnCreation>false</assignIpv6AddressOnCreation>
</subnet>
</CreateSubnetResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateSubnetCidrReservation

Creates a subnet CIDR reservation. For more information, see Subnet CIDR reservations in the Amazon Virtual Private Cloud User Guide and Assign prefixes to network interfaces in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Cidr

The IPv4 or IPV6 CIDR range to reserve.

Type: String

Required: Yes

Description

The description to assign to the subnet CIDR reservation.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ReservationType

The type of reservation. The reservation type determines how the reserved IP addresses are assigned to resources.

- prefix - AWS assigns the reserved IP addresses to network interfaces.
- **explicit** - You assign the reserved IP addresses to network interfaces.

  Type: String

  Valid Values: prefix | explicit

  Required: Yes

**SubnetId**

The ID of the subnet.

Type: String

Required: Yes

**TagSpecification.N**

The tags to assign to the subnet CIDR reservation.

Type: Array of [TagSpecification](#) objects

Required: No

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**subnetCidrReservation**

Information about the created subnet CIDR reservation.

Type: [SubnetCidrReservation](#) object

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateTags

Adds or overwrites only the specified tags for the specified Amazon EC2 resource or resources. When you specify an existing tag key, the value is overwritten with the new value. Each resource can have a maximum of 50 tags. Each tag consists of a key and optional value. Tag keys must be unique per resource.

For more information about tags, see Tag your Amazon EC2 resources in the Amazon Elastic Compute Cloud User Guide. For more information about creating IAM policies that control users' access to resources based on tags, see Supported resource-level permissions for Amazon EC2 API actions in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

- Type: Boolean
- Required: No

**ResourceId.N**

The IDs of the resources, separated by spaces.

- Constraints: Up to 1000 resource IDs. We recommend breaking up this request into smaller batches.

- Type: Array of strings
- Required: Yes

**Tag.N**

The tags. The value parameter is required, but if you don't want the tag to have a value, specify the parameter with no value, and we set the value to an empty string.
Type: Array of Tag objects

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example request adds (or overwrites) two tags for an AMI and an instance. One of the tags is a key (webserver), with no value (we set the value to an empty string). The other tag consists of a key (stack) and value (Production).

Sample Request

https://ec2.amazonaws.com/?Action=CreateTags
&ResourceId.1=ami-1a2b3c4d
&ResourceId.2=i-1234567890abcdef0
&Tag.1.Key=webserver
&Tag.1.Value=
&Tag.2.Key=stack
&Tag.2.Value=Production
Sample Response

```xml
<CreateTagsResponse
xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</CreateTagsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateTrafficMirrorFilter

Creates a Traffic Mirror filter.

A Traffic Mirror filter is a set of rules that defines the traffic to mirror.

By default, no traffic is mirrored. To mirror traffic, use CreateTrafficMirrorFilterRule to add Traffic Mirror rules to the filter. The rules you add define what traffic gets mirrored. You can also use ModifyTrafficMirrorFilterNetworkServices to mirror supported network services.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to ensure idempotency.

Type: String

Required: No

Description

The description of the Traffic Mirror filter.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TagSpecification.N

The tags to assign to a Traffic Mirror filter.
Type: Array of TagSpecification objects

Required: No

Response Elements

The following elements are returned by the service.

clientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to ensure idempotency.

Type: String

requestId

The ID of the request.

Type: String

trafficMirrorFilter

Information about the Traffic Mirror filter.

Type: TrafficMirrorFilter object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CreateTrafficMirrorFilterRule

Creates a Traffic Mirror filter rule.

A Traffic Mirror rule defines the Traffic Mirror source traffic to mirror.

You need the Traffic Mirror filter ID when you create the rule.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**ClientToken**

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to ensure idempotency.

Type: String

Required: No

**Description**

The description of the Traffic Mirror rule.

Type: String

Required: No

**DestinationCidrBlock**

The destination CIDR block to assign to the Traffic Mirror rule.

Type: String

Required: Yes

**DestinationPortRange**

The destination port range.

Type: TrafficMirrorPortRangeRequest object

Required: No
DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

Protocol

The protocol, for example UDP, to assign to the Traffic Mirror rule.

For information about the protocol value, see Protocol Numbers on the Internet Assigned Numbers Authority (IANA) website.

Type: Integer
Required: No

RuleAction

The action to take on the filtered traffic.

Type: String
Valid Values: accept | reject
Required: Yes

RuleNumber

The number of the Traffic Mirror rule. This number must be unique for each Traffic Mirror rule in a given direction. The rules are processed in ascending order by rule number.

Type: Integer
Required: Yes

SourceCidrBlock

The source CIDR block to assign to the Traffic Mirror rule.

Type: String
Required: Yes

**SourcePortRange**

The source port range.

Type: `TrafficMirrorPortRangeRequest` object

Required: No

**TrafficDirection**

The type of traffic.

Type: String

Valid Values: `ingress` | `egress`

Required: Yes

**TrafficMirrorFilterId**

The ID of the filter that this rule is associated with.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**clientToken**

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see [How to ensure idempotency](#).

Type: String

**requestId**

The ID of the request.

Type: String
trafficMirrorFilterRule

The Traffic Mirror rule.

Type: TrafficMirrorFilterRule object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateTrafficMirrorSession

Creates a Traffic Mirror session.

A Traffic Mirror session actively copies packets from a Traffic Mirror source to a Traffic Mirror target. Create a filter, and then assign it to the session to define a subset of the traffic to mirror, for example all TCP traffic.

The Traffic Mirror source and the Traffic Mirror target (monitoring appliances) can be in the same VPC, or in a different VPC connected via VPC peering or a transit gateway.

By default, no traffic is mirrored. Use CreateTrafficMirrorFilter to create filter rules that specify the traffic to mirror.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to ensure idempotency.

Type: String

Required: No

Description

The description of the Traffic Mirror session.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
**NetworkInterfaceId**

The ID of the source network interface.

Type: String

Required: Yes

**PacketLength**

The number of bytes in each packet to mirror. These are bytes after the VXLAN header. Do not specify this parameter when you want to mirror the entire packet. To mirror a subset of the packet, set this to the length (in bytes) that you want to mirror. For example, if you set this value to 100, then the first 100 bytes that meet the filter criteria are copied to the target.

If you do not want to mirror the entire packet, use the `PacketLength` parameter to specify the number of bytes in each packet to mirror.

For sessions with Network Load Balancer (NLB) Traffic Mirror targets the default `PacketLength` will be set to 8500. Valid values are 1-8500. Setting a `PacketLength` greater than 8500 will result in an error response.

Type: Integer

Required: No

**SessionNumber**

The session number determines the order in which sessions are evaluated when an interface is used by multiple sessions. The first session with a matching filter is the one that mirrors the packets.

Valid values are 1-32766.

Type: Integer

Required: Yes

**TagSpecification.N**

The tags to assign to a Traffic Mirror session.

Type: Array of `TagSpecification` objects
TrafficMirrorFilterId

The ID of the Traffic Mirror filter.

Type: String

Required: Yes

TrafficMirrorTargetId

The ID of the Traffic Mirror target.

Type: String

Required: Yes

VirtualNetworkId

The VXLAN ID for the Traffic Mirror session. For more information about the VXLAN protocol, see RFC 7348. If you do not specify a VirtualNetworkId, an account-wide unique id is chosen at random.

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

clientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to ensure idempotency.

Type: String

requestId

The ID of the request.

Type: String
trafficMirrorSession

Information about the Traffic Mirror session.

Type: TrafficMirrorSession object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateTrafficMirrorTarget

Creates a target for your Traffic Mirror session.

A Traffic Mirror target is the destination for mirrored traffic. The Traffic Mirror source and the Traffic Mirror target (monitoring appliances) can be in the same VPC, or in different VPCs connected via VPC peering or a transit gateway.

A Traffic Mirror target can be a network interface, a Network Load Balancer, or a Gateway Load Balancer endpoint.

To use the target in a Traffic Mirror session, use CreateTrafficMirrorSession.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to ensure idempotency.

Type: String

Required: No

Description

The description of the Traffic Mirror target.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

**GatewayLoadBalancerEndpointId**

The ID of the Gateway Load Balancer endpoint.

Type: String

Required: No

**NetworkInterfaceId**

The network interface ID that is associated with the target.

Type: String

Required: No

**NetworkLoadBalancerArn**

The Amazon Resource Name (ARN) of the Network Load Balancer that is associated with the target.

Type: String

Required: No

**TagSpecification.N**

The tags to assign to the Traffic Mirror target.

Type: Array of TagSpecification objects

Required: No

**Response Elements**

The following elements are returned by the service.

**clientToken**

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see [How to ensure idempotency](#).

Type: String
requestId

The ID of the request.

Type: String

trafficMirrorTarget

Information about the Traffic Mirror target.

Type: TrafficMirrorTarget object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateTransitGateway

Creates a transit gateway.

You can use a transit gateway to interconnect your virtual private clouds (VPC) and on-premises networks. After the transit gateway enters the available state, you can attach your VPCs and VPN connections to the transit gateway.

To attach your VPCs, use CreateTransitGatewayVpcAttachment.

To attach a VPN connection, use CreateCustomerGateway to create a customer gateway and specify the ID of the customer gateway and the ID of the transit gateway in a call to CreateVpnConnection.

When you create a transit gateway, we create a default transit gateway route table and use it as the default association route table and the default propagation route table. You can use CreateTransitGatewayRouteTable to create additional transit gateway route tables. If you disable automatic route propagation, we do not create a default transit gateway route table. You can use EnableTransitGatewayRouteTablePropagation to propagate routes from a resource attachment to a transit gateway route table. If you disable automatic associations, you can use AssociateTransitGatewayRouteTable to associate a resource attachment with a transit gateway route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Description

A description of the transit gateway.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.
Type: Boolean
Required: No

Options

The transit gateway options.

Type: TransitGatewayRequestOptions object
Required: No

TagSpecification.N

The tags to apply to the transit gateway.

Type: Array of TagSpecification objects
Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

transitGateway

Information about the transit gateway.

Type: TransitGateway object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CreateTransitGatewayConnect

Creates a Connect attachment from a specified transit gateway attachment. A Connect attachment is a GRE-based tunnel attachment that you can use to establish a connection between a transit gateway and an appliance.

A Connect attachment uses an existing VPC or AWS Direct Connect attachment as the underlying transport mechanism.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Options

The Connect attachment options.

Type: CreateTransitGatewayConnectRequestOptions object

Required: Yes

TagSpecification.N

The tags to apply to the Connect attachment.

Type: Array of TagSpecification objects

Required: No

TransportTransitGatewayAttachmentId

The ID of the transit gateway attachment. You can specify a VPC attachment or AWS Direct Connect attachment.
**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**transitGatewayConnect**

Information about the Connect attachment.

Type: TransitGatewayConnect object

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateTransitGatewayConnectPeer

Creates a Connect peer for a specified transit gateway Connect attachment between a transit gateway and an appliance.

The peer address and transit gateway address must be the same IP address family (IPv4 or IPv6).

For more information, see [Connect peers](#) in the Transit Gateways Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**BgpOptions**

The BGP options for the Connect peer.

Type: `TransitGatewayConnectRequestBgpOptions` object

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**InsideCidrBlocks.N**

The range of inside IP addresses that are used for BGP peering. You must specify a size /29 IPv4 CIDR block from the 169.254.0.0/16 range. The first address from the range must be configured on the appliance as the BGP IP address. You can also optionally specify a size /125 IPv6 CIDR block from the fd00::/8 range.

Type: Array of strings

Required: Yes
PeerAddress

The peer IP address (GRE outer IP address) on the appliance side of the Connect peer.

Type: String

Required: Yes

TagSpecification.N

The tags to apply to the Connect peer.

Type: Array of TagSpecification objects

Required: No

TransitGatewayAddress

The peer IP address (GRE outer IP address) on the transit gateway side of the Connect peer, which must be specified from a transit gateway CIDR block. If not specified, Amazon automatically assigns the first available IP address from the transit gateway CIDR block.

Type: String

Required: No

TransitGatewayAttachmentId

The ID of the Connect attachment.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String
transitGatewayConnectPeer

Information about the Connect peer.

Type: TransitGatewayConnectPeer object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateTransitGatewayMulticastDomain

Creates a multicast domain using the specified transit gateway.

The transit gateway must be in the available state before you create a domain. Use DescribeTransitGateways to see the state of transit gateway.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Options

The options for the transit gateway multicast domain.

Type: CreateTransitGatewayMulticastDomainRequestOptions object

Required: No

TagSpecification.N

The tags for the transit gateway multicast domain.

Type: Array of TagSpecification objects

Required: No

TransitGatewayId

The ID of the transit gateway.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

transitGatewayMulticastDomain

Information about the transit gateway multicast domain.

Type: TransitGatewayMulticastDomain object

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example creates a multicast domain for the specified transit gateway.

Sample Request

https://ec2.amazonaws.com/?Action=CreateTransitMulticastDomain
&TransitGatewayId=tgw-0d88d2d0d5EXAMPLE
&AUTHPARAMS

Sample Response

  <requestId>763fb04b-258f-4710-8f91-b202aEXAMPLE</requestId>
  <transitGatewayMulticastDomain>
    <creationTime>2019-11-20T22:02:03.000Z</creationTime>
  </transitGatewayMulticastDomain>
</CreateTransitGatewayMulticastDomainResponse>
<state>pending</state>
<transitGatewayId>tgw-0d88d2d0d5EXAMPLE</transitGatewayId>
<transitGatewayMulticastDomainId>tgw-mcast-domain-02bb79002EXAMPLE</transitGatewayMulticastDomainId>
</transitGatewayMulticastDomain>
</CreateTransitGatewayMulticastDomainResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateTransitGatewayPeeringAttachment

Requests a transit gateway peering attachment between the specified transit gateway (requester) and a peer transit gateway (accepter). The peer transit gateway can be in your account or a different AWS account.

After you create the peering attachment, the owner of the accepter transit gateway must accept the attachment request.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Options

Requests a transit gateway peering attachment.

Type: CreateTransitGatewayPeeringAttachmentRequestOptions object

Required: No

PeerAccountId

The ID of the AWS account that owns the peer transit gateway.

Type: String

Required: Yes

PeerRegion

The Region where the peer transit gateway is located.
Type: String

Required: Yes

**PeerTransitGatewayId**

The ID of the peer transit gateway with which to create the peering attachment.

Type: String

Required: Yes

**TagSpecification.N**

The tags to apply to the transit gateway peering attachment.

Type: Array of [TagSpecification](#) objects

Required: No

**TransitGatewayId**

The ID of the transit gateway.

Type: String

Required: Yes

### Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**transitGatewayPeeringAttachment**

The transit gateway peering attachment.

Type: [TransitGatewayPeeringAttachment](#) object
Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example creates a transit gateway peering attachment for the specified transit gateways. The accepter (peer) transit gateway is in the us-west-2 Region.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateTransitGatewayPeeringAttachment
&TransitGatewayId=tgw-11223344aabbcc112
&PeerTransitGatewayId=tgw-1234567890abc1234
&PeerAccountId=123456789012
&PeerRegion=us-west-2
&AUTHPARAMS
```

Sample Response

```
<CreateTransitGatewayPeeringAttachmentResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>701859fa-6a57-4e55-858c-e63example</requestId>
  <transitGatewayPeeringAttachment>
    <accepterTgwInfo>
      <ownerId>123456789012</ownerId>
      <region>us-west-2</region>
      <transitGatewayId>tgw-1234567890abc1234</transitGatewayId>
    </accepterTgwInfo>
    <creationTime>2019-11-11T11:36:30.000Z</creationTime>
    <requesterTgwInfo>
      <ownerId>123456789012</ownerId>
      <region>us-east-1</region>
      <transitGatewayId>tgw-11223344aabbcc112</transitGatewayId>
    </requesterTgwInfo>
    <state>initiatingRequest</state>
    <transitGatewayAttachmentId>tgw-attach-0a73702c5c7123123</transitGatewayAttachmentId>
  </transitGatewayPeeringAttachment>
</CreateTransitGatewayPeeringAttachmentResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateTransitGatewayPolicyTable

Creates a transit gateway policy table.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**TagSpecifications.N**

The tags specification for the transit gateway policy table created during the request.

Type: Array of [TagSpecification](#) objects

Required: No

**TransitGatewayId**

The ID of the transit gateway used for the policy table.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.
Type: String

transitGatewayPolicyTable

Describes the created transit gateway policy table.

Type: TransitGatewayPolicyTable object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateTransitGatewayPrefixListReference

Creates a reference (route) to a prefix list in a specified transit gateway route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Blackhole

Indicates whether to drop traffic that matches this route.

Type: Boolean

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

PrefixListId

The ID of the prefix list that is used for destination matches.

Type: String

Required: Yes

TransitGatewayAttachmentId

The ID of the attachment to which traffic is routed.

Type: String

Required: No

TransitGatewayRouteTableId

The ID of the transit gateway route table.
Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**transitGatewayPrefixListReference**

Information about the prefix list reference.

Type: TransitGatewayPrefixListReference object

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

**Example**

This example creates a reference to a prefix list in the specified transit gateway route table.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=CreateTransitGatewayPrefixListReference
&TransitGatewayRouteTableId=tgw-rtb-0f98a0a5d09abcabc
&PrefixListId=pl-001122334455aabbc
&TransitGatewayAttachmentId=tgw-attach-01234567abcabcabc
&AUTHPARAMS
```

**Sample Response**

```
```

Response Elements
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateTransitGatewayRoute

Creates a static route for the specified transit gateway route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Blackhole

Indicates whether to drop traffic that matches this route.

Type: Boolean

Required: No

DestinationCidrBlock

The CIDR range used for destination matches. Routing decisions are based on the most specific match.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TransitGatewayAttachmentId

The ID of the attachment.

Type: String

Required: No
TransitGatewayRouteTableId

The ID of the transit gateway route table.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

route

Information about the route.

Type: TransitGatewayRoute object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateTransitGatewayRouteTable

Creates a route table for the specified transit gateway.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TagSpecifications.N

The tags to apply to the transit gateway route table.

Type: Array of TagSpecification objects

Required: No

TransitGatewayId

The ID of the transit gateway.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String
transitGatewayRouteTable

Information about the transit gateway route table.

Type: TransitGatewayRouteTable object

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example creates a transit gateway route table for the specified transit gateway.

Sample Request

https://ec2.amazonaws.com/?Action=CreateTransitGatewayRouteTable
&TransitGatewayId=tgw-02f776b1a7EXAMPLE
&AUTHPARAMS

Sample Response

<CreateTransitGatewayRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>9c6751fa-a1ee-4006-92a8-c6cc1816a0f5</requestId>
  <transitGatewayRouteTable>
    <creationTime>2019-07-17T20:27:26.000Z</creationTime>
    <defaultAssociationRouteTable>false</defaultAssociationRouteTable>
    <defaultPropagationRouteTable>false</defaultPropagationRouteTable>
    <state>pending</state>
    <transitGatewayId>tgw-02f776b1a7EXAMPLE</transitGatewayId>
    <transitGatewayRouteTableId>tgw-rtb-0b6f6aaa01EXAMPLE</transitGatewayRouteTableId>
  </transitGatewayRouteTable>
</CreateTransitGatewayRouteTableResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CreateTransitGatewayRouteTableAnnouncement

Advertises a new transit gateway route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

PeeringAttachmentId

The ID of the peering attachment.

Type: String

Required: Yes

TagSpecification.N

The tags specifications applied to the transit gateway route table announcement.

Type: Array of TagSpecification objects

Required: No

TransitGatewayRouteTableId

The ID of the transit gateway route table.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

transitGatewayRouteTableAnnouncement

Provides details about the transit gateway route table announcement.

Type: TransitGatewayRouteTableAnnouncement object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateTransitGatewayVpcAttachment

Attaches the specified VPC to the specified transit gateway.

If you attach a VPC with a CIDR range that overlaps the CIDR range of a VPC that is already attached, the new VPC CIDR range is not propagated to the default propagation route table.

To send VPC traffic to an attached transit gateway, add a route to the VPC route table using CreateRoute.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Options

The VPC attachment options.

Type: CreateTransitGatewayVpcAttachmentRequestOptions object

Required: No

SubnetIds.N

The IDs of one or more subnets. You can specify only one subnet per Availability Zone. You must specify at least one subnet, but we recommend that you specify two subnets for better availability. The transit gateway uses one IP address from each specified subnet.

Type: Array of strings

Required: Yes
TagSpecifications.N

The tags to apply to the VPC attachment.

Type: Array of TagSpecification objects

Required: No

TransitGatewayId

The ID of the transit gateway.

Type: String

Required: Yes

VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

transitGatewayVpcAttachment

Information about the VPC attachment.

Type: TransitGatewayVpcAttachment object

Errors

For information about the errors that are common to all actions, see Common client error codes.
Examples

Example

This example creates a transit gateway VPC attachment for the specified transit gateway.

Sample Request

https://ec2.amazonaws.com/?Action=CreateTransitGatewayVpcAttachment
&TransitGatewayId=tgw-02f776b1a7EXAMPLE
&VpcID=vpc-0065acced4EXAMPLE
&SubnetIds.1=subnet-0187aff814EXAMPLE
&Options.DnsSupport=enable
&Options.Ipv6Support=disable
&AUTHPARAMS

Sample Response

  <requestId>374ab4fd-5cc5-9d98-93f5-034c80f67d79</requestId>
  <transitGatewayVpcAttachment>
    <creationTime>2019-07-17T16:04:27.000Z</creationTime>
    <options>
      <dnsSupport>enable</dnsSupport>
      <ipv6Support>disable</ipv6Support>
    </options>
    <state>pending</state>
    <subnetIds>
      <item>subnet-0187aff814EXAMPLE</item>
    </subnetIds>
    <transitGatewayAttachmentId>tgw-attach-0d2c54bdb3EXAMPLE</transitGatewayAttachmentId>
  </transitGatewayVpcAttachment>
</CreateTransitGatewayVpcAttachmentResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateVerifiedAccessEndpoint

An AWS Verified Access endpoint is where you define your application along with an optional endpoint-level access policy.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ApplicationDomain

The DNS name for users to reach your application.

Type: String

Required: Yes

AttachmentType

The type of attachment.

Type: String

Valid Values: vpc

Required: Yes

ClientToken

A unique, case-sensitive token that you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String

Required: No

Description

A description for the Verified Access endpoint.

Type: String

Required: No
**DomainCertificateArn**

The ARN of the public TLS/SSL certificate in AWS Certificate Manager to associate with the endpoint. The CN in the certificate must match the DNS name your end users will use to reach your application.

Type: String

Required: Yes

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**EndpointDomainPrefix**

A custom identifier that is prepended to the DNS name that is generated for the endpoint.

Type: String

Required: Yes

**EndpointType**

The type of Verified Access endpoint to create.

Type: String

Valid Values: `load-balancer` | `network-interface`

Required: Yes

**LoadBalancerOptions**

The load balancer details. This parameter is required if the endpoint type is `load-balancer`.

Type: [CreateVerifiedAccessEndpointLoadBalancerOptions](#) object

Required: No
NetworkInterfaceOptions

The network interface details. This parameter is required if the endpoint type is network-interface.

Type: CreateVerifiedAccessEndpointEniOptions object

Required: No

PolicyDocument

The Verified Access policy document.

Type: String

Required: No

SecurityGroupId.N

The IDs of the security groups to associate with the Verified Access endpoint. Required if AttachmentType is set to vpc.

Type: Array of strings

Required: No

SseSpecification

The options for server side encryption.

Type: VerifiedAccessSseSpecificationRequest object

Required: No

TagSpecification.N

The tags to assign to the Verified Access endpoint.

Type: Array of TagSpecification objects

Required: No

VerifiedAccessGroupId

The ID of the Verified Access group to associate the endpoint with.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**verifiedAccessEndpoint**

Details about the Verified Access endpoint.

Type: [VerifiedAccessEndpoint](#) object

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateVerifiedAccessGroup

An AWS Verified Access group is a collection of AWS Verified Access endpoints who's associated applications have similar security requirements. Each instance within a Verified Access group shares an Verified Access policy. For example, you can group all Verified Access instances associated with "sales" applications together and use one common Verified Access policy.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

A unique, case-sensitive token that you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String

Required: No

Description

A description for the Verified Access group.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

PolicyDocument

The Verified Access policy document.

Type: String
Required: No

**SseSpecification**

The options for server side encryption.

Type: [VerifiedAccessSseSpecificationRequest](#) object

Required: No

**TagSpecification.N**

The tags to assign to the Verified Access group.

Type: Array of [TagSpecification](#) objects

Required: No

**VerifiedAccessInstanceId**

The ID of the Verified Access instance.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**verifiedAccessGroup**

Details about the Verified Access group.

Type: [VerifiedAccessGroup](#) object

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateVerifiedAccessInstance

An AWS Verified Access instance is a regional entity that evaluates application requests and grants access only when your security requirements are met.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

A unique, case-sensitive token that you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String

Required: No

Description

A description for the Verified Access instance.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

FIPSEnabled

Enable or disable support for Federal Information Processing Standards (FIPS) on the instance.

Type: Boolean

Required: No
TagSpecification.N

The tags to assign to the Verified Access instance.

Type: Array of TagSpecification objects

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

verifiedAccessInstance

Details about the Verified Access instance.

Type: VerifiedAccessInstance object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
• **AWS SDK for PHP V3**
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
CreateVerifiedAccessTrustProvider

A trust provider is a third-party entity that creates, maintains, and manages identity information for users and devices. When an application request is made, the identity information sent by the trust provider is evaluated by Verified Access before allowing or denying the application request.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

A unique, case-sensitive token that you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String

Required: No

Description

A description for the Verified Access trust provider.

Type: String

Required: No

DeviceOptions

The options for a device-based trust provider. This parameter is required when the provider type is device.

Type: CreateVerifiedAccessTrustProviderDeviceOptions object

Required: No

DeviceTrustProviderType

The type of device-based trust provider. This parameter is required when the provider type is device.

Type: String

Valid Values: jamf | crowdstrike | jumpcloud
DryRun

Checks whether you have the required permissions for the action, without actually making
the request, and provides an error response. If you have the required permissions, the error
response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

OidcOptions

The options for a OpenID Connect-compatible user-identity trust provider. This parameter is
required when the provider type is user.

Type: CreateVerifiedAccessTrustProviderOidcOptions object

Required: No

PolicyReferenceName

The identifier to be used when working with policy rules.

Type: String

Required: Yes

SseSpecification

The options for server side encryption.

Type: VerifiedAccessSseSpecificationRequest object

Required: No

TagSpecification.N

The tags to assign to the Verified Access trust provider.

Type: Array of TagSpecification objects

Required: No

TrustProviderType

The type of trust provider.
Type: String

Valid Values: user | device

Required: Yes

**UserTrustProviderType**

The type of user-based trust provider. This parameter is required when the provider type is user.

Type: String

Valid Values: iam-identity-center | oidc

Required: No

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**verifiedAccessTrustProvider**

Details about the Verified Access trust provider.

Type: [VerifiedAccessTrustProvider](#) object

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CreateVolume

Creates an EBS volume that can be attached to an instance in the same Availability Zone.

You can create a new empty volume or restore a volume from an EBS snapshot. Any AWS Marketplace product codes from the snapshot are propagated to the volume.

You can create encrypted volumes. Encrypted volumes must be attached to instances that support Amazon EBS encryption. Volumes that are created from encrypted snapshots are also automatically encrypted. For more information, see Amazon EBS encryption in the Amazon Elastic Compute Cloud User Guide.

You can tag your volumes during creation. For more information, see Tag your Amazon EC2 resources in the Amazon Elastic Compute Cloud User Guide.

For more information, see Create an Amazon EBS volume in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AvailabilityZone

The ID of the Availability Zone in which to create the volume. For example, us-east-1a.

Type: String

Required: Yes

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see Ensure Idempotency.

Type: String

Required: No
DryRun

Checks whether you have the required permissions for the action, without actually making
the request, and provides an error response. If you have the required permissions, the error
response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Encrypted

Indicates whether the volume should be encrypted. The effect of setting the encryption state
to true depends on the volume origin (new or from a snapshot), starting encryption state,
ownership, and whether encryption by default is enabled. For more information, see Encryption
by default in the Amazon Elastic Compute Cloud User Guide.

Encrypted Amazon EBS volumes must be attached to instances that support Amazon EBS
encryption. For more information, see Supported instance types.

Type: Boolean

Required: No

Iops

The number of I/O operations per second (IOPS). For gp3, io1, and io2 volumes, this
represents the number of IOPS that are provisioned for the volume. For gp2 volumes,
this represents the baseline performance of the volume and the rate at which the volume
accumulates I/O credits for bursting.

The following are the supported values for each volume type:

- gp3: 3,000 - 16,000 IOPS
- io1: 100 - 64,000 IOPS
- io2: 100 - 256,000 IOPS

For io2 volumes, you can achieve up to 256,000 IOPS on instances built on the Nitro System.
On other instances, you can achieve performance up to 32,000 IOPS.

This parameter is required for io1 and io2 volumes. The default for gp3 volumes is 3,000
IOPS. This parameter is not supported for gp2, st1, sc1, or standard volumes.
**KmsKeyId**

The identifier of the AWS Key Management Service (AWS KMS) KMS key to use for Amazon EBS encryption. If this parameter is not specified, your AWS KMS key for Amazon EBS is used. If KmsKeyId is specified, the encrypted state must be `true`.

You can specify the KMS key using any of the following:

- Key ID. For example, 1234abcd-12ab-34cd-56ef-1234567890ab.
- Key alias. For example, alias/ExampleAlias.
- Key ARN. For example, arn:aws:kms:us-east-1:012345678910:key/1234abcd-12ab-34cd-56ef-1234567890ab.
- Alias ARN. For example, arn:aws:kms:us-east-1:012345678910:alias/ExampleAlias.

AWS authenticates the KMS key asynchronously. Therefore, if you specify an ID, alias, or ARN that is not valid, the action can appear to complete, but eventually fails.

**MultiAttachEnabled**

Indicates whether to enable Amazon EBS Multi-Attach. If you enable Multi-Attach, you can attach the volume to up to 16 `Instances built on the Nitro System` in the same Availability Zone. This parameter is supported with `io1` and `io2` volumes only. For more information, see Amazon EBS Multi-Attach in the Amazon Elastic Compute Cloud User Guide.

**OutpostArn**

The Amazon Resource Name (ARN) of the Outpost.
Size

The size of the volume, in GiBs. You must specify either a snapshot ID or a volume size. If you specify a snapshot, the default is the snapshot size. You can specify a volume size that is equal to or larger than the snapshot size.

The following are the supported volumes sizes for each volume type:

- gp2 and gp3: 1 - 16,384 GiB
- io1: 4 - 16,384 GiB
- io2: 4 - 65,536 GiB
- st1 and sc1: 125 - 16,384 GiB
- standard: 1 - 1024 GiB

Type: Integer

Required: No

SnapshotId

The snapshot from which to create the volume. You must specify either a snapshot ID or a volume size.

Type: String

Required: No

TagSpecification.N

The tags to apply to the volume during creation.

Type: Array of TagSpecification objects

Required: No

Throughput

The throughput to provision for a volume, with a maximum of 1,000 MiB/s.

This parameter is valid only for gp3 volumes.

Valid Range: Minimum value of 125. Maximum value of 1000.

Type: Integer
VolumeType

The volume type. This parameter can be one of the following values:

- General Purpose SSD: gp2 | gp3
- Provisioned IOPS SSD: io1 | io2
- Throughput Optimized HDD: st1
- Cold HDD: sc1
- Magnetic: standard

**Important**

Throughput Optimized HDD (st1) and Cold HDD (sc1) volumes can't be used as boot volumes.

For more information, see Amazon EBS volume types in the Amazon Elastic Compute Cloud User Guide.

Default: gp2

Type: String

Valid Values: standard | io1 | io2 | gp2 | sc1 | st1 | gp3

Required: No

Response Elements

The following elements are returned by the service.

**attachmentSet**

Information about the volume attachments.

Type: Array of VolumeAttachment objects

**availabilityZone**

The Availability Zone for the volume.
**Type**: String

**createTime**

The time stamp when volume creation was initiated.

**Type**: Timestamp

**encrypted**

Indicates whether the volume is encrypted.

**Type**: Boolean

**fastRestored**

Indicates whether the volume was created using fast snapshot restore.

**Type**: Boolean

**iops**

The number of I/O operations per second (IOPS). For gp3, io1, and io2 volumes, this represents the number of IOPS that are provisioned for the volume. For gp2 volumes, this represents the baseline performance of the volume and the rate at which the volume accumulates I/O credits for bursting.

**Type**: Integer

**kmsKeyId**

The Amazon Resource Name (ARN) of the AWS Key Management Service (AWS KMS) KMS key that was used to protect the volume encryption key for the volume.

**Type**: String

**multiAttachEnabled**

Indicates whether Amazon EBS Multi-Attach is enabled.

**Type**: Boolean

**outpostArn**

The Amazon Resource Name (ARN) of the Outpost.

**Type**: String
**requestId**

The ID of the request.

Type: String

**size**

The size of the volume, in GiBs.

Type: Integer

**snapshotId**

The snapshot from which the volume was created, if applicable.

Type: String

**sseType**

Reserved for future use.

Type: String

Valid Values: sse-ebs | sse-kms | none

**status**

The volume state.

Type: String

Valid Values: creating | available | in-use | deleting | deleted | error

**tagSet**

Any tags assigned to the volume.

Type: Array of Tag objects

**throughput**

The throughput that the volume supports, in MiB/s.

Type: Integer

**volumeId**

The ID of the volume.
Type: String

volumeType

The volume type.

Type: String

Valid Values: standard | io1 | io2 | gp2 | sc1 | st1 | gp3

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example request creates an 150 GiB Multi-Attach enabled io1 volume in the us-east-1a Availability Zone.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateVolume
&VolumeType=io1
&Size=150
&Iops=7500
&AvailabilityZone=us-east-1a
&MultiAttachEnabled=true
&AUTHPARAMS
```

Sample Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeId>vol-1234567890abcdef0</volumeId>
  <size>150</size>
  <iops>7500</iops>
  <snapshotId/>
  <availabilityZone>us-east-1a</availabilityZone>
  <status>creating</status>
</CreateVolumeResponse>
```
Example 2

This example request creates an 80 GiB encrypted volume in the Availability Zone us-east-1a.

Sample Request

https://ec2.amazonaws.com/?Action=CreateVolume
&Size=80
&AvailabilityZone=us-east-1a
&Encrypted=true
&AUTHPARAMS

Sample Response

  <requestId>248f69ab-c7a9-4ad2-8e7c-b7556EXAMPLE</requestId>
  <volumeId>vol-08bf1d00afabcdef0</volumeId>
  <size>80</size>
  <snapshotId/>
  <availabilityZone>us-east-1a</availabilityZone>
  <status>creating</status>
  <createTime>2020-11-30T10:39:56.000Z</createTime>
  <volumeType>gp2</volumeType>
  <iops>189</iops>
  <encrypted>true</encrypted>
  <kmsKeyId>arn:aws:kms:us-east-1:123456789012:key/237eb1a7-2fa1-44dc-b95e-6c526EXAMPLE</kmsKeyId>
  <tagSet/>
  <multiAttachEnabled>false</multiAttachEnabled>
</CreateVolumeResponse>

Example 3

This example request creates a volume and applies a tag with a key of stack and a value of production.
Sample Request

https://ec2.amazonaws.com/?Action=CreateVolume
&Size=80
&AvailabilityZone=us-east-1a
&TagSpecification.1.ResourceType=volume
&TagSpecification.1.Tag.1.Key=stack
&TagSpecification.1.Tag.1.Value=production
&AUTHPARAMS

Sample Response

  <requestId>bb216d10-54b9-4bc2-958d-fcfe2EXAMPLE</requestId>
  <volumeId>vol-043c91f2fa4abcdef</volumeId>
  <size>80</size>
  <snapshotId></snapshotId>
  <availabilityZone>us-east-1a</availabilityZone>
  <status>creating</status>
  <createTime>2020-11-30T10:47:43.000Z</createTime>
  <volumeType>gp2</volumeType>
  <iops>189</iops>
  <encrypted>true</encrypted>
  <kmsKeyId>arn:aws:kms:us-east-1:123456789012:key/237eb1a7-2fa1-44dc-b95e-6c526EXAMPLE</kmsKeyId>
  <tagSet>
    <item>
      <key>stack</key>
      <value>production</value>
    </item>
  </tagSet>
  <multiAttachEnabled>false</multiAttachEnabled>
</CreateVolumeResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CreateVpc

Creates a VPC with the specified CIDR blocks. For more information, see IP addressing for your VPCs and subnets in the Amazon VPC User Guide.

You can optionally request an IPv6 CIDR block for the VPC. You can request an Amazon-provided IPv6 CIDR block from Amazon's pool of IPv6 addresses or an IPv6 CIDR block from an IPv6 address pool that you provisioned through bring your own IP addresses (BYOIP).

By default, each instance that you launch in the VPC has the default DHCP options, which include only a default DNS server that we provide (AmazonProvidedDNS). For more information, see DHCP option sets in the Amazon VPC User Guide.

You can specify the instance tenancy value for the VPC when you create it. You can't change this value for the VPC after you create it. For more information, see Dedicated Instances in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AmazonProvidedIpv6CidrBlock

Requests an Amazon-provided IPv6 CIDR block with a /56 prefix length for the VPC. You cannot specify the range of IP addresses, or the size of the CIDR block.

Type: Boolean

Required: No

CidrBlock

The IPv4 network range for the VPC, in CIDR notation. For example, 10.0.0.0/16. We modify the specified CIDR block to its canonical form; for example, if you specify 100.68.0.18/16, we modify it to 100.68.0.0/18.

Type: String

Required: No
DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

InstanceTenancy

The tenancy options for instances launched into the VPC. For default, instances are launched with shared tenancy by default. You can launch instances with any tenancy into a shared tenancy VPC. For dedicated, instances are launched as dedicated tenancy instances by default. You can only launch instances with a tenancy of dedicated or host into a dedicated tenancy VPC.

**Important:** The host value cannot be used with this parameter. Use the default or dedicated values only.

Default: default

Type: String

Valid Values: default | dedicated | host

Required: No

Ipv4IpamPoolId

The ID of an IPv4 IPAM pool you want to use for allocating this VPC's CIDR. For more information, see [What is IPAM?](https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/what-is-ipam.html) in the *Amazon VPC IPAM User Guide*.

Type: String

Required: No

Ipv4NetmaskLength

The netmask length of the IPv4 CIDR you want to allocate to this VPC from an Amazon VPC IP Address Manager (IPAM) pool. For more information about IPAM, see [What is IPAM?](https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/what-is-ipam.html) in the *Amazon VPC IPAM User Guide*.
Type: Integer
Required: No

**Ipv6CidrBlock**

The IPv6 CIDR block from the IPv6 address pool. You must also specify Ipv6Pool in the request.

To let Amazon choose the IPv6 CIDR block for you, omit this parameter.

Type: String
Required: No

**Ipv6CidrBlockNetworkBorderGroup**

The name of the location from which we advertise the IPV6 CIDR block. Use this parameter to limit the address to this location.

You must set AmazonProvidedIpv6CidrBlock to true to use this parameter.

Type: String
Required: No

**Ipv6IpamPoolId**

The ID of an IPv6 IPAM pool which will be used to allocate this VPC an IPv6 CIDR. IPAM is a VPC feature that you can use to automate your IP address management workflows including assigning, tracking, troubleshooting, and auditing IP addresses across AWS Regions and accounts throughout your AWS Organization. For more information, see [What is IPAM?](#) in the *Amazon VPC IPAM User Guide*.

Type: String
Required: No

**Ipv6NetmaskLength**

The netmask length of the IPv6 CIDR you want to allocate to this VPC from an Amazon VPC IP Address Manager (IPAM) pool. For more information about IPAM, see [What is IPAM?](#) in the *Amazon VPC IPAM User Guide*.

Type: Integer
Required: No

**Ipv6Pool**

The ID of an IPv6 address pool from which to allocate the IPv6 CIDR block.

Type: String

Required: No

**TagSpecification.N**

The tags to assign to the VPC.

Type: Array of [TagSpecification](#) objects

Required: No

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**vpc**

Information about the VPC.

Type: [Vpc](#) object

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example 1**

This example creates a VPC with the IPv4 CIDR block 10.0.0.0/16 and a tag with the key set to `tag` and the value set to `example`. 
### Sample Request

https://ec2.amazonaws.com/?Action=CreateVpc
&CidrBlock=10.0.0.0/16
&TagSpecification.1.ResourceType=vpc
&TagSpecification.1.Key=vpc
&TagSpecification.1.Value=example
&AUTHPARAMS

### Sample Response

```xml
<CreateVpcResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>63c5a2ed-4195-4445-b841-294629e7d8bd</requestId>
  <vpc>
    <vpcId>vpc-06b7830650EXAMPLE</vpcId>
    <ownerId>111122223333</ownerId>
    <state>pending</state>
    <cidrBlock>10.0.0.0/16</cidrBlock>
    <cidrBlockAssociationSet>
      <item>
        <cidrBlock>10.0.0.0/16</cidrBlock>
        <associationId>vpc-cidr-assoc-017043e963EXAMPLE</associationId>
        <cidrBlockState>
          <state>associated</state>
        </cidrBlockState>
      </item>
    </cidrBlockAssociationSet>
    <ipv6CidrBlockAssociationSet/>
    <dhcpOptionsId>dopt-19edf471</dhcpOptionsId>
    <tagSet/>
    <instanceTenancy>default</instanceTenancy>
    <isDefault>false</isDefault>
    <tagSet>
      <item>
        <key>example</key>
        <value>tag</value>
      </item>
    </tagSet>
  </vpc>
</CreateVpcResponse>
```
Example 2

This example creates a VPC with the dedicated tenancy option.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateVpc
&CidrBlock=10.32.0.0/16
&InstanceTenancy=dedicated
&AUTHPARAMS
```

Sample Response

```
<CreateVpcResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>1d536f17-5a03-4030-95b4-4d051e65e7bb</requestId>
  <vpc>
    <vpcId>vpc-07ddea827dEXAMPLE</vpcId>
    <ownerId>111122223333</ownerId>
    <state>pending</state>
    <cidrBlock>10.32.0.0/16</cidrBlock>
    <cidrBlockAssociationSet>
      <item>
        <cidrBlock>10.32.0.0/16</cidrBlock>
        <associationId>vpc-cidr-assoc-0cc7b90dfeEXAMPLE</associationId>
        <cidrBlockState>
          <state>associated</state>
        </cidrBlockState>
      </item>
    </cidrBlockAssociationSet>
    <ipv6CidrBlockAssociationSet/>
    <dhcpOptionsId>dopt-19edf471</dhcpOptionsId>
    <tagSet/>
    <instanceTenancy>dedicated</instanceTenancy>
    <isDefault>false</isDefault>
  </vpc>
</CreateVpcResponse>
```

Example 3

This example creates a VPC and requests an IPv6 CIDR block for the VPC.
Sample Request

https://ec2.amazonaws.com/?Action=CreateVpc
&CidrBlock=10.0.0.0/16
&AmazonProvidedIpv6CidrBlock=true
&AUTHPARAMS

Sample Response

<CreateVpcResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>b1a2b2b5-5806-4e24-824b-0c8996c608c1</requestId>
  <vpc>
    <vpcId>vpc-03914afb3ed6c7632</vpcId>
    <ownerId>111122223333</ownerId>
    <state>pending</state>
    <cidrBlock>10.0.0.0/16</cidrBlock>
    <cidrBlockAssociationSet>
      <item>
        <cidrBlock>10.0.0.0/16</cidrBlock>
        <associationId>vpc-cidr-assoc-03ca48bbbeEXAMPLE</associationId>
        <cidrBlockState>
          <state>associated</state>
        </cidrBlockState>
      </item>
    </cidrBlockAssociationSet>
    <ipv6CidrBlockAssociationSet>
      <item>
        <ipv6CidrBlock/>
        <associationId>vpc-cidr-assoc-0bd6cc7621EXAMPLE</associationId>
        <ipv6CidrBlockState>
          <state>associating</state>
        </ipv6CidrBlockState>
      </item>
    </ipv6CidrBlockAssociationSet>
    <dhcpOptionsId>dopt-19edf471</dhcpOptionsId>
    <tagSet/>
    <instanceTenancy>default</instanceTenancy>
    <isDefault>false</isDefault>
  </vpc>
</CreateVpcResponse>
Example 4

This example creates a VPC and requests an IPv6 CIDR block for the VPC for the specified Network Border Group.

Sample Request

https://ec2.amazonaws.com/?Action=CreateVpc
&CidrBlock=10.0.0.0/16
&AmazonProvidedIpv6CidrBlock=true
&Ipv6CidrBlockNetworkBorderGroup=us-west-2-lax-1
&AUTHPARAMS

Sample Response

<CreateVpcResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>b1a2b2b5-5806-4e24-824b-0c8996c608c1</requestId>
  <vpc>
    <vpcId>vpc-03914af3ed6c7632</vpcId>
    <ownerId>111122223333</ownerId>
    <state>pending</state>
    <cidrBlock>10.0.0.0/16</cidrBlock>
    <cidrBlockAssociationSet>
      <item>
        <cidrBlock>10.0.0.0/16</cidrBlock>
        <associationId>vpc-cidr-assoc-03ca48bbbeEXAMPLE</associationId>
        <cidrBlockState>
          <state>associated</state>
        </cidrBlockState>
      </item>
    </cidrBlockAssociationSet>
    <ipv6CidrBlockAssociationSet>
      <item>
        <ipv6CidrBlock></ipv6CidrBlock>
        <associationId>vpc-cidr-assoc-0bd6cc7621EXAMPLE</associationId>
        <ipv6CidrBlockState>
          <state>associating</state>
        </ipv6CidrBlockState>
        <Ipv6CidrBlockNetworkBorderGroup>us-west-2-lax-1</Ipv6CidrBlockNetworkBorderGroup>
      </item>
    </ipv6CidrBlockAssociationSet>
    <dhcpOptionsId>dopt-19edf471</dhcpOptionsId>
  </vpc>
</CreateVpcResponse>
CreateVpcEndpoint

Creates a VPC endpoint. A VPC endpoint provides a private connection between the specified VPC and the specified endpoint service. You can use an endpoint service provided by AWS, an AWS Marketplace Partner, or another AWS account. For more information, see the [AWS PrivateLink User Guide](https://docs.aws.amazon.com/privatelink/latest/userguide/).

Use [DescribeVpcEndpointServices](https://docs.aws.amazon.com/privatelink/latest/userguide/) to list the supported services.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](https://docs.aws.amazon.com/privatelink/latest/userguide/).

**ClientToken**

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see [How to ensure idempotency](https://docs.aws.amazon.com/privatelink/latest/userguide/).

Type: String

Required: No

**DnsOptions**

The DNS options for the endpoint.

Type: [DnsOptionsSpecification](https://docs.aws.amazon.com/privatelink/latest/userguide/) object

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**IpAddressType**

The IP address type for the endpoint.
**Type:** String

**Valid Values:** ipv4 | dualstack | ipv6

**Required:** No

**PolicyDocument**

(Interface and gateway endpoints) A policy to attach to the endpoint that controls access to the service. The policy must be in valid JSON format. If this parameter is not specified, we attach a default policy that allows full access to the service.

**Type:** String

**Required:** No

**PrivateDnsEnabled**

(Interface endpoint) Indicates whether to associate a private hosted zone with the specified VPC. The private hosted zone contains a record set for the default public DNS name for the service for the Region (for example, kinesis.us-east-1.amazonaws.com), which resolves to the private IP addresses of the endpoint network interfaces in the VPC. This enables you to make requests to the default public DNS name for the service instead of the public DNS names that are automatically generated by the VPC endpoint service.

To use a private hosted zone, you must set the following VPC attributes to true: enableDnsHostnames and enableDnsSupport. Use ModifyVpcAttribute to set the VPC attributes.

**Default:** true

**Type:** Boolean

**Required:** No

**RouteTableId.N**

(Gateway endpoint) The route table IDs.

**Type:** Array of strings

**Required:** No
SecurityGroupId.N

(Interface endpoint) The IDs of the security groups to associate with the endpoint network interfaces. If this parameter is not specified, we use the default security group for the VPC.

Type: Array of strings

Required: No

ServiceName

The name of the endpoint service.

Type: String

Required: Yes

SubnetConfiguration.N

The subnet configurations for the endpoint.

Type: Array of SubnetConfiguration objects

Required: No

SubnetId.N

(Interface and Gateway Load Balancer endpoints) The IDs of the subnets in which to create endpoint network interfaces. For a Gateway Load Balancer endpoint, you can specify only one subnet.

Type: Array of strings

Required: No

TagSpecification.N

The tags to associate with the endpoint.

Type: Array of TagSpecification objects

Required: No

VpcEndpointType

The type of endpoint.
Default: Gateway

Type: String

Valid Values: Interface | Gateway | GatewayLoadBalancer

Required: No

VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

clientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request.

Type: String

requestId

The ID of the request.

Type: String

vpcEndpoint

Information about the endpoint.

Type: VpcEndpoint object

Errors

For information about the errors that are common to all actions, see Common client error codes.
**Examples**

**Example 1**

This example creates a gateway endpoint between vpc-1a2b3c4d and Amazon S3 in us-east-1, and associates route table rtb-11aa22bb with the endpoint.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=CreateVpcEndpoint
&VpcId=vpc-1a2b3c4d
&ServiceName=com.amazonaws.us-east-1.s3
&RouteTableId.1=rtb-11aa22bb
&AUTHPARAMS
```

**Sample Response**

```
<CreateVpcEndpointResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <vpcEndpoint>
      <vpcId>vpc-1a2b3c4d</vpcId>
      <state>available</state>
      <routeTableIdSet>
         <item>rtb-11aa22bb</item>
      </routeTableIdSet>
      <vpcEndpointId>vpce-abc12345</vpcEndpointId>
      <creationTimestamp>2015-02-20T16:46:40Z</creationTimestamp>
      <policyDocument>"Version":"2008-10-17","Statement":[{"Sid":"","Effect":"Allow","Principal":"*","Action":"*","Resource":"*"}]
      <serviceName>com.amazonaws.us-west-1.s3</serviceName>
   </vpcEndpoint>
   <requestId>4b373100-473a-46a0-9006-example</requestId>
</CreateVpcEndpointResponse>
```

**Example 2**

This example creates an interface endpoint between vpc-1a2b3c4d and Elastic Load Balancing in us-east-1 in subnet subnet-1a2b3c4d, and associates security group sg-11aa22bb with the network interface.
Sample Request

https://ec2.amazonaws.com/?Action=CreateVpcEndpoint
&VpcId=vpc-1a2b3c4d
&ServiceName=com.amazonaws.us-east-1.elasticloadbalancing
&VpcEndpointType=Interface
&SubnetId.1=subnet-1a2b3c4d
&SecurityGroupId.1=sg-11aa22bb
&AUTHPARAMS

Sample Response

<CreateVpcEndpointResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>bf5a49f9-4c36-41c9-a4be-13dexample</requestId>
  <vpcEndpoint>
    <policyDocument>{
      "Statement": [
        {
          "Action": "*",
          "Effect": "Allow",
          "Principal": "*",
          "Resource": "*"
        }
      ]
    }
  </vpcEndpoint>
  <routeTableIdSet/>
  <dnsEntrySet>
    <item>
      <hostedZoneId>Z7HUB22UULQXV</hostedZoneId>
      <dnsName>vpc-0324151a02f327ff5-3k8nfxtt.elasticloadbalancing.us-east-1.vpce.amazonaws.com</dnsName>
    </item>
    <item>
      <hostedZoneId>Z7HUB22UULQXV</hostedZoneId>
      <dnsName>vpc-0324151a02f327ff5-3k8nfxtt-us-east-1a.elasticloadbalancing.us-east-1.vpce.amazonaws.com</dnsName>
    </item>
    <item>
      <hostedZoneId>Z2THV5YBYUN78V</hostedZoneId>
      <dnsName>elasticloadbalancing.us-east-1.amazonaws.com</dnsName>
    </item>
  </dnsEntrySet>
  <serviceName>com.amazonaws.us-east-1.elasticloadbalancing</serviceName>
</CreateVpcEndpointResponse>
Example 3

This example creates a Gateway Load Balancer endpoint between vpc-11122223333344445 and a VPC endpoint service that's configured using a Gateway Load Balancer.

Sample Request

https://ec2.amazonaws.com/?Action=CreateVpcEndpoint
&VpcId=vpc-11122223333344445
&ServiceName=com.amazonaws.vpce.us-east-1.vpce-svc-123abcc1298abc123
&VpcEndpointType=GatewayLoadBalancer
&SubnetId.1=subnet-aaaa1111bbbb22233

Sample Response

<CreateVpcEndpointResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>bf5a49f9-4c36-41c9-a4be-13dexample</requestId>
  <vpcEndpoint>
    <ownerId>123456789012</ownerId>
    <requesterManaged>false</requesterManaged>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateVpcEndpointConnectionNotification

Creates a connection notification for a specified VPC endpoint or VPC endpoint service. A connection notification notifies you of specific endpoint events. You must create an SNS topic to receive notifications. For more information, see Create a Topic in the Amazon Simple Notification Service Developer Guide.

You can create a connection notification for interface endpoints only.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to ensure idempotency.

Type: String
Required: No

ConnectionEvents.N

The endpoint events for which to receive notifications. Valid values are Accept, Connect, Delete, and Reject.

Type: Array of strings
Required: Yes

ConnectionNotificationArn

The ARN of the SNS topic for the notifications.

Type: String
Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.
Type: Boolean
Required: No

ServiceId
The ID of the endpoint service.
Type: String
Required: No

VpcEndpointId
The ID of the endpoint.
Type: String
Required: No

Response Elements
The following elements are returned by the service.

clientToken
Unique, case-sensitive identifier that you provide to ensure the idempotency of the request.
Type: String

connectionNotification
Information about the notification.
Type: ConnectionNotification object

requestId
The ID of the request.
Type: String

Errors
For information about the errors that are common to all actions, see Common client error codes.
Examples

Example 1

This example creates a notification for the endpoint vpce-1234151a02f327123. The notification is sent when the endpoint is rejected or deleted.

Sample Request

https://ec2.amazonaws.com/?Action=CreateVpcEndpointConnectionNotification
&VpcEndpointId=vpce-1234151a02f327123
&ConnectionNotificationArn=arn:aws:sns:us-east-1:123456789012:endpointtopic
&ConnectionEvents.1=Reject
&ConnectionEvents.2=Delete
&AUTHPARAMS

Sample Response

<CreateVpcEndpointConnectionNotificationResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>6bf51e2a-a99e-4839-af31-a0d72example</requestId>
   <connectionNotification>
      <connectionNotificationArn>arn:aws:sns:us-east-1:123456789012:endpointtopic</connectionNotificationArn>
      <connectionEvents>
         <item>Delete</item>
         <item>Reject</item>
      </connectionEvents>
      <connectionNotificationType>Topic</connectionNotificationType>
      <connectionNotificationState>Enabled</connectionNotificationState>
      <connectionNotificationId>vpce-nfn-04bcb952bc8af759b</connectionNotificationId>
   </connectionNotification>
   <vpcEndpointId>vpce-1234151a02f327123</vpcEndpointId>
</CreateVpcEndpointConnectionNotificationResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CreateVpcEndpointServiceConfiguration

Creates a VPC endpoint service to which service consumers (AWS accounts, users, and IAM roles) can connect.

Before you create an endpoint service, you must create one of the following for your service:

- A [Network Load Balancer](#). Service consumers connect to your service using an interface endpoint.
- A [Gateway Load Balancer](#). Service consumers connect to your service using a Gateway Load Balancer endpoint.

If you set the private DNS name, you must prove that you own the private DNS domain name.

For more information, see the [AWS PrivateLink Guide](#).

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**AcceptanceRequired**

Indicates whether requests from service consumers to create an endpoint to your service must be accepted manually.

To accept a request manually, use [AcceptVpcEndpointConnections](#). To reject a request, use [RejectVpcEndpointConnections](#).

Type: Boolean

Required: No

**ClientToken**

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see [How to ensure idempotency](#).

Type: String

Required: No
DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

GatewayLoadBalancerArn.N

The Amazon Resource Names (ARNs) of the Gateway Load Balancers.

Type: Array of strings
Required: No

NetworkLoadBalancerArn.N

The Amazon Resource Names (ARNs) of the Network Load Balancers.

Type: Array of strings
Required: No

PrivateDnsName

(Interface endpoint configuration) The private DNS name to assign to the VPC endpoint service.

Type: String
Required: No

SupportedIpAddressType.N

The supported IP address types. The possible values are ipv4 and ipv6.

Type: Array of strings
Required: No

TagSpecification.N

The tags to associate with the service.

Type: Array of TagSpecification objects
Response Elements

The following elements are returned by the service.

clientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request.

Type: String

requestId

The ID of the request.

Type: String

serviceConfiguration

Information about the service configuration.

Type: ServiceConfiguration object

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example creates a VPC endpoint service configuration using the specified Network Load Balancer. This example also specifies that requests to connect to the service through a VPC endpoint must be accepted or rejected manually.

Sample Request

Sample Response

```xml
<CreateVpcEndpointServiceConfigurationResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>1b2f25d4-9d9f-4256-a8e3-297f7example</requestId>
  <serviceConfiguration>
    <serviceState>Available</serviceState>
    <serviceType>
      <item>
        <serviceType>Interface</serviceType>
      </item>
    </serviceType>
    <baseEndpointDnsNameSet>
      <item>vpce-svc-0552b9c1298c4f123.us-east-1.vpce.amazonaws.com</item>
    </baseEndpointDnsNameSet>
    <acceptanceRequired>true</acceptanceRequired>
    <availabilityZoneSet>
      <item>us-east-1d</item>
    </availabilityZoneSet>
    <serviceId>vpce-svc-0552b9c1298c4f123</serviceId>
    <serviceName>com.amazonaws.vpce.us-east-1.vpce-svc-0552b9c1298c4f123</serviceName>
    <networkLoadBalancerArnSet>
      <item>arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/net/my-nlb/e94221227f1ba532</item>
    </networkLoadBalancerArnSet>
  </serviceConfiguration>
</CreateVpcEndpointServiceConfigurationResponse>
```

Example 2

This example creates a VPC endpoint service configuration using the specified Gateway Load Balancer. This example also specifies that all requests to connect to the service are accepted automatically.

Sample Request

```plaintext
https://ec2.amazonaws.com/?Action=CreateVpcEndpointServiceConfiguration
&GatewayLoadBalancerArn.1=arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/gwy/GWLBSvc/abc210844e429abc
```
Sample Response

```xml
<CreateVpcEndpointServiceConfigurationResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>1b2f25d4-9d9f-4256-a8e3-297f7example</requestId>
  <serviceConfiguration>
    <serviceState>Available</serviceState>
    <serviceType>
      <item>
        <serviceType>GatewayLoadBalancer</serviceType>
      </item>
    </serviceType>
    <acceptanceRequired>false</acceptanceRequired>
    <availabilityZoneSet>
      <item>us-east-1d</item>
    </availabilityZoneSet>
    <serviceId>vpce-svc-123abcc1298abc123</serviceId>
    <serviceName>com.amazonaws.vpce.us-east-1.vpce-svc-123abcc1298abc123</serviceName>
    <gatewayLoadBalancerArnSet>
      <item>arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/gwy/GWLBService/abc210844e429abc</item>
    </gatewayLoadBalancerArnSet>
  </serviceConfiguration>
</CreateVpcEndpointServiceConfigurationResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CreateVpcPeeringConnection

Requests a VPC peering connection between two VPCs: a requester VPC that you own and an accepter VPC with which to create the connection. The accepter VPC can belong to another AWS account and can be in a different Region to the requester VPC. The requester VPC and accepter VPC cannot have overlapping CIDR blocks.

Note

Limitations and rules apply to a VPC peering connection. For more information, see the limitations section in the VPC Peering Guide.

The owner of the accepter VPC must accept the peering request to activate the peering connection. The VPC peering connection request expires after 7 days, after which it cannot be accepted or rejected.

If you create a VPC peering connection request between VPCs with overlapping CIDR blocks, the VPC peering connection has a status of failed.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

PeerOwnerId

The AWS account ID of the owner of the accepter VPC.

Default: Your AWS account ID
Type: String
Required: No

**PeerRegion**

The Region code for the accepter VPC, if the accepter VPC is located in a Region other than the Region in which you make the request.

Default: The Region in which you make the request.

Type: String
Required: No

**PeerVpcId**

The ID of the VPC with which you are creating the VPC peering connection. You must specify this parameter in the request.

Type: String
Required: No

**TagSpecification.N**

The tags to assign to the peering connection.

Type: Array of TagSpecification objects
Required: No

**VpcId**

The ID of the requester VPC. You must specify this parameter in the request.

Type: String
Required: Yes
requestId

The ID of the request.

Type: String

vpcPeeringConnection

Information about the VPC peering connection.

Type: VpcPeeringConnection object

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example requests a peering connection between your VPC (vpc-1a2b3c4d), and a VPC (vpc-a1b2c3d4) that belongs to AWS account 123456789012.

Sample Request

https://ec2.amazonaws.com/?Action=CreateVpcPeeringConnection
&VpcId=vpc-1a2b3c4d
&PeerVpcId=vpc-a1b2c3d4
&PeerOwnerId=123456789012

Sample Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpcPeeringConnection>
    <vpcPeeringConnectionId>pcx-73a5401a</vpcPeeringConnectionId>
    <requesterVpcInfo>
      <ownerId>777788889999</ownerId>
      <vpcId>vpc-1a2b3c4d</vpcId>
      <cidrBlock>10.0.0.0/28</cidrBlock>
      <peeringOptions>
Example 2

This example requests a peering connection between your VPCs vpc-1a2b3c4d and vpc-11122233.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateVpcPeeringConnection
&VpcId=vpc-1a2b3c4d
&PeerVpcId=vpc-11122233
&AUTHPARAMS
```

Example 3

This example requests an inter-region peering connection between two VPCs in your account. VPC vpc-1a2b3c4d is located in the US East (N. Virginia) Region (us-east-1), and accepter VPC vpc-a1b2c3d4 is located in the US West (Oregon) Region (us-west-2). The VPC peering connection must be accepted in the us-west-2 Region.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateVpcPeeringConnection
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
CreateVpnConnection

Creates a VPN connection between an existing virtual private gateway or transit gateway and a customer gateway. The supported connection type is ipsec.1.

The response includes information that you need to give to your network administrator to configure your customer gateway.

⚠️ Important

We strongly recommend that you use HTTPS when calling this operation because the response contains sensitive cryptographic information for configuring your customer gateway device.

If you decide to shut down your VPN connection for any reason and later create a new VPN connection, you must reconfigure your customer gateway with the new information returned from this call.

This is an idempotent operation. If you perform the operation more than once, Amazon EC2 doesn’t return an error.

For more information, see AWS Site-to-Site VPN in the AWS Site-to-Site VPN User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CustomerGatewayId

The ID of the customer gateway.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.
Type: Boolean
Required: No

Options

The options for the VPN connection.

Type: VpnConnectionOptionsSpecification object
Required: No

TagSpecification.N

The tags to apply to the VPN connection.

Type: Array of TagSpecification objects
Required: No

TransitGatewayId

The ID of the transit gateway. If you specify a transit gateway, you cannot specify a virtual private gateway.

Type: String
Required: No

Type

The type of VPN connection (ipsec.1).

Type: String
Required: Yes

VpnGatewayId

The ID of the virtual private gateway. If you specify a virtual private gateway, you cannot specify a transit gateway.

Type: String
Required: No
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

vpnConnection

Information about the VPN connection.

Type: `VpnConnection` object

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example 1

This example creates a VPN connection between the specified virtual private gateway and the specified customer gateway. The response includes configuration information for configuring the customer gateway device. Because it's a long set of information, we haven't included the complete response here. To see an example of the configuration information, see the [Your customer gateway device](#).

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateVpnConnection
&Type=ipsec.1
&CustomerGatewayId=cgw-112233445566aabbc
&VpnGatewayId=vgw-aabbccdde1234567
&AUTHPARAMS
```

Sample Response

```
<CreateVpnConnectionResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
```

Response Elements
Example 2

This example creates a VPN connection with the static routes option between the virtual private gateway with the ID `vgw-8db04f81`, and the customer gateway with the ID `cgw-b4dc3961`, for a device that does not support the Border Gateway Protocol (BGP).

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateVpnConnection
&Type=ipsec.1
&CustomerGatewayId=cgw-b4dc3961
&VpnGatewayId=vgw-8db04f81
&Options.StaticRoutesOnly=true
&AUTHPARAMS
```
Example 3

This example creates a VPN connection between the virtual private gateway with the ID vgw-8db04f81 and the customer gateway with the ID cgw-b4dc3961 and specifies the inside IP address CIDR block and a custom pre-shared key for each tunnel.

Sample Request

https://ec2.amazonaws.com/?Action=CreateVpnConnection
&Type=ipsec.1
&CustomerGatewayId=cgw-b4dc3961
&VpnGatewayId=vgw-8db04f81
&Options.TunnelOptions.1.PreSharedKey=wMp_Igfo1d1o9AT41F6tJLFN4EXAMPLE
&Options.TunnelOptions.1.TunnelInsideCidr=169.254.44.110/30
&Options.TunnelOptions.2.PreSharedKey=HAM8lcnFYEvfl6gUor0atJLFN4EXAMPLE
&Options.TunnelOptions.2.TunnelInsideCidr=169.254.44.240/30

Example 4

This example creates a VPN connection between the specified transit gateway and the specified customer gateway. The VPN connection processes IPv6 traffic inside the tunnels, and the tunnel options for both tunnels specify that AWS must initiate the IKE negotiation. A tag with a key of Location and a value of NewYorkVPN is applied to the VPN connection.

Sample Request

https://ec2.amazonaws.com/?Action=CreateVpnConnection
&Type=ipsec.1
&CustomerGatewayId=cgw-112233445566aabbc
&TransitGatewayId=tgw-0123f96e7b3f5babc
&Options.StaticRoutesOnly=false
&Options.TunnelInsideIpVersion=ipv6
&Options.TunnelOptions.1.StartupAction=start
&Options.TunnelOptions.2.StartupAction=start
&TagSpecification.1.ResourceType=vpn-connection
&TagSpecification.1.Tag.1.Key=Location

Examples
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateVpnConnectionRoute

Creates a static route associated with a VPN connection between an existing virtual private
gateway and a VPN customer gateway. The static route allows traffic to be routed from the virtual
private gateway to the VPN customer gateway.

For more information, see AWS Site-to-Site VPN in the AWS Site-to-Site VPN User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and
optional parameters that are common to all actions, see Common Query Parameters.

DestinationCidrBlock

The CIDR block associated with the local subnet of the customer network.

Type: String

Required: Yes

VpnConnectionId

The ID of the VPN connection.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example creates a static route to the VPN connection for the VPN connection with the ID vpn-83ad48ea to the destination CIDR block 11.12.0.0/16. Note that when using the Query API the "/" is denoted as "%2F".

Sample Request

https://ec2.amazonaws.com/?Action=CreateVpnConnectionRoute
&DestinationCidrBlock=11.12.0.0%2F16
&VpnConnectionId=vpn-83ad48ea
&AUTHPARAMS

Sample Response

<CreateVpnConnectionRouteResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId>
  <return>true</return>
</CreateVpnConnectionRouteResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CreateVpnGateway

Creates a virtual private gateway. A virtual private gateway is the endpoint on the VPC side of your VPN connection. You can create a virtual private gateway before creating the VPC itself.

For more information, see AWS Site-to-Site VPN in the AWS Site-to-Site VPN User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AmazonSideAsn

A private Autonomous System Number (ASN) for the Amazon side of a BGP session. If you're using a 16-bit ASN, it must be in the 64512 to 65534 range. If you're using a 32-bit ASN, it must be in the 4200000000 to 4294967294 range.

Default: 64512

Type: Long

Required: No

AvailabilityZone

The Availability Zone for the virtual private gateway.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
TagSpecification.N

The tags to apply to the virtual private gateway.

Type: Array of TagSpecification objects

Required: No

Type

The type of VPN connection this virtual private gateway supports.

Type: String

Valid Values: ipsec.1

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

vpnGateway

Information about the virtual private gateway.

Type: VpnGateway object

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example creates a virtual private gateway.
Sample Request

https://ec2.amazonaws.com/?Action=CreateVpnGateway
&Type=ipsec.1
&AUTHPARAMS

Sample Response

<CreateVpnGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpnGateway>
    <vpnGatewayId>vgw-fe4aa197</vpnGatewayId>
    <state>available</state>
    <type>ipsec.1</type>
    <amazonSideAsn>64512</amazonSideAsn>
    <attachments/>
  </vpnGateway>
</CreateVpnGatewayResponse>

Example 2

This example creates a virtual private gateway and specifies a private ASN of 65001 for the Amazon side of the gateway.

Sample Request

https://ec2.amazonaws.com/?Action=CreateVpnGateway
&Type=ipsec.1
&AmazonSideAsn=65001
&AUTHPARAMS

Sample Response

<CreateVpnGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>fe90b404-d4e5-4153-8677-31dexample</requestId>
  <vpnGateway>
    <vpnGatewayId>vgw-f74aa19e</vpnGatewayId>
    <state>available</state>
    <type>ipsec.1</type>
    <amazonSideAsn>65001</amazonSideAsn>
    <attachments/>
  </vpnGateway>
</CreateVpnGatewayResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteCarrierGateway

Deletes a carrier gateway.

⚠️ Important

If you do not delete the route that contains the carrier gateway as the Target, the route is a
blackhole route. For information about how to delete a route, see DeleteRoute.

Request Parameters

The following parameters are for this specific action. For more information about required and
optional parameters that are common to all actions, see Common Query Parameters.

CarrierGatewayId

The ID of the carrier gateway.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making
the request, and provides an error response. If you have the required permissions, the error
response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

carrierGateway

Information about the carrier gateway.
Type: CarrierGateway object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteClientVpnEndpoint

Deletes the specified Client VPN endpoint. You must disassociate all target networks before you can delete a Client VPN endpoint.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientVpnEndpointId

The ID of the Client VPN to be deleted.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

status

The current state of the Client VPN endpoint.

Type: ClientVpnEndpointStatus object

DeleteClientVpnEndpoint

API Version 2016-11-15 575
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example applies a security group to a Client VPN endpoint.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteClientVpnEndpoint
&ClientVpnEndpointId=cvpn-endpoint-00c5d11fc4EXAMPLE
&AUTHPARAMS

Sample Response

<DeleteClientVpnEndpointResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>f1e0fdfe-96a4-4d7d-bc78-22eb0EXAMPLE</requestId>
  <status>
    <code>deleting</code>
  </status>
</DeleteClientVpnEndpointResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- **AWS SDK for Ruby V3**
DeleteClientVpnRoute

Deletes a route from a Client VPN endpoint. You can only delete routes that you manually added using the `CreateClientVpnRoute` action. You cannot delete routes that were automatically added when associating a subnet. To remove routes that have been automatically added, disassociate the target subnet from the Client VPN endpoint.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**ClientVpnEndpointId**

The ID of the Client VPN endpoint from which the route is to be deleted.

- Type: String
- Required: Yes

**DestinationCidrBlock**

The IPv4 address range, in CIDR notation, of the route to be deleted.

- Type: String
- Required: Yes

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

- Type: Boolean
- Required: No

**TargetVpcSubnetId**

The ID of the target subnet used by the route.

- Type: String
Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**status**

The current state of the route.

Type: [ClientVpnRouteStatus](#) object

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example deletes a route from a Client VPN endpoint.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=DeleteClientVpnRoute
&ClientVpnEndpointId=cvpn-endpoint-00c5d11fc4EXAMPLE
&DestinationCidrBlock=0.0.0.0/0
&TargetVpcSubnetId=subnet-057fa0918fEXAMPLE
&AUTHPARAMS
```

**Sample Response**

```
<DeleteClientVpnRouteResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>00d80748-708d-40f7-8635-f34acEXAMPLE</requestId>
  <status>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DeleteCoipCidr

Deletes a range of customer-owned IP addresses.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Cidr

A customer-owned IP address range that you want to delete.

Type: String

Required: Yes

CoipPoolId

The ID of the customer-owned address pool.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

coipCidr

Information about a range of customer-owned IP addresses.
Type: `CoipCidr` object

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DeleteCoipPool

Deletes a pool of customer-owned IP (CoIP) addresses.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CoipPoolId

The ID of the CoIP pool that you want to delete.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

coipPool

Information about the CoIP address pool.

Type: CoipPool object

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteCustomerGateway

Deletes the specified customer gateway. You must delete the VPN connection before you can delete the customer gateway.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CustomerGatewayId

The ID of the customer gateway.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes the specified customer gateway.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteCustomerGateway
&CustomerGatewayId=cgw-b4dc3961
&AUTHPARAMS

Sample Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DeleteCustomerGatewayResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DeleteDhcpOptions

Deletes the specified set of DHCP options. You must disassociate the set of DHCP options before you can delete it. You can disassociate the set of DHCP options by associating either a new set of options or the default set of options with the VPC.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DhcpOptionsId

The ID of the DHCP options set.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes the specified set of DHCP options.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteDhcpOptions
&DhcpOptionsId=dopt-7a8b9c2d
&AUTHPARAMS

Sample Response

<DeleteDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DeleteDhcpOptionsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DeleteEgressOnlyInternetGateway

Deletes an egress-only internet gateway.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**EgressOnlyInternetGatewayId**

The ID of the egress-only internet gateway.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**returnCode**

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes the specified egress-only internet gateway.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteEgressOnlyInternetGateway
&EgressOnlyInternetGatewayId=eigw-015e0e244e24dfe8a
&AUTHPARAMS

Sample Response

<DeleteEgressOnlyInternetGateway xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <RequestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</RequestId>
  <returnCode>true</returnCode>
</DeleteEgressOnlyInternetGateway>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteFleets

Deletes the specified EC2 Fleets.

After you delete an EC2 Fleet, it launches no new instances.

You must also specify whether a deleted EC2 Fleet should terminate its instances. If you choose to terminate the instances, the EC2 Fleet enters the deleted_terminating state. Otherwise, the EC2 Fleet enters the deleted_running state, and the instances continue to run until they are interrupted or you terminate them manually.

For instant fleets, EC2 Fleet must terminate the instances when the fleet is deleted. A deleted instant fleet with running instances is not supported.

Restrictions

- You can delete up to 25 instant fleets in a single request. If you exceed this number, no instant fleets are deleted and an error is returned. There is no restriction on the number of fleets of type maintain or request that can be deleted in a single request.
- Up to 1000 instances can be terminated in a single request to delete instant fleets.

For more information, see Delete an EC2 Fleet in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

FleetId.N

The IDs of the EC2 Fleets.
**TerminateInstances**

Indicates whether to terminate the associated instances when the EC2 Fleet is deleted. The default is to terminate the instances.

To let the instances continue to run after the EC2 Fleet is deleted, specify no-terminate-instances. Supported only for fleets of type maintain and request.

For instant fleets, you cannot specify NoTerminateInstances. A deleted instant fleet with running instances is not supported.

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**successfulFleetDeletionSet**

Information about the EC2 Fleets that are successfully deleted.

Type: Array of [DeleteFleetSuccessItem](#) objects

**unsuccessfulFleetDeletionSet**

Information about the EC2 Fleets that are not successfully deleted.

Type: Array of [DeleteFleetErrorItem](#) objects

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DeleteFlowLogs

Deletes one or more flow logs.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

FlowLogId.N

One or more flow log IDs.

Constraint: Maximum of 1000 flow log IDs.

Type: Array of strings

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

unsuccessful

Information about the flow logs that could not be deleted successfully.
Type: Array of **UnsuccessfulItem** objects

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example deletes flow log fl-1a2b3c4d.

**Sample Request**

```plaintext
https://ec2.amazonaws.com/?Action=DeleteFlowLogs
&FlowLogId.1=fl-1a2b3c4d
&AUTHPARAMS
```

**Sample Response**

```xml
  <requestId>c5c4f51f-f4e9-42bc-8700-EXAMPLE</requestId>
  <unsuccessful/>
</DeleteFlowLogsResponse>
```

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
• AWS SDK for Python
• AWS SDK for Ruby V3
DeleteFpgaImage

Deletes the specified Amazon FPGA Image (AFI).

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

FpgaImageId

The ID of the AFI.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes the specified AFI.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteFpgaImage
&FpgaImageId=afi-0d123e21abcc85abc
&AUTHPARAMS

Sample Response

  <RequestId>dd3bf051-468e-4490-ad8a-2ffexample</RequestId>
  <return>true</return>
</DeleteFpgaImageResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteInstanceConnectEndpoint

Deletes the specified EC2 Instance Connect Endpoint.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceConnectEndpointId

The ID of the EC2 Instance Connect Endpoint to delete.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

instanceConnectEndpoint

Information about the EC2 Instance Connect Endpoint.

Type: Ec2InstanceConnectEndpoint object

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example: Delete an EC2 Instance Connect Endpoint

This example deletes the specified EC2 Instance Connect Endpoint.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteInstanceConnectEndpoint
&InstanceConnectEndpointId=eice-0123456789example
&AUTHPARAMS

Sample Response

<DeleteInstanceConnectEndpointResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>d732c12a-2f0c-49b4-b2a9-f2922e5f5635</requestId>
  <instanceConnectEndpoint>
    <availabilityZone>availability-zone</availabilityZone>
    <createdAt>2023-06-06T20:01:31.000Z</createdAt>
    <instanceConnectEndpointArn>arn:aws:ec2:region:account-id:instance-connect-endpoint/eice-0123456789example</instanceConnectEndpointArn>
    <instanceConnectEndpointId>eice-0123456789example</instanceConnectEndpointId>
    <networkInterfaceIdSet />
    <ownerId>account-id</ownerId>
    <preserveClientIp>false</preserveClientIp>
    <securityGroupIdSet>
      <item>sg-0123456789example</item>
    </securityGroupIdSet>
    <state>delete-in-progress</state>
    <stateMessage />
    <subnetId>subnet-0123456789example</subnetId>
    <vpcId>vpc-0123456789example</vpcId>
  </instanceConnectEndpoint>
</DeleteInstanceConnectEndpointResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DeleteInstanceEventWindow

Deletes the specified event window.

For more information, see [Define event windows for scheduled events](#) in the *Amazon EC2 User Guide*.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

- Type: Boolean
- Required: No

**ForceDelete**

Specify `true` to force delete the event window. Use the force delete parameter if the event window is currently associated with targets.

- Type: Boolean
- Required: No

**InstanceEventWindowId**

The ID of the event window.

- Type: String
- Required: Yes

**Response Elements**

The following elements are returned by the service.
instanceEventWindowState

The state of the event window.

Type: InstanceEventWindowStateChange object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteInternetGateway

Deletes the specified internet gateway. You must detach the internet gateway from the VPC before you can delete it.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRun0peration. Otherwise, it is Unauthorized0peration.

Type: Boolean

Required: No

**InternetGatewayId**

The ID of the internet gateway.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**return**

Is true if the request succeeds, and an error otherwise.

Type: Boolean
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes the specified internet gateway.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteInternetGateway
&InternetGatewayId=igw-ead4883
&AUTHPARAMS

Sample Response

<DeleteInternetGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteInternetGatewayResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteIpam

Delete an IPAM. Deleting an IPAM removes all monitored data associated with the IPAM including the historical data for CIDRs.

For more information, see Delete an IPAM in the Amazon VPC IPAM User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Cascade

Enables you to quickly delete an IPAM, private scopes, pools in private scopes, and any allocations in the pools in private scopes. You cannot delete the IPAM with this option if there is a pool in your public scope. If you use this option, IPAM does the following:

- Deallocates any CIDRs allocated to VPC resources (such as VPCs) in pools in private scopes.
- Deprovisions all IPv4 CIDRs provisioned to IPAM pools in private scopes.
- Deletes all IPAM pools in private scopes.
- Deletes all non-default private scopes in the IPAM.
- Deletes the default public and private scopes and the IPAM.

Type: Boolean

Required: No

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.
Type: Boolean
Required: No

IpamId

The ID of the IPAM to delete.
Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

ipam

Information about the results of the deletion.
Type: Ipam object

requestId

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DeleteIpamPool

Delete an IPAM pool.

⚠️ Note

You cannot delete an IPAM pool if there are allocations in it or CIDRs provisioned to it. To release allocations, see ReleaseIpamPoolAllocation. To deprovision pool CIDRs, see DeprovisionIpamPoolCidr.

For more information, see Delete a pool in the Amazon VPC IPAM User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Cascade

Enables you to quickly delete an IPAM pool and all resources within that pool, including provisioned CIDRs, allocations, and other pools.

⚠️ Important

You can only use this option to delete pools in the private scope or pools in the public scope with a source resource. A source resource is a resource used to provision CIDRs to a resource planning pool.

Type: Boolean
Required: No

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

IpamPoolId

The ID of the pool to delete.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

ipamPool

Information about the results of the deletion.

Type: IpamPool object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DeleteIpamResourceDiscovery

Deletes an IPAM resource discovery. A resource discovery is an IPAM component that enables IPAM to manage and monitor resources that belong to the owning account.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

IpamResourceDiscoveryId

The IPAM resource discovery ID.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

ipamResourceDiscovery

The IPAM resource discovery.

Type: IpamResourceDiscovery object

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteIpamScope

Delete the scope for an IPAM. You cannot delete the default scopes.

For more information, see Delete a scope in the Amazon VPC IPAM User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean  
Required: No

**IpamScopeId**

The ID of the scope to delete.

Type: String  
Required: Yes

Response Elements

The following elements are returned by the service.

**ipamScope**

Information about the results of the deletion.

Type: IpamScope object

**requestId**

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteKeyPair

Deletes the specified key pair, by removing the public key from Amazon EC2.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

KeyName

The name of the key pair.

Type: String

Required: No

KeyPairId

The ID of the key pair.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

keyPairId

The ID of the key pair.

Type: String
requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example request deletes the key pair named my-key-pair.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteKeyPair
&KeyName=my-key-pair
&AUTHPARAMS
```

Sample Response

```
<DeleteKeyPairResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <return>true</return>
  <keyPairId>key-12345abcdeEXAMPLE</keyPairId>
</DeleteKeyPairResponse>
```

Example 2

This example request deletes a key pair with the ID key-abcd12345eEXAMPLE.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteKeyPair
```

Errors

API Version 2016-11-15 622
Sample Response

```xml
<DeleteKeyPairResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <return>true</return>
  <keyPairId>key-abcd12345eEXAMPLE</keyPairId>
</DeleteKeyPairResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DeleteLaunchTemplate

Deletes a launch template. Deleting a launch template deletes all of its versions.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

LaunchTemplateId

The ID of the launch template.

You must specify either the LaunchTemplateId or the LaunchTemplateName, but not both.

Type: String

Required: No

LaunchTemplateName

The name of the launch template.

You must specify either the LaunchTemplateName or the LaunchTemplateId, but not both.

Type: String


Pattern: [a-zA-Z0-9\(\)\./-/_]+

Required: No
Response Elements

The following elements are returned by the service.

**launchTemplate**

Information about the launch template.

Type: `LaunchTemplate` object

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example deletes launch template `lt-0a20c965061f64abc`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteLaunchTemplate
&LaunchTemplateId=lt-0a20c965061f64abc
&AUTHPARAMS
```

Sample Response

```
<DeleteLaunchTemplateResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>c12605de-c470-4eaa-a4d0-ab4dexample</requestId>
  <launchTemplate>
    <createTime>2017-10-31T11:38:52.000Z</createTime>
    <createdBy>arn:aws:iam::123456789012:root</createdBy>
    <defaultVersionNumber>2</defaultVersionNumber>
    <latestVersionNumber>2</latestVersionNumber>
    <launchTemplateId>lt-0a20c965061f64abc</launchTemplateId>
  </launchTemplate>
</DeleteLaunchTemplateResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteLaunchTemplateVersions

Deletes one or more versions of a launch template.

You can't delete the default version of a launch template; you must first assign a different version as the default. If the default version is the only version for the launch template, you must delete the entire launch template using DeleteLaunchTemplate.

You can delete up to 200 launch template versions in a single request. To delete more than 200 versions in a single request, use DeleteLaunchTemplate, which deletes the launch template and all of its versions.

For more information, see Delete a launch template version in the EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

LaunchTemplateId

The ID of the launch template.

You must specify either the LaunchTemplateId or the LaunchTemplateName, but not both.

Type: String

Required: No

LaunchTemplateName

The name of the launch template.
You must specify either the LaunchTemplateName or the LaunchTemplateId, but not both.

Type: String


Pattern: [a-zA-Z0-9\((\()\).\-/\]+

Required: No

LaunchTemplateVersion.N

The version numbers of one or more launch template versions to delete. You can specify up to 200 launch template version numbers.

Type: Array of strings

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

successfullyDeletedLaunchTemplateVersionSet

Information about the launch template versions that were successfully deleted.

Type: Array of DeleteLaunchTemplateVersionsResponseSuccessItem objects

unsuccessfullyDeletedLaunchTemplateVersionSet

Information about the launch template versions that could not be deleted.

Type: Array of DeleteLaunchTemplateVersionsResponseErrorItem objects

Errors

For information about the errors that are common to all actions, see Common client error codes.
**Examples**

**Example**

This example deletes version 3 of launch template lt-0a20c965061f64abc.

**Sample Request**

```plaintext
https://ec2.amazonaws.com/?Action=DeleteLaunchTemplateVersions
&LaunchTemplateId=lt-0a20c965061f64abc
&LaunchTemplateVersion.1=3
&AUTHPARAMS
```

**Sample Response**

```xml
<DeleteLaunchTemplateVersionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>67fc746a-1b3f-467e-8583-7061ceexample</requestId>
  <unsuccessfullyDeletedLaunchTemplateVersionSet/>
  <successfullyDeletedLaunchTemplateVersionSet>
    <item>
      <launchTemplateId>lt-0a20c965061f64abc</launchTemplateId>
      <launchTemplateName>MyLaunchTemplate</launchTemplateName>
      <versionNumber>3</versionNumber>
    </item>
  </successfullyDeletedLaunchTemplateVersionSet>
</DeleteLaunchTemplateVersionsResponse>
```

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
• AWS SDK for Python
• AWS SDK for Ruby V3
DeleteLocalGatewayRoute

Deletes the specified route from the specified local gateway route table.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DestinationCidrBlock**

The CIDR range for the route. This must match the CIDR for the route exactly.

Type: String

Required: No

**DestinationPrefixListId**

Use a prefix list in place of DestinationCidrBlock. You cannot use DestinationPrefixListId and DestinationCidrBlock in the same request.

Type: String

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**LocalGatewayRouteTableId**

The ID of the local gateway route table.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

route

Information about the route.

Type: LocalGatewayRoute object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteLocalGatewayRouteTable

Deletes a local gateway route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

LocalGatewayRouteTableId

The ID of the local gateway route table.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

localGatewayRouteTable

Information about the local gateway route table.

Type: LocalGatewayRouteTable object

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteLocalGatewayRouteTableVirtualInterfaceGroupAssociation

Deletes a local gateway route table virtual interface group association.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**LocalGatewayRouteTableVirtualInterfaceGroupAssociationId**

The ID of the local gateway route table virtual interface group association.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**localGatewayRouteTableVirtualInterfaceGroupAssociation**

Information about the association.

Type: `LocalGatewayRouteTableVirtualInterfaceGroupAssociation` object

**requestId**

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteLocalGatewayRouteTableVpcAssociation

Deletes the specified association between a VPC and local gateway route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

LocalGatewayRouteTableVpcAssociationId

The ID of the association.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

localGatewayRouteTableVpcAssociation

Information about the association.

Type: LocalGatewayRouteTableVpcAssociation object

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteManagedPrefixList

Deletes the specified managed prefix list. You must first remove all references to the prefix list in your resources.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

PrefixListId

The ID of the prefix list.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

prefixList

Information about the prefix list.

Type: ManagedPrefixList object

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example deletes the specified prefix list.

Sample Request

```plaintext
https://ec2.amazonaws.com/?Action=DeleteManagedPrefixList
&PrefixListId=pl-0123123123123aabb
&AUTHPARAMS
```

Sample Response

```xml
  <requestId>06152571-575a-49aa-af95-example</requestId>
  <prefixList>
    <addressFamily>IPv6</addressFamily>
    <maxEntries>25</maxEntries>
    <ownerId>123456789012</ownerId>
    <prefixListArn>arn:aws:ec2:us-east-1:123456789012:prefix-list/pl-0123123123123aabb</prefixListArn>
    <prefixListId>pl-0123123123123aabb</prefixListId>
    <prefixListName>test-pl</prefixListName>
    <state>delete-in-progress</state>
    <version>1</version>
  </prefixList>
</DeleteManagedPrefixListResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DeleteNatGateway

Deletes the specified NAT gateway. Deleting a public NAT gateway disassociates its Elastic IP address, but does not release the address from your account. Deleting a NAT gateway does not delete any NAT gateway routes in your route tables.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

NatGatewayId

The ID of the NAT gateway.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

natGatewayId

The ID of the NAT gateway.

Type: String

requestId

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see `Common client error codes`.

Examples

Example

This example deletes NAT gateway nat-04ae55e711cec5680.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteNatGateway
&NatGatewayId=nat-04ae55e711cec5680
&AUTHPARAMS
```

Sample Response

```
  <requestId>741fc8ab-6ebe-452b-b92b-example</requestId>
  <natGatewayId>nat-04ae55e711cec5680</natGatewayId>
</DeleteNatGatewayResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DeleteNetworkAcl

Deletes the specified network ACL. You can't delete the ACL if it's associated with any subnets. You can't delete the default network ACL.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**NetworkAclId**

The ID of the network ACL.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**return**

Is true if the request succeeds, and an error otherwise.

Type: Boolean
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes the specified network ACL.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteNetworkAcl
&NetworkAclId=acl-2cb85d45
&AUTHPARAMS
```

Sample Response

```
<DeleteNetworkAclResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteNetworkAclResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DeleteNetworkAclEntry

Deletes the specified ingress or egress entry (rule) from the specified network ACL.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Egress**

Indicates whether the rule is an egress rule.

Type: Boolean

Required: Yes

**NetworkAclId**

The ID of the network ACL.

Type: String

Required: Yes

**RuleNumber**

The rule number of the entry to delete.

Type: Integer

Required: Yes
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes ingress rule number 100 from the specified network ACL.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteNetworkAclEntry
&NetworkAclId=acl-2cb85d45
&RuleNumber=100
&AUTHPARAMS

Sample Response

   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</DeleteNetworkAclEntryResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteNetworkInsightsAccessScope

Deletes the specified Network Access Scope.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

NetworkInsightsAccessScopeId

The ID of the Network Access Scope.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

networkInsightsAccessScopeId

The ID of the Network Access Scope.

Type: String

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteNetworkInsightsAccessScopeAnalysis

Deletes the specified Network Access Scope analysis.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

NetworkInsightsAccessScopeAnalysisId

The ID of the Network Access Scope analysis.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

networkInsightsAccessScopeAnalysisId

The ID of the Network Access Scope analysis.

Type: String

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteNetworkInsightsAnalysis

Deletes the specified network insights analysis.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

**NetworkInsightsAnalysisId**

The ID of the network insights analysis.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

**networkInsightsAnalysisId**

The ID of the network insights analysis.

Type: String

**requestId**

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteNetworkInsightsPath

Deletes the specified path.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

NetworkInsightsPathId

The ID of the path.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

networkInsightsPathId

The ID of the path.

Type: String

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteNetworkInterface

Deletes the specified network interface. You must detach the network interface before you can delete it.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

- **Type:** Boolean
- **Required:** No

**NetworkInterfaceId**

The ID of the network interface.

- **Type:** String
- **Required:** Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

- **Type:** String

**return**

Is `true` if the request succeeds, and an error otherwise.

- **Type:** Boolean
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes the specified network interface.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteNetworkInterface
&NetworkInterfaceId=eni-ffda3197
&AUTHPARAMS

Sample Response

   <requestId>e1c6d73b-edaa-4e62-9909-6611404e1739</requestId>
   <return>true</return>
</DeleteNetworkInterfaceResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteNetworkInterfacePermission

Deletes a permission for a network interface. By default, you cannot delete the permission if the account for which you're removing the permission has attached the network interface to an instance. However, you can force delete the permission, regardless of any attachment.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Force

Specify true to remove the permission even if the network interface is attached to an instance.

Type: Boolean

Required: No

NetworkInterfacePermissionId

The ID of the network interface permission.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
**requestId**

The ID of the request.

Type: String

**return**

Returns `true` if the request succeeds, otherwise returns an error.

Type: Boolean

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example deletes the specified network interface permission.

**Sample Request**

```plaintext
https://ec2.amazonaws.com/?Action=DeleteNetworkInterfacePermission
&NetworkInterfacePermissionId=eni-perm-06fd19020ede149ea
&AUTHPARAMS
```

**Sample Response**

```xml
  <requestId>7a296942-8fa0-45a3-8406-09e9example</requestId>
  <return>true</return>
</DeleteNetworkInterfacePermissionResponse>
```

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• **AWS Command Line Interface**
• **AWS SDK for .NET**
• **AWS SDK for C++**
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for JavaScript V3**
• **AWS SDK for PHP V3**
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
DeletePlacementGroup

Deletes the specified placement group. You must terminate all instances in the placement group before you can delete the placement group. For more information, see Placement groups in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

GroupName

The name of the placement group.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes the placement group named XYZ-cluster.

Sample Request

https://ec2.amazonaws.com/?Action=DeletePlacementGroup
&GroupName=XYZ-cluster
&AUTHPARAMS

Sample Response

  <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
  <return>true</return>
</DeletePlacementGroupResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DeletePublicIpv4Pool

Delete a public IPv4 pool. A public IPv4 pool is an EC2 IP address pool required for the public IPv4 CIDRs that you own and bring to AWS to manage with IPAM. IPv6 addresses you bring to AWS, however, use IPAM pools only.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

PoolId

The ID of the public IPv4 pool you want to delete.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

returnValue

Information about the result of deleting the public IPv4 pool.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteQueuedReservedInstances

Deletes the queued purchases for the specified Reserved Instances.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ReservedInstancesId.N

The IDs of the Reserved Instances.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: Yes

Response Elements

The following elements are returned by the service.

failedQueuedPurchaseDeletionSet

Information about the queued purchases that could not be deleted.

Type: Array of FailedQueuedPurchaseDeletion objects

requestId

The ID of the request.
Type: String

successfulQueuedPurchaseDeletionSet

Information about the queued purchases that were successfully deleted.

Type: Array of SuccessfulQueuedPurchaseDeletion objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteRoute

Deletes the specified route from the specified route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DestinationCidrBlock**

The IPv4 CIDR range for the route. The value you specify must match the CIDR for the route exactly.

Type: String

Required: No

**DestinationIpv6CidrBlock**

The IPv6 CIDR range for the route. The value you specify must match the CIDR for the route exactly.

Type: String

Required: No

**DestinationPrefixListId**

The ID of the prefix list for the route.

Type: String

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
RouteTableId

The ID of the route table.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example deletes the route with destination IPv4 CIDR 172.16.1.0/24 from the specified route table.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteRoute
&RouteTableId=rtb-1122334455667788a
&DestinationCidrBlock=172.16.1.0/24
&AUTHPARAMS
Sample Response

```
<DeleteRouteResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteRouteResponse>
```

Example 2

This example deletes the route with destination IPv6 CIDR : /0 from the specified route table.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteRoute
&RouteTableId=rtb-1122334455667788a
&DestinationIpv6CidrBlock=:/0
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteRouteTable

Deletes the specified route table. You must disassociate the route table from any subnets before you can delete it. You can't delete the main route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No
RouteTableId

The ID of the route table.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes the specified route table.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteRouteTable
&RouteTableId=rtb-1122334455667788a
&AUTHPARAMS

Sample Response

<DeleteRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteRouteTableResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteSecurityGroup

Deletes a security group.

If you attempt to delete a security group that is associated with an instance or network interface or
is referenced by another security group, the operation fails with DependencyViolation.

Request Parameters

The following parameters are for this specific action. For more information about required and
optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making
the request, and provides an error response. If you have the required permissions, the error
response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

GroupId

The ID of the security group.

Type: String
Required: No

GroupName

[Default VPC] The name of the security group. You can specify either the security group name
or the security group ID. For security groups in a nondefault VPC, you must specify the security
group ID.

Type: String
Required: No

Response Elements

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes the specified security group.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteSecurityGroup
&GroupId=sg-1a2b3c4d
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteSecurityGroupResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DeleteSnapshot

Deletes the specified snapshot.

When you make periodic snapshots of a volume, the snapshots are incremental, and only the blocks on the device that have changed since your last snapshot are saved in the new snapshot. When you delete a snapshot, only the data not needed for any other snapshot is removed. So regardless of which prior snapshots have been deleted, all active snapshots will have access to all the information needed to restore the volume.

You cannot delete a snapshot of the root device of an EBS volume used by a registered AMI. You must first de-register the AMI before you can delete the snapshot.

For more information, see Delete an Amazon EBS snapshot in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

SnapshotId

The ID of the EBS snapshot.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
**requestId**

The ID of the request.

**Type:** String

**return**

Is true if the request succeeds, and an error otherwise.

**Type:** Boolean

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example request deletes the snapshot with the ID `snap-1234567890abcdef0`.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=DeleteSnapshot
&SnapshotId.1=snap-1234567890abcdef0
&AUTHPARAMS
```

**Sample Response**

```
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <return>true</return>
</DeleteSnapshotResponse>
```

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DeleteSpotDatafeedSubscription

Deletes the data feed for Spot Instances.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.
**Examples**

**Example**

This example request deletes the data feed for the AWS account.

**Sample Request**

https://ec2.amazonaws.com/?Action=DeleteSpotDatafeedSubscription

**Sample Response**

```
<DeleteSpotDatafeedSubscriptionResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteSpotDatafeedSubscriptionResponse>
```

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DeleteSubnet

Deletes the specified subnet. You must terminate all running instances in the subnet before you can delete the subnet.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

SubnetId

The ID of the subnet.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes the specified subnet.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteSubnet
&SubnetId=subnet-9d4a7b6c
&AUTHPARAMS

Sample Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DeleteSubnetResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteSubnetCidrReservation

Deletes a subnet CIDR reservation.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

SubnetCidrReservationId

The ID of the subnet CIDR reservation.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

deletedSubnetCidrReservation

Information about the deleted subnet CIDR reservation.

Type: SubnetCidrReservation object

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteTags

Deletes the specified set of tags from the specified set of resources.

To list the current tags, use DescribeTags. For more information about tags, see Tag your Amazon EC2 resources in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ResourceId.N

The IDs of the resources, separated by spaces.

Constraints: Up to 1000 resource IDs. We recommend breaking up this request into smaller batches.

Type: Array of strings

Required: Yes

Tag.N

The tags to delete. Specify a tag key and an optional tag value to delete specific tags. If you specify a tag key without a tag value, we delete any tag with this key regardless of its value. If you specify a tag key with an empty string as the tag value, we delete the tag only if its value is an empty string.

If you omit this parameter, we delete all user-defined tags for the specified resources. We do not delete AWS-generated tags (tags that have the aws: prefix).
Constraints: Up to 1000 tags.

Type: Array of Tag objects

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes all the user-defined tags for the AMI with the ID ami-1a2b3c4d.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteTags
&ResourceId.1=ami-1a2b3c4d
&AUTHPARAMS
```

Sample Response

```
<DeleteTagsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/>
```
Example

This example deletes the stack and webserver tags for two particular instances.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteTags
&ResourceId.1=i-1234567890abcdef0
&ResourceId.2=i-0598c7d356eba48d7
&Tag.1.Key=stack
&Tag.2.Key=webserver
&AUTHPARAMS

Example

You can specify a tag key without a corresponding tag value to delete the tag regardless of its value. This example request deletes all tags that have a key of Purpose, regardless of the tag value.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteTags
&ResourceId.1=i-0598c7d356eba48d7
&Tag.1.Key=Purpose
&AUTHPARAMS

Example

When you create a tag, you can set the tag value to the empty string. Correspondingly, you can delete only tags that have a specific key and whose value is the empty string. This example request deletes all tags for the specified instance where the key is Purpose and the tag value is the empty string.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteTags
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteTrafficMirrorFilter

Deletes the specified Traffic Mirror filter.

You cannot delete a Traffic Mirror filter that is in use by a Traffic Mirror session.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

TrafficMirrorFilterId

The ID of the Traffic Mirror filter.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

trafficMirrorFilterId

The ID of the Traffic Mirror filter.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteTrafficMirrorFilterRule

Deletes the specified Traffic Mirror rule.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TrafficMirrorFilterRuleId

The ID of the Traffic Mirror rule.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

trafficMirrorFilterRuleId

The ID of the deleted Traffic Mirror rule.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteTrafficMirrorSession

Deletes the specified Traffic Mirror session.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TrafficMirrorSessionId

The ID of the Traffic Mirror session.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

trafficMirrorSessionId

The ID of the deleted Traffic Mirror session.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteTrafficMirrorTarget

Deletesthe specified Traffic Mirror target.

You cannot delete a Traffic Mirror target that is in use by a Traffic Mirror session.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

TrafficMirrorTargetId

The ID of the Traffic Mirror target.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

trafficMirrorTargetId

The ID of the deleted Traffic Mirror target.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteTransitGateway

Deletes the specified transit gateway.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

- **Type:** Boolean
- **Required:** No

**TransitGatewayId**

The ID of the transit gateway.

- **Type:** String
- **Required:** Yes

Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

- **Type:** String

**transitGateway**

Information about the deleted transit gateway.

- **Type:** TransitGateway object
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteTransitGatewayConnect

Deletes the specified Connect attachment. You must first delete any Connect peers for the attachment.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

- Type: Boolean
- Required: No

**TransitGatewayAttachmentId**

The ID of the Connect attachment.

- Type: String
- Required: Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

- Type: String

**transitGatewayConnect**

Information about the deleted Connect attachment.

- Type: [TransitGatewayConnect](#) object
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteTransitGatewayConnectPeer

Deletes the specified Connect peer.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TransitGatewayConnectPeerId

The ID of the Connect peer.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

transitGatewayConnectPeer

Information about the deleted Connect peer.

Type: TransitGatewayConnectPeer object
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteTransitGatewayMulticastDomain

Deletes the specified transit gateway multicast domain.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**TransitGatewayMulticastDomainId**

The ID of the transit gateway multicast domain.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**transitGatewayMulticastDomain**

Information about the deleted transit gateway multicast domain.

Type: TransitGatewayMulticastDomain object
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example deletes the multicast domain tgw-mcast-domain-0c4905cef7EXAMPLE.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteTransitGatewayMulticastDomain
&TransitGatewayMulticastDomainId=tgw-mcast-domain-02bb79002bEXAMPLE
&AUTHPARAMS

Sample Response

  <requestId>19914ba0-eb6c-43aa-9381-0bdafEXAMPLE</requestId>
  <transitGatewayMulticastDomain>
    <creationTime>2019-11-20T22:02:03.000Z</creationTime>
    <state>deleting</state>
    <transitGatewayId>tgw-0d88d2d0d5EXAMPLE</transitGatewayId>
    <transitGatewayMulticastDomainId>tgw-mcast-domain-02bb79002bEXAMPLE</transitGatewayMulticastDomainId>
  </transitGatewayMulticastDomain>
</DeleteTransitGatewayMulticastDomainResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
• **AWS SDK for Java V2**
• **AWS SDK for JavaScript V3**
• **AWS SDK for PHP V3**
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
DeleteTransitGatewayPeeringAttachment

Deletes a transit gateway peering attachment.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

- **Type:** Boolean
- **Required:** No

**TransitGatewayAttachmentId**

The ID of the transit gateway peering attachment.

- **Type:** String
- **Required:** Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

- **Type:** String

**transitGatewayPeeringAttachment**

The transit gateway peering attachment.

- **Type:** `TransitGatewayPeeringAttachment` object
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes the specified transit gateway peering attachment by specifying its attachment ID.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteTransitGatewayPeeringAttachment
&TransitGatewayAttachmentId=tgw-attach-12345678901abcd12
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteTransitGatewayPolicyTable

Deletes the specified transit gateway policy table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TransitGatewayPolicyTableId

The transit gateway policy table to delete.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

transitGatewayPolicyTable

Provides details about the deleted transit gateway policy table.

Type: TransitGatewayPolicyTable object
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteTransitGatewayPrefixListReference

Deletes a reference (route) to a prefix list in a specified transit gateway route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

PrefixListId

The ID of the prefix list.

Type: String

Required: Yes

TransitGatewayRouteTableId

The ID of the route table.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String
transitGatewayPrefixListReference

Information about the deleted prefix list reference.

Type: TransitGatewayPrefixListReference object

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes the specified prefix list reference in the specified transit gateway route table.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteTransitGatewayPrefixListReference
&TransitGatewayRouteTableId=tgw-rtb-0f98a0a5d09abcabc
&PREFIXLISTID=pl-001122334455aabbc
&AUTHPARAMS

Sample Response

  <requestId>482823e8-8165-4312-86ee-example</requestId>
  <transitGatewayPrefixListReference>
    <blackhole>false</blackhole>
    <prefixListId>pl-001122334455aabbc</prefixListId>
    <prefixListOwnerId>123456789012</prefixListOwnerId>
    <state>deleting</state>
    <transitGatewayRouteTableId>tgw-rtb-0f98a0a5d09abcabc</transitGatewayRouteTableId>
  </transitGatewayPrefixListReference>
</DeleteTransitGatewayPrefixListReferenceResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DeleteTransitGatewayRoute

Deletes the specified route from the specified transit gateway route table.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DestinationCidrBlock**

- The CIDR range for the route. This must match the CIDR for the route exactly.
  - Type: String
  - Required: Yes

**DryRun**

- Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.
  - Type: Boolean
  - Required: No

**TransitGatewayRouteTableId**

- The ID of the transit gateway route table.
  - Type: String
  - Required: Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

- The ID of the request.
Type: String

route

Information about the route.

Type: TransitGatewayRoute object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteTransitGatewayRouteTable

Deletes the specified transit gateway route table. You must disassociate the route table from any transit gateway route tables before you can delete it.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRun0peration. Otherwise, it is Unauthorized0peration.

Type: Boolean

Required: No

TransitGatewayRouteTableId

The ID of the transit gateway route table.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

transitGatewayRouteTable

Information about the deleted transit gateway route table.

Type: TransitGatewayRouteTable object
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteTransitGatewayRouteTableAnnouncement

Advertises to the transit gateway that a transit gateway route table is deleted.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TransitGatewayRouteTableAnnouncementId

The transit gateway route table ID that's being deleted.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

transitGatewayRouteTableAnnouncement

Provides details about a deleted transit gateway route table.

Type: TransitGatewayRouteTableAnnouncement object
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteTransitGatewayVpcAttachment

Deletes the specified VPC attachment.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TransitGatewayAttachmentId

The ID of the attachment.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

transitGatewayVpcAttachment

Information about the deleted VPC attachment.

Type: TransitGatewayVpcAttachment object
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteVerifiedAccessEndpoint

Delete an AWS Verified Access endpoint.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

A unique, case-sensitive token that you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VerifiedAccessEndpointId

The ID of the Verified Access endpoint.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.
**verifiedAccessEndpoint**

Details about the Verified Access endpoint.

Type: `VerifiedAccessEndpoint` object

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DeleteVerifiedAccessGroup

Delete an AWS Verified Access group.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**ClientToken**

A unique, case-sensitive token that you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**VerifiedAccessGroupId**

The ID of the Verified Access group.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.
Type: String

**verifiedAccessGroup**

Details about the Verified Access group.

Type: [VerifiedAccessGroup](#) object

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DeleteVerifiedAccessInstance

Delete an AWS Verified Access instance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

A unique, case-sensitive token that you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String
Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

VerifiedAccessInstanceId

The ID of the Verified Access instance.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.
Type: String

**verifiedAccessInstance**

Details about the Verified Access instance.

Type: [VerifiedAccessInstance](#) object

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DeleteVerifiedAccessTrustProvider

Delete an AWS Verified Access trust provider.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

A unique, case-sensitive token that you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VerifiedAccessTrustProviderId

The ID of the Verified Access trust provider.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.
Type: String

`verifiedAccessTrustProvider`

Details about the Verified Access trust provider.

Type: `VerifiedAccessTrustProvider` object

Errors

For information about the errors that are common to all actions, see `Common client error codes`.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DeleteVolume

Deletes the specified EBS volume. The volume must be in the available state (not attached to an instance).

The volume can remain in the deleting state for several minutes.

For more information, see Delete an Amazon EBS volume in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VolumeId

The ID of the volume.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String
**return**

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

**Errors**

For information about the errors that are common to all actions, see Common client error codes.

**Examples**

**Example**

This example request deletes the volume with the ID `vol-1234567890abcdef0`.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=DeleteVolume
&VolumeId=vol-1234567890abcdef0
&AUTHPARAMS
```

**Sample Response**

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteVolumeResponse>
```

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DeleteVpc

Deletes the specified VPC. You must detach or delete all gateways and resources that are associated with the VPC before you can delete it. For example, you must terminate all instances running in the VPC, delete all security groups associated with the VPC (except the default one), delete all route tables associated with the VPC (except the default one), and so on. When you delete the VPC, it deletes the VPC's default security group, network ACL, and route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String
**return**

Is true if the request succeeds, and an error otherwise.

Type: Boolean

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example deletes the specified VPC.

**Sample Request**

```plaintext
https://ec2.amazonaws.com/?Action=DeleteVpc
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS
```

**Sample Response**

```xml
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DeleteVpcResponse>
```

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
See Also

- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteVpcEndpointConnectionNotifications

Deletes the specified VPC endpoint connection notifications.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ConnectionNotificationId.N

  The IDs of the notifications.

  Type: Array of strings

  Required: Yes

DryRun

  Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

  Type: Boolean

  Required: No

Response Elements

The following elements are returned by the service.

requestId

  The ID of the request.

  Type: String

unsuccessful

  Information about the notifications that could not be deleted successfully.

  Type: Array of UnsuccessfulItem objects
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes connection notification vpce-nfn-04bcb952bc8af7123.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteVpcEndpointConnectionNotifications
&ConnectionNotificationId.1=vpce-nfn-04bcb952bc8af7123
&AUTHPARAMS

Sample Response

```xml
  <requestId>2bf45d2e-a871-4375-9a93-f4188example</requestId>
  <unsuccessful/>
</DeleteVpcEndpointConnectionNotificationsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteVpcEndpoints

Deletes the specified VPC endpoints.

When you delete a gateway endpoint, we delete the endpoint routes in the route tables for the endpoint.

When you delete a Gateway Load Balancer endpoint, we delete its endpoint network interfaces. You can only delete Gateway Load Balancer endpoints when the routes that are associated with the endpoint are deleted.

When you delete an interface endpoint, we delete its endpoint network interfaces.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VpcEndpointId.N

The IDs of the VPC endpoints.

Type: Array of strings

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.
Type: String

unsuccessful

Information about the VPC endpoints that were not successfully deleted.

Type: Array of UnsuccessfulItem objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes endpoint vpce-aa22bb33.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteVpcEndpoints&VpcEndpointId.1=vpce-aa22bb33

Sample Response

  <unsuccessful/>
  <requestId>b59c2643-789a-4bf7-aac4-example</requestId>
</DeleteVpcEndpointsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DeleteVpcEndpointServiceConfigurations

Deletes the specified VPC endpoint service configurations. Before you can delete an endpoint service configuration, you must reject any Available or PendingAcceptance interface endpoint connections that are attached to the service.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ServiceId.N

The IDs of the services.

Type: Array of strings

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

unsuccessful

Information about the service configurations that were not deleted, if applicable.
Type: Array of UnsuccessfulItem objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes your VPC endpoint service configuration vpce-svc-03d5ebb7d9579a2b3.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteVpcEndpointServiceConfigurations
ServiceId.1=vpce-svc-03d5ebb7d9579a2b3
&AUTHPARAMS

Sample Response

<DeleteVpcEndpointServiceConfigurationsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
    <requestId>12345d2e-a871-4375-9a93-f4188example</requestId>
</unsuccessful/>
</DeleteVpcEndpointServiceConfigurations>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
DeleteVpcPeeringConnection

Deletes a VPC peering connection. Either the owner of the requester VPC or the owner of the accepter VPC can delete the VPC peering connection if it's in the active state. The owner of the requester VPC can delete a VPC peering connection in the pending-acceptance state. You cannot delete a VPC peering connection that's in the failed or rejected state.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

   Type: Boolean
   Required: No

VpcPeeringConnectionId

The ID of the VPC peering connection.

   Type: String
   Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

   Type: String

return

Returns true if the request succeeds; otherwise, it returns an error.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes the specified VPC peering connection.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteVpcPeeringConnection&vpcPeeringConnectionId=pcx-1a2b3c4d

Sample Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DeleteVpcPeeringConnectionResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
See Also

- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteVpnConnection

Deletes the specified VPN connection.

If you're deleting the VPC and its associated components, we recommend that you detach the virtual private gateway from the VPC and delete the VPC before deleting the VPN connection. If you believe that the tunnel credentials for your VPN connection have been compromised, you can delete the VPN connection and create a new one that has new keys, without needing to delete the VPC or virtual private gateway. If you create a new VPN connection, you must reconfigure the customer gateway device using the new configuration information returned with the new VPN connection ID.

For certificate-based authentication, delete all AWS Certificate Manager (ACM) private certificates used for the AWS-side tunnel endpoints for the VPN connection before deleting the VPN connection.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

- **Type**: Boolean
- **Required**: No

**VpnConnectionId**

The ID of the VPN connection.

- **Type**: String
- **Required**: Yes

**Response Elements**

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deletes the specified VPN connection.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteVpnConnection
&vpnConnectionId=vpn-44a8938f
&AUTHPARAMS

Sample Response

<DeleteVpnConnectionResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DeleteVpnConnectionResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• **AWS SDK for .NET**
• **AWS SDK for C++**
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for JavaScript V3**
• **AWS SDK for PHP V3**
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
DeleteVpnConnectionRoute

Deletes the specified static route associated with a VPN connection between an existing virtual private gateway and a VPN customer gateway. The static route allows traffic to be routed from the virtual private gateway to the VPN customer gateway.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DestinationCidrBlock

The CIDR block associated with the local subnet of the customer network.

Type: String

Required: Yes

VpnConnectionId

The ID of the VPN connection.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean
Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example deletes a static route to the destination CIDR block 11.12.0.0/16 associated with the VPN connection with the ID vpn-83ad48ea. Note that when using the Query API, the "/" is denoted as "%2F".

Sample Request

```xml
https://ec2.amazonaws.com/?Action=DeleteVpnConnectionRoute
&DestinationCidrBlock=11.12.0.0%2F16
&VpnConnectionId=vpn-83ad48ea
&AUTHPARAMS
```

Sample Response

```xml
<DeleteVpnConnectionRouteResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId>
  <return>true</return>
</DeleteVpnConnectionRouteResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteVpnGateway

Deletes the specified virtual private gateway. You must first detach the virtual private gateway from the VPC. Note that you don't need to delete the virtual private gateway if you plan to delete and recreate the VPN connection between your VPC and your network.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VpnGatewayId

The ID of the virtual private gateway.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.
Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example deletes the specified virtual private gateway.

Sample Request

```xml
https://ec2.amazonaws.com/?Action=DeleteVpnGateway
&vpnGatewayId=vgw-8db04f81
&AUTHPARAMS
```

Sample Response

```xml
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DeleteVpnGatewayResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
DeprovisionByoipCidr

Releases the specified address range that you provisioned for use with your AWS resources through bring your own IP addresses (BYOIP) and deletes the corresponding address pool.

Before you can release an address range, you must stop advertising it using WithdrawByoipCidr and you must not have any IP addresses allocated from its address range.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Cidr

The address range, in CIDR notation. The prefix must be the same prefix that you specified when you provisioned the address range.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

byoipCidr

Information about the address range.

Type: ByoipCidr object
**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DeprovisionIpamByoasn

Deprovisions your Autonomous System Number (ASN) from your AWS account. This action can only be called after any BYOIP CIDR associations are removed from your AWS account with DisassociateIpamByoasn. For more information, see Tutorial: Bring your ASN to IPAM in the Amazon VPC IPAM guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Asn

An ASN.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

IpamId

The IPAM ID.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
byoasn

An ASN and BYOIP CIDR association.

Type: `Byoasn` object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DeprovisionIpamPoolCidr

Deprovision a CIDR provisioned from an IPAM pool. If you deprovision a CIDR from a pool that has a source pool, the CIDR is recycled back into the source pool. For more information, see Deprovision pool CIDRs in the Amazon VPC IPAM User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**Cidr**

The CIDR which you want to deprovision from the pool.

Type: String

Required: No

**DryRun**

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**IpamPoolId**

The ID of the pool that has the CIDR you want to deprovision.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
ipamPoolCidr

The deprovisioned pool CIDR.

Type: `IpamPoolCidr` object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
**DeprovisionPublicIpv4PoolCidr**

Deprovision a CIDR from a public IPv4 pool.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**Cidr**

The CIDR you want to deprovision from the pool. Enter the CIDR you want to deprovision with a netmask of /32. You must rerun this command for each IP address in the CIDR range. If your CIDR is a /24, you will have to run this command to deprovision each of the 256 IP addresses in the /24 CIDR.

Type: String

Required: Yes

**DryRun**

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**PoolId**

The ID of the pool that you want to deprovision the CIDR from.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.
**deprovisionedAddressSet**

The deprovisioned CIDRs.

*Type: Array of strings*

**poolId**

The ID of the pool that you deprovisioned the CIDR from.

*Type: String*

**requestId**

The ID of the request.

*Type: String*

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
**DeregisterImage**

Deregisters the specified AMI. After you deregister an AMI, it can't be used to launch new instances.

If you deregister an AMI that matches a Recycle Bin retention rule, the AMI is retained in the Recycle Bin for the specified retention period. For more information, see [Recycle Bin](#) in the *Amazon EC2 User Guide*.

When you deregister an AMI, it doesn't affect any instances that you've already launched from the AMI. You'll continue to incur usage costs for those instances until you terminate them.

When you deregister an Amazon EBS-backed AMI, it doesn't affect the snapshot that was created for the root volume of the instance during the AMI creation process. When you deregister an instance store-backed AMI, it doesn't affect the files that you uploaded to Amazon S3 when you created the AMI.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**ImageId**

The ID of the AMI.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example request deregisters the specified AMI.

Sample Request

https://ec2.amazonaws.com/?Action=DeregisterImage
&ImageId=ami-4fa54026
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeregisterImageResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
See Also

- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeregisterInstanceEventNotificationAttributes

Deregisters tag keys to prevent tags that have the specified tag keys from being included in scheduled event notifications for resources in the Region.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

InstanceTagAttribute

Information about the tag keys to deregister.

Type: DeregisterInstanceTagAttributeRequest object
Required: No

Response Elements

The following elements are returned by the service.

instanceTagAttribute

The resulting set of tag keys.

Type: InstanceTagNotificationAttribute object

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeregisterTransitGatewayMulticastGroupMembers

Deregisters the specified members (network interfaces) from the transit gateway multicast group.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

GroupIpAddress

The IP address assigned to the transit gateway multicast group.

Type: String

Required: No

NetworkInterfaceIds.N

The IDs of the group members' network interfaces.

Type: Array of strings

Required: No

TransitGatewayMulticastDomainId

The ID of the transit gateway multicast domain.

Type: String

Required: No
Response Elements

The following elements are returned by the service.

**deregisteredMulticastGroupMembers**

Information about the deregistered members.

Type: `TransitGatewayMulticastDeregisteredGroupMembers` object

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example 1

This example deregisters the network interface as a group member `eni-0e246d3269EXAMPLE` from the multicast domain `tgw-mcast-domain-0c4905cef7EXAMPLE`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeregisterTransitGatewayMulticastGroupMembers
&TransitGatewayMulticastDomainId=tgw-mcast-domain-0c4905cef7EXAMPLE
&NetworkInterfaceIds=eni-0e246d3269EXAMPLE
&AUTHPARAMS
```

Sample Response

```
  <requestId>6f4167cd-0870-4858-8872-f1c34EXAMPLE</requestId>
  <registeredMulticastGroupMembers>
    <groupIpAddress>224.0.1.0</groupIpAddress>
  </registeredMulticastGroupMembers>
</DeregisterTransitGatewayMulticastGroupMembersResponse>
```
<registeredNetworkInterfaceIds>
  <item>eni-0e246d3269EXAMPLE</item>
</registeredNetworkInterfaceIds>
<transitGatewayMulticastDomainId>tgw-mcast-domain-0c4905cef7EXAMPLE</transitGatewayMulticastDomainId>
</registeredMulticastGroupMembers>
</DeregisterTransitGatewayMulticastGroupMembersResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DeregisterTransitGatewayMulticastGroupSources

Deregisters the specified sources (network interfaces) from the transit gateway multicast group.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

GroupIpAddress

The IP address assigned to the transit gateway multicast group.

Type: String

Required: No

NetworkInterfaceIds.N

The IDs of the group sources' network interfaces.

Type: Array of strings

Required: No

TransitGatewayMulticastDomainId

The ID of the transit gateway multicast domain.

Type: String

Required: No
Response Elements

The following elements are returned by the service.

deregisteredMulticastGroupSources

Information about the deregistered group sources.

Type: TransitGatewayMulticastDeregisteredGroupSources object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example deregisters the network interface as a group source eni-07f290fc3cEXAMPLE from the multicast domain tgw-mcast-domain-0c4905cef7EXAMPLE.

Sample Request

https://ec2.amazonaws.com/?Action=DeregisterTransitGatewayMulticastGroupSources
&TransitGatewayMulticastDomainId=tgw-mcast-domain-0c4905cef7EXAMPLE
&NetworkInterfaceIds=eni-07f290fc3cEXAMPLE
&AUTHPARAMS

Sample Response

  <requestId>1ca916e8-a4b5-4ff8-9fc3-3052dEXAMPLE</requestId>
  <deregisteredMulticastSources>
    <deregisteredNetworkInterfaceIds>
      ...
    </deregisteredNetworkInterfaceIds>
  </deregisteredMulticastSources>
</DeregisterTransitGatewayMulticastGroupSourcesResponse>
<item>eni-07f290fc3cEXAMPLE</item>
</deregisteredNetworkInterfaceIds>
<groupIpAddress>224.0.1.0</groupIpAddress>
<transitGatewayMulticastDomainId>tgw-mcast-domain-0c4905cef7EXAMPLE</transitGatewayMulticastDomainId>
</deregisteredMulticastGroupSources>
</DeregisterTransitGatewayMulticastGroupSourcesResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeAccountAttributes

Describes attributes of your AWS account. The following are the supported account attributes:

- **default-vpc**: The ID of the default VPC for your account, or none.
- **max-instances**: This attribute is no longer supported. The returned value does not reflect your actual vCPU limit for running On-Demand Instances. For more information, see [On-Demand Instance Limits](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ondemand-instance-limit.html) in the *Amazon Elastic Compute Cloud User Guide*.
- **max-elastic-ips**: The maximum number of Elastic IP addresses that you can allocate.
- **supported-platforms**: This attribute is deprecated.
- **vpc-max-elastic-ips**: The maximum number of Elastic IP addresses that you can allocate.
- **vpc-max-security-groups-per-interface**: The maximum number of security groups that you can assign to a network interface.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](https://docs.aws.amazon.com/AWSEC2/latest/APIReference/att_common-query-parameters.html).

**AttributeName.N**

The account attribute names.

Type: Array of strings

Valid Values: supported-platforms | default-vpc

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
Response Elements

The following elements are returned by the service.

**accountAttributeSet**

Information about the account attributes.

Type: Array of `AccountAttribute` objects

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeAddresses

Describes the specified Elastic IP addresses or all of your Elastic IP addresses.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AllocationId.N

Information about the allocation IDs.

Type: Array of strings

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. Filter names and values are case-sensitive.

• allocation-id - The allocation ID for the address.
• association-id - The association ID for the address.
• instance-id - The ID of the instance the address is associated with, if any.
• network-border-group - A unique set of Availability Zones, Local Zones, or Wavelength Zones from where AWS advertises IP addresses.
• network-interface-id - The ID of the network interface that the address is associated with, if any.
• network-interface-owner-id - The AWS account ID of the owner.
• private-ip-address - The private IP address associated with the Elastic IP address.
• **public-ip** - The Elastic IP address, or the carrier IP address.

• **tag:<key>** - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key `Owner` and the value `TeamA`, specify `tag:Owner` for the filter name and `TeamA` for the filter value.

• **tag-key** - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

  Type: Array of `Filter` objects

  Required: No

**PublicIp.N**

One or more Elastic IP addresses.

Default: Describes all your Elastic IP addresses.

Type: Array of strings

Required: No

**Response Elements**

The following elements are returned by the service.

**addressesSet**

Information about the Elastic IP addresses.

Type: Array of `Address` objects

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
Examples

Example

This example request describes a specific Elastic IP address allocated to your account.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeAddresses
&AllocationId.1= eipalloc-08229861
&AUTHPARAMS

Sample Response

<DescribeAddressesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>f7de5e98-491a-4c19-a92d-908d6EXAMPLE</requestId>
  <addressesSet>
    <item>
      <publicIp>203.0.113.41</publicIp>
      <allocationId>eipalloc-08229861</allocationId>
      <domain>vpc</domain>
      <instanceId>i-0598c7d356eba48d7</instanceId>
      <associationId>eipassoc-f0229899</associationId>
      <networkInterfaceId>eni-ef229886</networkInterfaceId>
      <networkInterfaceOwnerId>053230519467</networkInterfaceOwnerId>
      <privateIpAddress>10.0.0.228</privateIpAddress>
    </item>
  </addressesSet>
</DescribeAddressesResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeAddressesAttribute

Describes the attributes of the specified Elastic IP addresses. For requirements, see Using reverse DNS for email applications.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AllocationId.N

[EC2-VPC] The allocation IDs.

Type: Array of strings

Required: No

Attribute

The attribute of the IP address.

Type: String

Valid Values: domain-name

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer
Valid Range: Minimum value of 1. Maximum value of 1000.

Required: No

NextToken

The token for the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

addressSet

Information about the IP addresses.

Type: Array of AddressAttribute objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• **AWS Command Line Interface**
• **AWS SDK for .NET**
• **AWS SDK for C++**
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for JavaScript V3**
• **AWS SDK for PHP V3**
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
DescribeAddressTransfers

Describes an Elastic IP address transfer. For more information, see Transfer Elastic IP addresses in the Amazon Virtual Private Cloud User Guide.

When you transfer an Elastic IP address, there is a two-step handshake between the source and transfer AWS accounts. When the source account starts the transfer, the transfer account has seven days to accept the Elastic IP address transfer. During those seven days, the source account can view the pending transfer by using this action. After seven days, the transfer expires and ownership of the Elastic IP address returns to the source account. Accepted transfers are visible to the source account for three days after the transfers have been accepted.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AllocationId.N

The allocation IDs of Elastic IP addresses.

Type: Array of strings

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

MaxResults

The maximum number of address transfers to return in one page of results.

Type: Integer

Required: No

**NextToken**

Specify the pagination token from a previous request to retrieve the next page of results.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**addressTransferSet**

The Elastic IP address transfer.

Type: Array of [AddressTransfer](#) objects

**nextToken**

Specify the pagination token from a previous request to retrieve the next page of results.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeAggregateIdFormat

Describes the longer ID format settings for all resource types in a specific Region. This request is useful for performing a quick audit to determine whether a specific Region is fully opted in for longer IDs (17-character IDs).

This request only returns information about resource types that support longer IDs.


Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String
statusSet

Information about each resource's ID format.

Type: Array of IdFormat objects

useLongIdsAggregated

Indicates whether all resource types in the Region are configured to use longer IDs. This value is only true if all users are configured to use longer IDs for all resources types in the Region.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes the overall ID format settings for the default Region.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeAggregateIdFormat

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <useLongIdsAggregated>true</useLongIdsAggregated>
  <statusSet>
    <item>
      <resource>security-group</resource>
      <useLongIds>true</useLongIds>
    </item>
    <item>
      <resource>route-table-association</resource>
      <useLongIds>true</useLongIds>
    </item>
  </statusSet>
</DescribeAggregateIdFormatResponse>
<resource>vpc</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>flow-log</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>vpc-peering-connection</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>elastic-ip-association</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>vpc-cidr-block-association</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>network-interface</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>subnet</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <deadline>2016-12-15T14:00:00.000Z</deadline>
  <resource>volume</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>vpc-ipv6-cidr-block-association</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>network-acl-association</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>dhcp-options</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <deadline>2016-12-15T14:00:00.000Z</deadline>
  <resource>snapshots</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>subnet-ipv6-cidr-block-association</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>network-interface-attachment</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>elastic-ip-allocation</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>internet-gateway</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <deadline>2016-12-15T14:00:00.000Z</deadline>
  <resource>reservations</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <deadline>2016-12-15T14:00:00.000Z</deadline>
  <resource>instances</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>route-tables</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>network-acls</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>customer-gateways</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeAvailabilityZones

Describes the Availability Zones, Local Zones, and Wavelength Zones that are available to you. If there is an event impacting a zone, you can use this request to view the state and any provided messages for that zone.

For more information about Availability Zones, Local Zones, and Wavelength Zones, see Regions and zones in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AllAvailabilityZones

Include all Availability Zones, Local Zones, and Wavelength Zones regardless of your opt-in status.

If you do not use this parameter, the results include only the zones for the Regions where you have chosen the option to opt in.

Type: Boolean

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- group-name - For Availability Zones, use the Region name. For Local Zones, use the name of the group associated with the Local Zone (for example, us-west-2-lax-1) For Wavelength
Zones, use the name of the group associated with the Wavelength Zone (for example, us-east-1-wl1-bos-wlz-1).

- **message** - The Zone message.
- **parent-zoneID** - The ID of the zone that handles some of the Local Zone and Wavelength Zone control plane operations, such as API calls.
- **parent-zoneName** - The ID of the zone that handles some of the Local Zone and Wavelength Zone control plane operations, such as API calls.
- **region-name** - The name of the Region for the Zone (for example, us-east-1).
- **state** - The state of the Availability Zone, the Local Zone, or the Wavelength Zone (available).
- **zone-id** - The ID of the Availability Zone (for example, use1-az1), the Local Zone (for example, usw2-lax1-az1), or the Wavelength Zone (for example, us-east-1-wl1-bos-wlz-1).
- **zone-name** - The name of the Availability Zone (for example, us-east-1a), the Local Zone (for example, us-west-2-lax-1a), or the Wavelength Zone (for example, us-east-1-wl1-bos-wlz-1).
- **zone-type** - The type of zone (availability-zone | local-zone | wavelength-zone).

Type: Array of Filter objects

Required: No

**ZonelId.N**

The IDs of the Availability Zones, Local Zones, and Wavelength Zones.

Type: Array of strings

Required: No

**ZoneName.N**

The names of the Availability Zones, Local Zones, and Wavelength Zones.

Type: Array of strings

Required: No
Response Elements

The following elements are returned by the service.

availabilityZoneInfo

Information about the Availability Zones, Local Zones, and Wavelength Zones.

Type: Array of AvailabilityZone objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example request describes the zones in the current Region that are enabled for your account.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeAvailabilityZones
&AUTHPARAMS

Sample Response

  <requestId>e23c5a54-a29c-43ee-8b55-0c13c26e9e01</requestId>
  <availabilityZoneInfo>
    <item>
      <groupName>us-west-2</groupName>
      <optInStatus>opt-in-not-required</optInStatus>
      <zoneName>us-west-2a</zoneName>
      <zoneId>usw2-az1</zoneId>
      <zoneState>available</zoneState>
      <zoneType>availability-zone</zoneType>
    </item>
  </availabilityZoneInfo>
</DescribeAvailabilityZonesResponse>
<availabilityZoneInfo>
  <item>
    <groupName>us-west-2</groupName>
    <optInStatus>opt-in-not-required</optInStatus>
    <zoneName>us-west-2b</zoneName>
    <zoneId>usw2-az2</zoneId>
    <zoneState>available</zoneState>
    <zoneType>availability-zone</zoneType>
    <regionName>us-west-2</regionName>
    <messageSet/>
    <NetworkBorderGroup>us-west-2</NetworkBorderGroup>
  </item>
  <item>
    <groupName>us-west-2</groupName>
    <optInStatus>opt-in-not-required</optInStatus>
    <zoneName>us-west-2c</zoneName>
    <zoneId>usw2-az3</zoneId>
    <zoneState>available</zoneState>
    <zoneType>availability-zone</zoneType>
    <regionName>us-west-2</regionName>
    <messageSet/>
    <NetworkBorderGroup>us-west-2</NetworkBorderGroup>
  </item>
  <item>
    <groupName>us-west-2</groupName>
    <optInStatus>opt-in-not-required</optInStatus>
    <zoneName>us-west-2d</zoneName>
    <zoneId>usw2-az4</zoneId>
    <zoneState>available</zoneState>
    <zoneType>availability-zone</zoneType>
    <regionName>us-west-2</regionName>
    <messageSet/>
    <NetworkBorderGroup>us-west-2</NetworkBorderGroup>
  </item>
</availabilityZoneInfo>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeAwsNetworkPerformanceMetricSubscriptions

Describes the current Infrastructure Performance metric subscriptions.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

- Type: Boolean
- Required: No

Filter.N

One or more filters.

- Type: Array of Filter objects
- Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

- Type: Integer
- Valid Range: Minimum value of 0. Maximum value of 100.
- Required: No

NextToken

The token for the next page of results.

- Type: String
Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

subscriptionSet

Describes the current Infrastructure Performance subscriptions.

Type: Array of Subscription objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeBundleTasks

Describes the specified bundle tasks or all of your bundle tasks.

Note
Completed bundle tasks are listed for only a limited time. If your bundle task is no longer in the list, you can still register an AMI from it. Just use RegisterImage with the Amazon S3 bucket name and image manifest name you provided to the bundle task.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

BundleId.N

The bundle task IDs.

Default: Describes all your bundle tasks.

Type: Array of strings

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- bundle-id - The ID of the bundle task.
- error-code - If the task failed, the error code returned.
• error-message - If the task failed, the error message returned.
• instance-id - The ID of the instance.
• progress - The level of task completion, as a percentage (for example, 20%).
• s3-bucket - The Amazon S3 bucket to store the AMI.
• s3-prefix - The beginning of the AMI name.
• start-time - The time the task started (for example, 2013-09-15T17:15:20.000Z).
• state - The state of the task (pending | waiting-for-shutdown | bundling | storing | cancelling | complete | failed).
• update-time - The time of the most recent update for the task.

Type: Array of Filter objects

Required: No

**Response Elements**

The following elements are returned by the service.

**bundleInstanceTasksSet**

Information about the bundle tasks.

Type: Array of BundleTask objects

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example 1**

This example describes the status of the specified bundle task.
**Sample Request**

https://ec2.amazonaws.com/?Action=DescribeBundleTasks
&bundleId.1=bun-c1a540a8
&AUTHPARAMS

**Sample Response**

```xml
<DescribeBundleTasksResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <bundleInstanceTasksSet>
    <item>
      <instanceId>i-1234567890abcdef0</instanceId>
      <bundleId>bun-c1a540a8</bundleId>
      <state>cancelling</state>
      <startTime>2008-10-07T11:41:50.000Z</startTime>
      <updateTime>2008-10-07T11:51:50.000Z</updateTime>
      <storage>
        <S3>
          <bucket>myawsbucket</bucket>
          <prefix>winami</prefix>
        </S3>
      </storage>
      <progress>20%</progress>
    </item>
  </bundleInstanceTasksSet>
</DescribeBundleTasksResponse>
```

**Example 2**

This example filters the response to include only bundle tasks whose state is either complete or failed, and in addition are targeted for the Amazon S3 bucket named myawsbucket.

**Sample Request**

https://ec2.amazonaws.com/?Action=DescribeBundleTasks
&Filter.1.Name=s3-bucket
&Filter.1.Value.1=myawsbucket
&Filter.2.Name=state
&Filter.2.Name.1=complete
&Filter.2.Name.2=failed
&AUTHPARAMS
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeByoipCidrs

Describes the IP address ranges that were specified in calls to ProvisionByoipCidr.

To describe the address pools that were created when you provisioned the address ranges, use DescribePublicIpv4Pools or DescribeIpv6Pools.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: Yes

NextToken

The token for the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.
byoirpCidrSet

Information about your address ranges.

Type: Array of ByoirpCidr objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeCapacityBlockOfferings

Describes Capacity Block offerings available for purchase. With Capacity Blocks, you purchase a specific instance type for a period of time.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CapacityDurationHours

The number of hours for which to reserve Capacity Block.

Type: Integer

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

EndDateRange

The latest end date for the Capacity Block offering.

Type: Timestamp

Required: No

InstanceCount

The number of instances for which to reserve capacity.

Type: Integer

Required: Yes
InstanceType

The type of instance for which the Capacity Block offering reserves capacity.

Type: String

Required: Yes

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.

Required: No

NextToken

The token to use to retrieve the next page of results.

Type: String

Required: No

StartDateRange

The earliest start date for the Capacity Block offering.

Type: Timestamp

Required: No

Response Elements

The following elements are returned by the service.

capacityBlockOfferingSet

The recommended Capacity Block offering for the dates specified.

Type: Array of CapacityBlockOffering objects
nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- **AWS Command Line Interface**
- **AWS SDK for .NET**
- **AWS SDK for C++**
- **AWS SDK for Go**
- **AWS SDK for Java V2**
- **AWS SDK for JavaScript V3**
- **AWS SDK for PHP V3**
- **AWS SDK for Python**
- **AWS SDK for Ruby V3**
**DescribeCapacityReservationFleets**

Describes one or more Capacity Reservation Fleets.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**CapacityReservationFleetId.N**

The IDs of the Capacity Reservation Fleets to describe.

*Type: Array of strings*

*Required: No*

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

*Type: Boolean*

*Required: No*

**Filter.N**

One or more filters.

- **state** - The state of the Fleet (submitted | modifying | active | partially_fulfilled | expiring | expired | cancelling | cancelled | failed).
- **instance-match-criteria** - The instance matching criteria for the Fleet. Only open is supported.
- **tenancy** - The tenancy of the Fleet (default | dedicated).
- **allocation-strategy** - The allocation strategy used by the Fleet. Only prioritized is supported.

*Type: Array of [Filter](#) objects*

*Required: No*
MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NextToken

The token to use to retrieve the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

capacityReservationFleetSet

Information about the Capacity Reservation Fleets.

Type: Array of CapacityReservationFleet objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeCapacityReservations

Describes one or more of your Capacity Reservations. The results describe only the Capacity Reservations in the AWS Region that you're currently using.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CapacityReservationId.N

The ID of the Capacity Reservation.

Type: Array of strings

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters.

- instance-type - The type of instance for which the Capacity Reservation reserves capacity.
- owner-id - The ID of the AWS account that owns the Capacity Reservation.
- instance-platform - The type of operating system for which the Capacity Reservation reserves capacity.
- availability-zone - The Availability Zone of the Capacity Reservation.
- tenancy - Indicates the tenancy of the Capacity Reservation. A Capacity Reservation can have one of the following tenancy settings:
  - default - The Capacity Reservation is created on hardware that is shared with other AWS accounts.
• dedicated - The Capacity Reservation is created on single-tenant hardware that is dedicated to a single AWS account.

• outpost-arn - The Amazon Resource Name (ARN) of the Outpost on which the Capacity Reservation was created.

• state - The current state of the Capacity Reservation. A Capacity Reservation can be in one of the following states:
  • active - The Capacity Reservation is active and the capacity is available for your use.
  • expired - The Capacity Reservation expired automatically at the date and time specified in your request. The reserved capacity is no longer available for your use.
  • cancelled - The Capacity Reservation was cancelled. The reserved capacity is no longer available for your use.
  • pending - The Capacity Reservation request was successful but the capacity provisioning is still pending.
  • failed - The Capacity Reservation request has failed. A request might fail due to invalid request parameters, capacity constraints, or instance limit constraints. Failed requests are retained for 60 minutes.

• start-date - The date and time at which the Capacity Reservation was started.

• end-date - The date and time at which the Capacity Reservation expires. When a Capacity Reservation expires, the reserved capacity is released and you can no longer launch instances into it. The Capacity Reservation's state changes to expired when it reaches its end date and time.

• end-date-type - Indicates the way in which the Capacity Reservation ends. A Capacity Reservation can have one of the following end types:
  • unlimited - The Capacity Reservation remains active until you explicitly cancel it.
  • limited - The Capacity Reservation expires automatically at a specified date and time.

• instance-match-criteria - Indicates the type of instance launches that the Capacity Reservation accepts. The options include:
  • open - The Capacity Reservation accepts all instances that have matching attributes (instance type, platform, and Availability Zone). Instances that have matching attributes launch into the Capacity Reservation automatically without specifying any additional parameters.
• targeted - The Capacity Reservation only accepts instances that have matching attributes (instance type, platform, and Availability Zone), and explicitly target the Capacity Reservation. This ensures that only permitted instances can use the reserved capacity.

• placement-group-arn - The ARN of the cluster placement group in which the Capacity Reservation was created.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.

Required: No

NextToken

The token to use to retrieve the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

capacityReservationSet

Information about the Capacity Reservations.

Type: Array of CapacityReservation objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.
Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeCarrierGateways

Describes one or more of your carrier gateways.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CarrierGatewayId.N

One or more carrier gateway IDs.

Type: Array of strings

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters.

- carrier-gateway-id - The ID of the carrier gateway.
- state - The state of the carrier gateway (pending | failed | available | deleting | deleted).
- owner-id - The AWS account ID of the owner of the carrier gateway.
- tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
- tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.
- **vpc-id** - The ID of the VPC associated with the carrier gateway.

  Type: Array of [Filter](#) objects

  Required: No

**MaxResults**

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned `nextToken` value.

Type: Integer


Required: No

**NextToken**

The token for the next page of results.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**carrierGatewaySet**

Information about the carrier gateway.

Type: Array of [CarrierGateway](#) objects

**nextToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

**requestId**

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeClassicLinkInstances

Note
This action is deprecated.

Describes one or more of your linked EC2-Classic instances. This request only returns information about EC2-Classic instances linked to a VPC through ClassicLink. You cannot use this request to return information about other instances.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter

The filters.

- group-id - The ID of a VPC security group that's associated with the instance.
- instance-id - The ID of the instance.
- tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
- tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.
- vpc-id - The ID of the VPC to which the instance is linked.
Type: Array of Filter objects

Required: No

**InstanceId.N**

The instance IDs. Must be instances linked to a VPC through ClassicLink.

Type: Array of strings

Required: No

**MaxResults**

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see [Pagination](#).

Constraint: If the value is greater than 1000, we return only 1000 items.

Type: Integer


Required: No

**NextToken**

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**instancesSet**

Information about one or more linked EC2-Classic instances.

Type: Array of ClassicLinkInstance objects
nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeClientVpnAuthorizationRules

Describes the authorization rules for a specified Client VPN endpoint.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientVpnEndpointId

The ID of the Client VPN endpoint.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. Filter names and values are case-sensitive.

- description - The description of the authorization rule.
- destination-cidr - The CIDR of the network to which the authorization rule applies.
- group-id - The ID of the Active Directory group to which the authorization rule grants access.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results can be seen by sending another request with the nextToken value.
Type: Integer


Required: No

NextToken

The token to retrieve the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

authorizationRule

Information about the authorization rules.

Type: Array of AuthorizationRule objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.
Examples

Example

This example describes the authorization rules for a specific Client VPN endpoint.

Sample Request

&ClientVpnEndpointId.1=cvpn-endpoint-EXAMPLEc8db8d3536
&AUTHPARAMS

Sample Response

  <requestId>9d5c69db-763e-4b63-88ee-EXAMPLE</requestId>
  <authorizationRule>
    <item>
      <accessAll>true</accessAll>
      <description>auth-rule-one</description>
      <destinationCidr>10.0.0.0/16</destinationCidr>
      <clientVpnEndpointId>cvpn-endpoint-EXAMPLEc8db8d3536</clientVpnEndpointId>
      <groupId/>
      <status>
        <code>active</code>
      </status>
    </item>
  </authorizationRule>
</DescribeClientVpnAuthorizationRulesResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
See Also

- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeClientVpnConnections

Describes active client connections and connections that have been terminated within the last 60 minutes for the specified Client VPN endpoint.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientVpnEndpointId

The ID of the Client VPN endpoint.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. Filter names and values are case-sensitive.

- connection-id - The ID of the connection.
- username - For Active Directory client authentication, the user name of the client who established the client connection.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results can be seen by sending another request with the nextToken value.
Type: Integer


Required: No

NextToken

The token to retrieve the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

connections

Information about the active and terminated client connections.

Type: Array of ClientVpnConnection objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.
Examples

Example

This example describes Client VPN endpoint connections.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeClientVpnConnections
&ClientVpnEndpointId=cvpn-endpoint-00c5d11fc4EXAMPLE
&TargetNetworkCidr=10.0.0.0/16
&RevokeAllGroups=true
&AUTHPARAMS

Sample Response

  <requestId>7263df00-d3ed-4f32-a3b9-88177EXAMPLE</requestId>
  <connections>
    <item>
      <clientIp>11.0.0.98</clientIp>
      <commonName>client1</commonName>
      <connectionEndTime>2018-12-13 18:38:10</connectionEndTime>
      <connectionEstablishedTime>2018-12-13 18:32:49</connectionEstablishedTime>
      <connectionId>cvpn-connection-010b1282b7EXAMPLE</connectionId>
      <egressBytes>14891</egressBytes>
      <egressPackets>309</egressPackets>
      <clientVpnEndpointId>cvpn-endpoint-00c5d11fc4EXAMPLE</clientVpnEndpointId>
      <ingressBytes>14947</ingressBytes>
      <ingressPackets>285</ingressPackets>
      <status>
        <code>terminated</code>
      </status>
      <timestamp>2018-12-13 18:38:10</timestamp>
    </item>
  </connections>
</DescribeClientVpnConnectionsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeClientVpnEndpoints

Describes one or more Client VPN endpoints in the account.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientVpnEndpointId.N

The ID of the Client VPN endpoint.

Type: Array of strings

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. Filter names and values are case-sensitive.

- endpoint-id - The ID of the Client VPN endpoint.
- transport-protocol - The transport protocol (tcp | udp).

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results can be seen by sending another request with the nextToken value.

Type: Integer

Required: No

NextToken
The token to retrieve the next page of results.

Type: String

Required: No

Response Elements
The following elements are returned by the service.

clientVpnEndpoint
Information about the Client VPN endpoints.

Type: Array of ClientVpnEndpoint objects

nextToken
The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId
The ID of the request.

Type: String

Errors
For information about the errors that are common to all actions, see Common client error codes.

Examples
Example
This example describes the Client VPN endpoints in your account.
Sample Request

https://ec2.amazonaws.com/?Action=DescribeClientVpnEndpointsResponse
&AUTHPARAMS

Sample Response

  <requestId">e69f64d5-e763-4cf5-844e-c278b1946ddf</requestId">
  <clientVpnEndpoint">
    <item">
      <authenticationOptions">
        <item">
          <mutualAuthentication">
          </mutualAuthentication>
          <type">certificate-authentication</type">
        </item>
      </authenticationOptions>
      <clientCidrBlock">10.0.0.0/24</clientCidrBlock">
      <connectionLogOptions">
        <Enabled>false</Enabled>
      </connectionLogOptions">
      <creationTime">2018-12-11T13:14:10</creationTime">
      <description">ash-test</description">
      <dnsName">cvpn-endpoint-0043a94c5c27c7997.prod.clientvpn.us-east-1.amazonaws.com</dnsName">
      <clientVpnEndpointId">cvpn-endpoint-0043a94c5c27c7997</clientVpnEndpointId">
      <status">
        <code">pending-associate</code">
      </status">
      <splitTunnel>false</splitTunnel">
      <transportProtocol">tcp</transportProtocol">
      <vpnProtocol">openvpn</vpnProtocol">
    </item>
  </clientVpnEndpoint>
</DescribeClientVpnEndpointsResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeClientVpnRoutes

Describes the routes for the specified Client VPN endpoint.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientVpnEndpointId

The ID of the Client VPN endpoint.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. Filter names and values are case-sensitive.

- destination-cidr - The CIDR of the route destination.
- origin - How the route was associated with the Client VPN endpoint (associate | add-route).
- target-subnet - The ID of the subnet through which traffic is routed.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results can be seen by sending another request with the nextToken value.
Type: Integer


Required: No

NextToken

The token to retrieve the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

routes

Information about the Client VPN endpoint routes.

Type: Array of ClientVpnRoute objects

Errors

For information about the errors that are common to all actions, see Common client error codes.
Examples

Example

This example describes the routes for a specific Client VPN endpoint.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeClientVpnRoutes
&ClientVpnEndpointId.1=cvpn-endpoint-EXAMPLEc8db8d3536
&AUTHPARAMS

Sample Response

<DescribeClientVpnRoutesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>08fb643f-4d8f-443b-b853-EXAMPLE9cc8c</requestId>
  <routes>
    <item>
      <destinationCidr>10.0.0.0/16</destinationCidr>
      <clientVpnEndpointId>cvpn-endpoint-EXAMPLEc8db8d3536</clientVpnEndpointId>
      <origin>associate</origin>
      <status>
        <code>active</code>
      </status>
      <targetSubnet>subnet-EXAMPLE18f440ab91</targetSubnet>
      <type>Nat</type>
    </item>
    <item>
      <destinationCidr>10.0.1.128/28</destinationCidr>
      <clientVpnEndpointId>cvpn-endpoint-EXAMPLEc8db8d3536</clientVpnEndpointId>
      <origin>add-route</origin>
      <status>
        <code>active</code>
      </status>
      <targetSubnet>EXAMPLE18f440ab91</targetSubnet>
      <type>Nat</type>
    </item>
  </routes>
</DescribeClientVpnRoutesResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeClientVpnTargetNetworks

Describes the target networks associated with the specified Client VPN endpoint.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**AssociationIds.#**

The IDs of the target network associations.

- **Type:** Array of strings
- **Required:** No

**ClientVpnEndpointId**

The ID of the Client VPN endpoint.

- **Type:** String
- **Required:** Yes

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

- **Type:** Boolean
- **Required:** No

**Filter.#**

One or more filters. Filter names and values are case-sensitive.

- **association-id** - The ID of the association.
- **target-network-id** - The ID of the subnet specified as the target network.
- **vpc-id** - The ID of the VPC in which the target network is located.
Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results can be seen by sending another request with the nextToken value.

Type: Integer


Required: No

NextToken

The token to retrieve the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

clientVpnTargetNetworks

Information about the associated target networks.

Type: Array of TargetNetwork objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes the target networks associated with a Client VPN endpoint.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeClientVpnTargetNetworks
&ClientVpnEndpointId=cvpn-endpoint-00c5d11fc4EXAMPLE
&AUTHPARAMS

Sample Response

<pre><code>&lt;DescribeClientVpnTargetNetworksResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  &lt:requestId>1f92d56a-4494-4cbe-ad85-d9387EXAMPLE&lt;/requestId&gt;
  &lt;clientVpnTargetNetworks&gt;
    &lt;item&gt;
      &lt;associationId&gt;cvpn-assoc-0822b0983cEXAMPLE&lt;/associationId&gt;
      &lt;clientVpnEndpointId&gt;cvpn-endpoint-00c5d11fc4EXAMPLE&lt;/clientVpnEndpointId&gt;
      &lt;targetNetworkId&gt;subnet-057fa0918fEXAMPLE&lt;/targetNetworkId&gt;
      &lt;securityGroups&gt;
        &lt;item&gt;sg-123456EXAMPLE&lt;/item&gt;
      &lt;/securityGroups&gt;
    &lt;/item&gt;
  &lt;/clientVpnTargetNetworks&gt;
&lt;/DescribeClientVpnTargetNetworksResponse&gt;</code></pre>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeCoipPools

Describes the specified customer-owned address pools or all of your customer-owned address pools.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters.
• coip-pool.local-gateway-route-table-id - The ID of the local gateway route table.
• coip-pool.pool-id - The ID of the address pool.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer


Required: No

NextToken

The token for the next page of results.
Type: String

Required: No

**PoolId.N**

The IDs of the address pools.

Type: Array of strings

Required: No

### Response Elements

The following elements are returned by the service.

**coipPoolSet**

Information about the address pools.

Type: Array of [CoipPool](#) objects

**nextToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

### Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
See Also

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeConversionTasks

Describes the specified conversion tasks or all your conversion tasks. For more information, see the VM Import/Export User Guide.

For information about the import manifest referenced by this API action, see VM Import Manifest.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ConversionTaskId.N

The conversion task IDs.

Type: Array of strings

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

conversionTasks

Information about the conversion tasks.

Type: Array of ConversionTask objects

requestId

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes all your conversion tasks.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeConversionTasks
&AUTHPARAMS

Sample Response

<DescribeConversionTasksResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <conversionTasks>
    <item>
      <conversionTaskId>import-i-fh95npoc</conversionTaskId>
      <expirationTime>2010-12-22T12:01Z</expirationTime>
      <importVolume>
        <bytesConverted>1000</bytesConverted>
        <availabilityZone>us-east-1a</availabilityZone>
      </importVolume>
      <image>
        <format>VDMK</format>
        <size>128696320</size>
        <importManifestUrl>
          https://s3.amazonaws.com/myawsbucket/a3a5e1b6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmanifest.xml?AWSAccessKeyId=AKIAI05FODNN7EXAMPLE&Expires=1294855591&Signature=5snej01T1TtL0uR7KExtEXAMPLE%3D
        </importManifestUrl>
      </image>
      <volume>
        <size>8</size>
      </volume>
    </item>
  </conversionTasks>
</DescribeConversionTasksResponse>
<id>vol-1234567890abcdef0</id>
</volume>
</importVolume>
<state>active</state>
<statusMessage/>
</conversionTask>
</item>
</conversionTasks>
</DescribeConversionTasksResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeCustomerGateways

Describes one or more of your VPN customer gateways.

For more information, see AWS Site-to-Site VPN in the AWS Site-to-Site VPN User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CustomerGatewayId.N

One or more customer gateway IDs.

Default: Describes all your customer gateways.

Type: Array of strings

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters.

- bgp-asn - The customer gateway's Border Gateway Protocol (BGP) Autonomous System Number (ASN).
- customer-gateway-id - The ID of the customer gateway.
- ip-address - The IP address of the customer gateway device's external interface.
- state - The state of the customer gateway (pending | available | deleting | deleted).
- type - The type of customer gateway. Currently, the only supported type is ipsec.1.
• `tag:<key>` - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key `Owner` and the value `TeamA`, specify `tag:Owner` for the filter name and `TeamA` for the filter value.

• `tag-key` - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

  Type: Array of `Filter` objects

  Required: No

Response Elements

The following elements are returned by the service.

`customerGatewaySet`

Information about one or more customer gateways.

  Type: Array of `CustomerGateway` objects

`requestId`

The ID of the request.

  Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example 1

This example request describes the specified customer gateway.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeCustomerGateways
```
Sample Response

```xml
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <customerGatewaySet>
    <item>
      <customerGatewayId>cgw-b4dc3961</customerGatewayId>
      <state>available</state>
      <type>ipsec.1</type>
      <ipAddress>12.1.2.3</ipAddress>
      <bgpAsn>65534</bgpAsn>
      <tagSet/>
    </item>
  </customerGatewaySet>
</DescribeCustomerGatewaysResponse>
```

Example 2

This example request uses filters to describe any customer gateway you own whose IP address is 12.1.2.3, and whose state is either pending or available.

Sample Request

```xml
https://ec2.amazonaws.com/?Action=DescribeCustomerGateways
&Filter.1.Name=ip-address
&Filter.1.Value.1=12.1.2.3
&Filter.2.Name=state
&Filter.2.Value.1=pending
&Filter.2.Value.2=available
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-customer-gateways.html)
- [AWS SDK for .NET](https://docs.aws.amazon.com/sdk_for_dotnet/v3/api/aws.amazon.ec2)
• **AWS SDK for C++**
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for JavaScript V3**
• **AWS SDK for PHP V3**
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
DescribeDhcpOptions

Describes one or more of your DHCP options sets.

For more information, see [DHCP options sets](https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/dhcp-options.html) in the Amazon VPC User Guide.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](https://docs.aws.amazon.com/AWS SDK for .NET/latest/api/index.html).

**DhcpOptionsId.N**

The IDs of one or more DHCP options sets.

Default: Describes all your DHCP options sets.

Type: Array of strings

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**Filter.N**

The filters.

- **dhcp-options-id** - The ID of a DHCP options set.
- **key** - The key for one of the options (for example, `domain-name`).
- **value** - The value for one of the options.
- **owner-id** - The ID of the AWS account that owns the DHCP options set.
- **tag:<key>** - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that
have a tag with the key `Owner` and the value `TeamA`, specify `tag:Owner` for the filter name and `TeamA` for the filter value.

- `tag-key` - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer


Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

dhcpOptionsSet

Information about one or more DHCP options sets.

Type: Array of DhcpOptions objects

nextToken

The token to include in another request to get the next page of items. This value is `null` when there are no more items to return.
Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see Common client error codes.

**Examples**

**Example 1**

This example describes the DHCP options sets.

**Sample Request**

https://ec2.amazonaws.com/?Action=DescribeDhcpOptions
&AUTHPARAMS

**Sample Response**

<DescribeDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>a0d78ea6-7bc7-4cb8-b827-c5ff0aff0140</requestId>
  <dhcpOptionsSet>
    <item>
      <dhcpOptionsId>dopt-1EXAMPLE</dhcpOptionsId>
      <ownerId>111122223333</ownerId>
      <dhcpConfigurationSet>
        <item>
          <key>domain-name</key>
          <valueSet>
            <item>
              <value>us-east-2.compute.internal</value>
            </item>
          </valueSet>
        </item>
        <item>
          <key>domain-name-servers</key>
          <valueSet>
            <item>
              <value>168.119.190.10</value>
            </item>
          </valueSet>
        </item>
      </dhcpConfigurationSet>
    </item>
  </dhcpOptionsSet>
</DescribeDhcpOptionsResponse>
Example 2

This example uses filters to describe any DHCP options set that includes a domain-name option whose value includes the string example.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeDhcpOptions
&Filter.1.Name=key
&Filter.1.Value.1=domain-name
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeEgressOnlyInternetGateways

Describes one or more of your egress-only internet gateways.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

- Type: Boolean
- Required: No

EgressOnlyInternetGatewayId.N

The IDs of the egress-only internet gateways.

- Type: Array of strings
- Required: No

Filter.N

The filters.

- tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.

- tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

- Type: Array of Filter objects
- Required: No
**MaxResults**

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see [Pagination](#).

*Type: Integer*


*Required: No*

**NextToken**

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

*Type: String*

*Required: No*

### Response Elements

The following elements are returned by the service.

**egressOnlyInternetGatewaySet**

Information about the egress-only internet gateways.

*Type: Array of [EgressOnlyInternetGateway](#) objects*

**nextToken**

The token to include in another request to get the next page of items. This value is `null` when there are no more items to return.

*Type: String*

**requestId**

The ID of the request.

*Type: String*
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes all of your egress-only internet gateways.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeEgressOnlyInternetGateways
&AUTHPARAMS

Sample Response

```xml
<DescribeEgressOnlyInternetGatewaysResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
   requestId="ec441b4c-357f-4483-b4a7-example">
   <egressOnlyInternetGatewaySet>
       <item>
           <attachmentSet>
               <item>
                   <state>attached</state>
                   <vpcId>vpc-0c62a468</vpcId>
               </item>
           </attachmentSet>
           <egressOnlyInternetGatewayId>eigw-015e0e244e24dfe8a</egressOnlyInternetGatewayId>
       </item>
   </egressOnlyInternetGatewaySet>
</DescribeEgressOnlyInternetGatewaysResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeElasticGpus

Describe the Elastic Graphics accelerator associated with your instances. For more information about Elastic Graphics, see Amazon Elastic Graphics.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ElasticGpuId.N

The Elastic Graphics accelerator IDs.

Type: Array of strings

Required: No

Filter.N

The filters.

- availability-zone - The Availability Zone in which the Elastic Graphics accelerator resides.
- elastic-gpu-type - The type of Elastic Graphics accelerator; for example, eg1.medium.
- instance-id - The ID of the instance to which the Elastic Graphics accelerator is associated.

Type: Array of Filter objects

Required: No
MaxResults

The maximum number of results to return in a single call. To retrieve the remaining results, make another call with the returned NextToken value. This value can be between 5 and 1000.

Type: Integer


Required: No

NextToken

The token to request the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

elasticGpuSet

Information about the Elastic Graphics accelerators.

Type: Array of ElasticGpus objects

maxResults

The total number of items to return. If the total number of items available is more than the value specified in max-items then a Next-Token will be provided in the output that you can use to resume pagination.

Type: Integer

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String
**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example describes all of the Elastic Graphics accelerators associated with your instances.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=DescribeElasticGpus
&AUTHPARAMS
```

**Sample Response**

```
  <requestId>450268ba-0e1d-4401-958e-9a3example</requestId>
  <elasticGpuSet>
    <item>
      <elasticGpuId>egpu-0833fd743e7227123</elasticGpuId>
      <availabilityZone>us-east-1a</availabilityZone>
      <elasticGpuType>eg1.small</elasticGpuType>
      <elasticGpuHealth>OK</elasticGpuHealth>
      <elasticGpuState>ATTACHED</elasticGpuState>
      <instanceId>i-1234567890abc1234</instanceId>
    </item>
  </elasticGpuSet>
</DescribeElasticGpusResponse>
```

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• **AWS Command Line Interface**
• **AWS SDK for .NET**
• **AWS SDK for C++**
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for JavaScript V3**
• **AWS SDK for PHP V3**
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
DescribeExportImageTasks

Describes the specified export image tasks or all of your export image tasks.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ExportImageTaskId.N

The IDs of the export image tasks.

Type: Array of strings

Required: No

Filter.N

Filter tasks using the task-state filter and one of the following values: active, completed, deleting, or deleted.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return in a single call.

Type: Integer

Required: No

NextToken

A token that indicates the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

exportImageTaskSet

Information about the export image tasks.

Type: Array of ExportImageTask objects

nextToken

The token to use to get the next page of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeExportTasks

Describes the specified export instance tasks or all of your export instance tasks.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ExportTaskId.N

The export task IDs.

Type: Array of strings

Required: No

Filter.N

the filters for the export tasks.

Type: Array of Filter objects

Required: No

Response Elements

The following elements are returned by the service.

exportTaskSet

Information about the export tasks.

Type: Array of ExportTask objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.
Examples

Example

This example describes a single export task.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeExportTasks
&exportTaskId.1=export-i-1234wxyz
&AUTHPARAMS

Sample Response

<DescribeExportTasksResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <exportTaskSet>
    <item>
      <exportTaskId>export-i-1234wxyz</exportTaskId>
      <description>Example for docs</description>
      <state>active</state>
      <statusMessage>Running</statusMessage>
      <instanceExport>
        <instanceId>i-12345678</instanceId>
        <targetEnvironment>VMWare</targetEnvironment>
      </instanceExport>
      <exportToS3>
        <diskImageFormat>VMDK</diskImageFormat>
        <containerFormat>OVA</containerFormat>
        <s3Bucket>my-bucket-for-exported-vm</s3Bucket>
        <s3Key>my-exports/ export-i-1234wxyz.ova</s3Key>
      </exportToS3>
    </item>
  </exportTaskSet>
</DescribeExportTasksResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
**DescribeFastLaunchImages**

Describe details for Windows AMIs that are configured for Windows fast launch.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**Filter.N**

Use the following filters to streamline results.

- `resource-type` - The resource type for pre-provisioning.
- `owner-id` - The owner ID for the pre-provisioning resource.
- `state` - The current state of fast launching for the Windows AMI.

Type: Array of `Filter` objects

Required: No

**ImageId.N**

Specify one or more Windows AMI image IDs for the request.

Type: Array of strings

Required: No

**MaxResults**

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see [Pagination](#).
Type: Integer

Valid Range: Minimum value of 0. Maximum value of 200.

Required: No

**NextToken**

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**fastLaunchImageSet**

A collection of details about the fast-launch enabled Windows images that meet the requested criteria.

Type: Array of [DescribeFastLaunchImagesSuccessItem](#) objects

**nextToken**

The token to include in another request to get the next page of items. This value is `null` when there are no more items to return.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeFastSnapshotRestores

Describes the state of fast snapshot restores for your snapshots.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

Filter.N

The filters. The possible values are:

- availability-zone: The Availability Zone of the snapshot.
- owner-id: The ID of the AWS account that enabled fast snapshot restore on the snapshot.
- snapshot-id: The ID of the snapshot.
- state: The state of fast snapshot restores for the snapshot (enabling | optimizing | enabled | disabling | disabled).

Type: Array of Filter objects
Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer
Valid Range: Minimum value of 0. Maximum value of 200.
Required: No
**NextToken**

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**fastSnapshotRestoreSet**

Information about the state of fast snapshot restores.

Type: Array of [DescribeFastSnapshotRestoreSuccessItem](#) objects

**nextToken**

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeFleetHistory

Describes the events for the specified EC2 Fleet during the specified time.

EC2 Fleet events are delayed by up to 30 seconds before they can be described. This ensures that you can query by the last evaluated time and not miss a recorded event. EC2 Fleet events are available for 48 hours.

For more information, see Monitor fleet events using Amazon EventBridge in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

EventType

The type of events to describe. By default, all events are described.

Type: String

Valid Values: instance-change | fleet-change | service-error

Required: No

FleetId

The ID of the EC2 Fleet.

Type: String

Required: Yes
MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer
Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String
Required: No

StartTime

The start date and time for the events, in UTC format (for example, YYYY-MM-DDTHH:MM:SSZ).

Type: Timestamp
Required: Yes

Response Elements

The following elements are returned by the service.

fleetId

The ID of the EC Fleet.

Type: String

historyRecordSet

Information about the events in the history of the EC2 Fleet.

Type: Array of HistoryRecordEntry objects

lastEvaluatedTime

The last date and time for the events, in UTC format (for example, YYYY-MM-DDTHH:MM:SSZ). All records up to this time were retrieved.
If `nextToken` indicates that there are more items, this value is not present.

**nextToken**

The token to include in another request to get the next page of items. This value is `null` when there are no more items to return.

Type: String

**requestId**

The ID of the request.

Type: String

**startTime**

The start date and time for the events, in UTC format (for example, `YYYY-MM-DDTHH:MM:SSZ`).

Type: Timestamp

### Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
• AWS SDK for Ruby V3
DescribeFleetInstances

Describes the running instances for the specified EC2 Fleet.

For more information, see Monitor your EC2 Fleet in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean  
Required: No

Filter.N

The filters.

- instance-type - The instance type.

Type: Array of Filter objects  
Required: No

FleetId

The ID of the EC2 Fleet.

Type: String  
Required: Yes

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer
Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

activeInstanceSet

The running instances. This list is refreshed periodically and might be out of date.

Type: Array of ActiveInstance objects

fleetId

The ID of the EC2 Fleet.

Type: String

nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeFleets

Describes the specified EC2 Fleets or all of your EC2 Fleets.

For more information, see Monitor your EC2 Fleet in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- activity-status - The progress of the EC2 Fleet (error | pending-fulfillment | pending-termination | fulfilled).
- excess-capacity-termination-policy - Indicates whether to terminate running instances if the target capacity is decreased below the current EC2 Fleet size (true | false).
- fleet-state - The state of the EC2 Fleet (submitted | active | deleted | failed | deleted-running | deleted-terminating | modifying).
- replace-unhealthy-instances - Indicates whether EC2 Fleet should replace unhealthy instances (true | false).
- type - The type of request (instant | request | maintain).

Type: Array of Filter objects

Required: No

FleetId.N

The IDs of the EC2 Fleets.
Note

If a fleet is of type `instant`, you must specify the fleet ID, otherwise it does not appear in the response.

Type: Array of strings

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see [Pagination](#).

Type: Integer

Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

fleetSet

Information about the EC2 Fleets.

Type: Array of [FleetData](#) objects

nextToken

The token to include in another request to get the next page of items. This value is `null` when there are no more items to return.
Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeFlowLogs

Describes one or more flow logs.

To view the published flow log records, you must view the log destination. For example, the CloudWatch Logs log group, the Amazon S3 bucket, or the Kinesis Data Firehose delivery stream.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

Filter

One or more filters.

- deliver-log-status - The status of the logs delivery (SUCCESS | FAILED).
- log-destination-type - The type of destination for the flow log data (cloud-watch-logs | s3 | kinesis-data-firehose).
- flow-log-id - The ID of the flow log.
- log-group-name - The name of the log group.
- resource-id - The ID of the VPC, subnet, or network interface.
- traffic-type - The type of traffic (ACCEPT | REJECT | ALL).
- tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
- tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.
Type: Array of Filter objects

Required: No

**FlowLogId.N**

One or more flow log IDs.

Constraint: Maximum of 1000 flow log IDs.

Type: Array of strings

Required: No

**MaxResults**

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see [Pagination](#).

Type: Integer

Required: No

**NextToken**

The token to request the next page of items. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**flowLogSet**

Information about the flow logs.

Type: Array of FlowLog objects

**nextToken**

The token to request the next page of items. This value is null when there are no more items to return.
Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes all of your flow logs.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeFlowLogs
&AUTHPARAMS

Sample Response

  <requestId>3cb46f23-099e-4bf0-891c-EXAMPLE</requestId>
  <flowLogSet>
    <item>
      <logDestination>arn:aws:s3:::my-log-bucket/my-logs/</logDestination>
      <resourceId>vpc-001234183afccabc</resourceId>
      <logDestinationType>s3</logDestinationType>
      <creationTime>2020-02-04T11:46:13.831Z</creationTime>
      <trafficType>ALL</trafficType>
      <deliverLogsStatus>SUCCESS</deliverLogsStatus>
      <logFormat>${version} ${instance-id} ${interface-id} ${type} ${pkt-sraddr} ${pkt-dstaddr} ${protocol} ${bytes} ${start} ${end} ${action}</logFormat>
      <flowLogStatus>ACTIVE</flowLogStatus>
      <flowLogId>fl-1234c5499532dbabc</flowLogId>
      <maxAggregationInterval>60</maxAggregationInterval>
      <tagSet>
        <item>
          ...
        </item>
      </tagSet>
    </item>
  </flowLogSet>
</DescribeFlowLogsResponse>
<key>Name</key> <value>FlowsForVpcA</value> </item> </tagSet> </item> <item> <resourceId>vpc-1122e8183afc74455</resourceId> <logDestinationType>cloud-watch-logs</logDestinationType> <deliverLogsPermissionArn>arn:aws:iam::123456789101:role/flowlogsrole</deliverLogsPermissionArn> <creationTime>2019-07-24T13:11:42.383Z</creationTime> <trafficType>ALL</trafficType> <deliverLogsStatus>SUCCESS</deliverLogsStatus> <logFormat>${version} ${account-id} ${interface-id} ${srcaddr} ${dstaddr} ${srcport} ${dstport} ${protocol} ${packets} ${bytes} ${start} ${end} ${action} ${log-status}</logFormat> <flowLogStatus>ACTIVE</flowLogStatus> <logGroupName>FlowLogsForSubnetB</logGroupName> <flowLogId>fl-0abc1235983d13123</flowLogId> <maxAggregationInterval>600</maxAggregationInterval> <tagSet> <item> <key>Name</key> <value>FlowsForVpcB</value> </item> </tagSet> </item> </flowLogSet> </DescribeFlowLogsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeFpgaImageAttribute

Describes the specified attribute of the specified Amazon FPGA Image (AFI).

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Attribute

The AFI attribute.

Type: String

Valid Values: description | name | loadPermission | productCodes

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

FpgaImageId

The ID of the AFI.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
fpgaImageAttribute

Information about the attribute.

Type: FpgaImageAttribute object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes the load permissions for the specified AFI.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeFpgaImageAttribute
&FpgaImageId=afi-0d123e21abcc85abc
&Attribute=loadPermission
&AUTHPARAMS

Sample Response

<DescribeFpgaImageAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
  <requestId>19106033-3723-481e-8cc4-aedexample</requestId>
  <fpgaImageAttribute>
    <fpgaImageId>afi-0d123e21abcc85abc</fpgaImageId>
    <loadPermissions>
      <item>
        <userId>123456789012</userId>
      </item>
    </loadPermissions>
  </fpgaImageAttribute>
</DescribeFpgaImageAttributeResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeFpgaImages

Describes the Amazon FPGA Images (AFIs) available to you. These include public AFIs, private AFIs that you own, and AFIs owned by other AWS accounts for which you have load permissions.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

Filter.

The filters.

- create-time - The creation time of the AFI.
- fpga-image-id - The FPGA image identifier (AFI ID).
- fpga-image-global-id - The global FPGA image identifier (AGFI ID).
- name - The name of the AFI.
- owner-id - The AWS account ID of the AFI owner.
- product-code - The product code.
- shell-version - The version of the AWS Shell that was used to create the bitstream.
- state - The state of the AFI (pending | failed | available | unavailable).
- tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
- tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.
- update-time - The time of the most recent update.
Type: Array of Filter objects

Required: No

**FpgaImageId.N**

The AFI IDs.

Type: Array of strings

Required: No

**MaxResults**

The maximum number of results to return in a single call.

Type: Integer


Required: No

**NextToken**

The token to retrieve the next page of results.

Type: String

Required: No

**Owner.N**

Filters the AFI by owner. Specify an AWS account ID, self (owner is the sender of the request), or an AWS owner alias (valid values are amazon | aws-marketplace).

Type: Array of strings

Required: No

**Response Elements**

The following elements are returned by the service.

**fpgaImageSet**

Information about the FPGA images.
Type: Array of **FpgaImage** objects

**nextToken**

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example describes AFIs that are owned by account 123456789012.

**Sample Request**

```plaintext
https://ec2.amazonaws.com/?Action=DescribeFpgaImages
&Filter.1.Name=owner-id
&Filter.1.Value.1=123456789012
&AUTHPARAMS
```

**Sample Response**

```xml
<DescribeFpgaImagesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
    requestId=c984bf72-784e-43b0-be87-d7903example/>
<requestId>c984bf72-784e-43b0-be87-d7903example</requestId>
<item>
    <createTime>2017-12-22T11:43:33.000Z</createTime>
    <description>my-afi</description>
    <fpgaImageGlobalId>agfi-05fabc8e7fcca8abc</fpgaImageGlobalId>
    <fpgaImageId>afi-0feabc18798f4abc</fpgaImageId>
    <public>false</public>
```
<name>my-afi</name>
<ownerId>123456789012</ownerId>
<pciId>
    <DeviceId>0xf000</DeviceId>
    <SubsystemId>0x1d51</SubsystemId>
    <SubsystemVendorId>0xfedd</SubsystemVendorId>
    <VendorId>0x1d0f</VendorId>
</pciId>
<shellVersion>0x071417d3</shellVersion>
<state>
    <code>available</code>
</state>
<updateTime>2017-12-22T12:09:14.000Z</updateTime>
</item>

<item>
    <createTime>2017-12-22T11:44:54.000Z</createTime>
    <description>my-afi-2</description>
    <fpgaImageGlobalId>agfi-0312327b5e84a0123</fpgaImageGlobalId>
    <fpgaImageId>afi-0d0123214bfc85123</fpgaImageId>
    <public>false</public>
    <name>my-afi-2</name>
    <ownerId>123456789012</ownerId>
    <pciId>
        <DeviceId>0xf000</DeviceId>
        <SubsystemId>0x1d51</SubsystemId>
        <SubsystemVendorId>0xfedd</SubsystemVendorId>
        <VendorId>0x1d0f</VendorId>
    </pciId>
    <shellVersion>0x071417d3</shellVersion>
    <state>
        <code>available</code>
    </state>
    <updateTime>2017-12-22T12:10:24.000Z</updateTime>
</item>
</fpgaImageSet>
</DescribeFpgaImagesResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeHostReservationOfferings

Describes the Dedicated Host reservations that are available to purchase.

The results describe all of the Dedicated Host reservation offerings, including offerings that might not match the instance family and Region of your Dedicated Hosts. When purchasing an offering, ensure that the instance family and Region of the offering matches that of the Dedicated Hosts with which it is to be associated. For more information about supported instance types, see Dedicated Hosts in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Filter.N

The filters.

- **instance-family** - The instance family of the offering (for example, m4).
- **payment-option** - The payment option (NoUpfront | PartialUpfront | AllUpfront).

Type: Array of Filter objects

Required: No

MaxDuration

This is the maximum duration of the reservation to purchase, specified in seconds. Reservations are available in one-year and three-year terms. The number of seconds specified must be the number of seconds in a year (365x24x60x60) times one of the supported durations (1 or 3). For example, specify 94608000 for three years.

Type: Integer

Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results can be seen by sending another request with the returned nextToken value. This value can be between 5 and 500. If maxResults is given a larger value than 500, you receive an error.
MinDuration

This is the minimum duration of the reservation you'd like to purchase, specified in seconds. Reservations are available in one-year and three-year terms. The number of seconds specified must be the number of seconds in a year ($365 \times 24 \times 60 \times 60$) times one of the supported durations (1 or 3). For example, specify 31536000 for one year.

Type: Integer

NextToken

The token to use to retrieve the next page of results.

Type: String

OfferingId

The ID of the reservation offering.

Type: String

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String
offeringSet

Information about the offerings.

Type: Array of HostOffering objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example describes all of the Dedicated Host Reservation offerings.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeHostReservationOfferings
&AUTHPARAMS

Sample Response

<DescribeHostReservationOfferingsResult xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>d4904fd9-84c3-4ea5-gtyk-a9cc3EXAMPLE</requestId>
  <offeringSet>
    <item>
      <duration>94608000</duration>
      <upfrontPrice>28396.000</upfrontPrice>
      <paymentOption>AllUpfront</paymentOption>
      <instanceFamily>m4</instanceFamily>
      <offeringId>hro-0875903788203856fg</offeringId>
      <hourlyPrice>0.000</hourlyPrice>
    </item>
    <item>
      ...
    </item>
  </offeringSet>
</DescribeHostReservationOfferingsResult>
Example 2

This example describes all of the Dedicated Host reservation offerings, with a maximum duration of three years, that are available to purchase.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeHostReservationOfferings
&MaxDuration=94608000
&AUTHPARAMS

Sample Response

<DescribeHostReservationOfferingsResult xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
<requestId>d4905678-84c3-4ea5-gtyk-a9cc3EXAMPLE</requestId>
<offeringSet>
  <item>
    <duration>31536000</duration>
    <upfrontPrice>4879.000</upfrontPrice>
    <paymentOption>PartialUpfront</paymentOption>
    <instanceFamily>c3</instanceFamily>
    <offeringId>hro-78909037882083856fg</offeringId>
    <hourlyPrice>0.557</hourlyPrice>
  </item>
</offeringSet>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeHostReservations

Describes reservations that are associated with Dedicated Hosts in your account.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Filter.N

The filters.

- **instance-family** - The instance family (for example, m4).
- **payment-option** - The payment option (NoUpfront | PartialUpfront | AllUpfront).
- **state** - The state of the reservation (payment-pending | payment-failed | active | retired).
- **tag:<key>** - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
- **tag-key** - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

Type: Array of Filter objects

Required: No

HostReservationIdSet.N

The host reservation IDs.

Type: Array of strings

Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results can be seen by sending another request with the returned nextToken value. This value can be between 5 and 500. If maxResults is given a larger value than 500, you receive an error.
Type: Integer
Required: No

**NextToken**

The token to use to retrieve the next page of results.

Type: String
Required: No

**Response Elements**

The following elements are returned by the service.

**hostReservationSet**

Details about the reservation's configuration.

Type: Array of [HostReservation](#) objects

**nextToken**

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example describes all of the Dedicated Host reservations in your account.
Sample Request

https://ec2.amazonaws.com/?Action=DescribeHostReservations
&AUTHPARAMS

Sample Response

<DescribeHostReservationsResult xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>d4904fd9-84c3-4ea5-gtyk-a9983EXAMPLE</requestId>
  <hostReservationSet>
    <item>
      <upfrontPrice>0.000</upfrontPrice>
      <count>2</count>
      <start>2016-08-01T15:43:15Z</start>
      <instanceFamily>m4</instanceFamily>
      <offeringId>hro-0875903778903856fg</offeringId>
      <duration>31536000</duration>
      <paymentOption>NoUpfront</paymentOption>
      <end>2017-08-01T15:43:15Z</end>
      <hostReservationId>hr-0875903778903856fg</hostReservationId>
      <state>active</state>
      <hourlyPrice>1.990</hourlyPrice>
      <hostIdSet>
        <item>h-0897086hfkttn</item>
        <item>h-0891346hytrtn</item>
      </hostIdSet>
    </item>
  </hostReservationSet>
</DescribeHostReservationsResult>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeHosts

Describes the specified Dedicated Hosts or all your Dedicated Hosts.

The results describe only the Dedicated Hosts in the Region you're currently using. All listed instances consume capacity on your Dedicated Host. Dedicated Hosts that have recently been released are listed with the state released.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Filter.N

The filters.

- auto-placement - Whether auto-placement is enabled or disabled (on | off).
- availability-zone - The Availability Zone of the host.
- client-token - The idempotency token that you provided when you allocated the host.
- host-reservation-id - The ID of the reservation assigned to this host.
- instance-type - The instance type size that the Dedicated Host is configured to support.
- state - The allocation state of the Dedicated Host (available | under-assessment | permanent-failure | released | released-permanent-failure).
- tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

Type: Array of Filter objects

Required: No

HostId.N

The IDs of the Dedicated Hosts. The IDs are used for targeted instance launches.

Type: Array of strings

Required: No
**MaxResults**

The maximum number of results to return for the request in a single page. The remaining results can be seen by sending another request with the returned `nextToken` value. This value can be between 5 and 500. If `maxResults` is given a larger value than 500, you receive an error.

You cannot specify this parameter and the host IDs parameter in the same request.

Type: Integer

Required: No

**NextToken**

The token to use to retrieve the next page of results.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**hostSet**

Information about the Dedicated Hosts.

Type: Array of [Host](#) objects

**nextToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example describes the Dedicated Hosts in your account.

Sample Request

```text
https://ec2.amazonaws.com/?Action=DescribeHosts &AUTHPARAMS
```

Sample Response

```xml
  <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
  <hostSet>
    <item>
      <availableCapacity>
        <availableVCpus>96</availableVCpus>
        <availableInstanceCapacity>
          <item>
            <availableCapacity>48</availableCapacity>
            <totalCapacity>48</totalCapacity>
            <instanceType>m5.large</instanceType>
          </item>
        </availableInstanceCapacity>
      </availableCapacity>
    </item>
  </hostSet>
  <instances/>
  <autoPlacement>off</autoPlacement>
  <hostRecovery>off</hostRecovery>
  <hostId>h-05abcd96ee9ca123</hostId>
  <state>available</state>
  <hostProperties>
    <totalVCpus>96</totalVCpus>
    <cores>48</cores>
    <sockets>2</sockets>
    <instanceType>m5.large</instanceType>
</DescribeHostsResponse>
```
Example 2

This example describes a released Dedicated Host in your account using the state filter to show only hosts with a state of released.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeHosts
&Filter.1.Name=state
&Filter.1.Value=released
&AUTHPARAMS

Sample Response

  <requestId>d4904fd9-82c2-4ea5-adfe-a9983EXAMPLE</requestId>
  <hostSet>
    <item>
      <releaseTime>2018-04-06T14:48:40.068Z</releaseTime>
      <autoPlacement>on</autoPlacement>
      <hostRecovery>off</hostRecovery>
      <hostId>h-0abcd595047722123</hostId>
      <state>released</state>
      <hostProperties>
        <totalVCpus>96</totalVCpus>
        <cores>48</cores>
        <sockets>2</sockets>
        <instanceType>m5.large</instanceType>
      </hostProperties>
      <availabilityZone>us-east-1a</availabilityZone>
    </item>
  </hostSet>
</DescribeHostsResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeIamInstanceProfileAssociations

Describes your IAM instance profile associations.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AssociationId.N

The IAM instance profile associations.

Type: Array of strings

Required: No

Filter.N

The filters.

- instance-id - The ID of the instance.
- state - The state of the association (associating | associated | disassociating).

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer


Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.
Response Elements

The following elements are returned by the service.

**iamInstanceProfileAssociationSet**

Information about the IAM instance profile associations.

Type: Array of [iamInstanceProfileAssociation](#) objects

**nextToken**

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

**Example**

This example describes all of your IAM instance profile associations.

**Sample Request**

```xml
https://ec2.amazonaws.com/?Action=DescribeIamInstanceProfileAssociations
&AUTHPARAMS
```
Sample Response

```xml
<DescribeIamInstanceProfileAssociationsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>84c2d2a6-12dc-491f-a9ee-example</requestId>
  <iamInstanceProfileAssociations>
    <item>
      <associationId>iip-assoc-08049da59357d598c</associationId>
      <iamInstanceProfile>
        <arn>arn:aws:iam::123456789012:instance-profile/AdminProfile</arn>
        <id>AIPAJEDNCAA64SSD265D6</id>
      </iamInstanceProfile>
      <instanceId>i-1234567890abcdef0</instanceId>
      <state>associated</state>
    </item>
  </iamInstanceProfileAssociations>
</DescribeIamInstanceProfileAssociationsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeIdentityIdFormat

Describes the ID format settings for resources for the specified IAM user, IAM role, or root user. For example, you can view the resource types that are enabled for longer IDs. This request only returns information about resource types whose ID formats can be modified; it does not return information about other resource types. For more information, see Resource IDs in the Amazon Elastic Compute Cloud User Guide.


These settings apply to the principal specified in the request. They do not apply to the principal that makes the request.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

PrincipalArn

The ARN of the principal, which can be an IAM role, IAM user, or the root user.

Type: String

Required: Yes

Resource

Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**statusSet**

Information about the ID format for the resources.

Type: Array of `IdFormat` objects

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example describes the ID format for the IAM role 'EC2Role'.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=DescribeIdentityIdFormat
&PrincipalArn=arn:aws:iam::123456789012:role/EC2Role
&AUTHPARAMS
```
Sample Response

<DescribeIdentityIdFormatResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <statusSet>
    <item>
      <useLongIds>true</useLongIds>
      <deadline>2016-12-15T12:00:00Z</deadline>
      <resource>reservation</resource>
    </item>
    <item>
      <useLongIds>true</useLongIds>
      <deadline>2016-12-15T12:00:00Z</deadline>
      <resource>instance</resource>
    </item>
    <item>
      <useLongIds>true</useLongIds>
      <deadline>2016-12-15T12:00:00Z</deadline>
      <resource>volume</resource>
    </item>
    <item>
      <useLongIds>true</useLongIds>
      <deadline>2016-12-15T12:00:00Z</deadline>
      <resource>snapshot</resource>
    </item>
    <item>
      <useLongIds>true</useLongIds>
      <resource>network-interface-attachment</resource>
    </item>
    <item>
      <useLongIds>true</useLongIds>
      <resource>network-interface</resource>
    </item>
    <item>
      <useLongIds>true</useLongIds>
      <resource>elastic-ip-allocation</resource>
    </item>
    <item>
      <useLongIds>true</useLongIds>
      <resource>elastic-ip-association</resource>
    </item>
    <item>
      <useLongIds>true</useLongIds>
      <resource>vpc</resource>
    </item>
  </statusSet>
</DescribeIdentityIdFormatResponse>
<item>
    <useLongIds>true</useLongIds>
    <resource>subnet</resource>
</item>
<item>
    <useLongIds>true</useLongIds>
    <resource>route-table</resource>
</item>
<item>
    <useLongIds>true</useLongIds>
    <resource>route-table-association</resource>
</item>
<item>
    <useLongIds>true</useLongIds>
    <resource>network-acl</resource>
</item>
<item>
    <useLongIds>true</useLongIds>
    <resource>network-acl-association</resource>
</item>
<item>
    <useLongIds>true</useLongIds>
    <resource>dhcp-options</resource>
</item>
<item>
    <useLongIds>true</useLongIds>
    <resource>internet-gateway</resource>
</item>
<item>
    <useLongIds>false</useLongIds>
    <resource>vpc-cidr-block-association</resource>
</item>
<item>
    <useLongIds>false</useLongIds>
    <resource>vpc-ipv6-cidr-block-association</resource>
</item>
<item>
    <useLongIds>true</useLongIds>
    <resource>subnet-ipv6-cidr-block-association</resource>
</item>
<item>
    <useLongIds>false</useLongIds>
    <resource>vpc-peering-connection</resource>
</item>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeIdFormat

Describes the ID format settings for your resources on a per-Region basis, for example, to view which resource types are enabled for longer IDs. This request only returns information about resource types whose ID formats can be modified; it does not return information about other resource types.


These settings apply to the IAM user who makes the request; they do not apply to the entire AWS account. By default, an IAM user defaults to the same settings as the root user, unless they explicitly override the settings by running the ModifyIdFormat command. Resources created with longer IDs are visible to all IAM users, regardless of these settings and provided that they have permission to use the relevant Describe command for the resource type.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Resource


Type: String
Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**statusSet**

Information about the ID format for the resource.

Type: Array of IdFormat objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes the ID format for all resources that support longer IDs.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=DescribeIdFormat
&AUTHPARAMS
```

**Sample Response**

```
<DescribeIdFormatResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <statusSet>
    <item>
      <resource>reservation</resource>
      <useLongIds>true</useLongIds>
      <deadline>2016-12-15T12:00:00.000Z</deadline>
    </item>
  </statusSet>
</DescribeIdFormatResponse>
```
<item>
  <resource>instance</resource>
  <useLongIds>true</useLongIds>
  <deadline>2016-12-15T12:00:00.000Z</deadline>
</item>

<item>
  <resource>volume</resource>
  <useLongIds>true</useLongIds>
  <deadline>2016-12-15T12:00:00.000Z</deadline>
</item>

<item>
  <resource>snapshot</resource>
  <useLongIds>true</useLongIds>
  <deadline>2016-12-15T12:00:00.000Z</deadline>
</item>

<item>
  <resource>network-interface-attachment</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>network-interface</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>elastic-ip-allocation</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>elastic-ip-association</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>vpc</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>subnet</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>route-table</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>route-table-association</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>network-acl</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>network-acl-association</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>dhcp-options</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>internet-gateway</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>vpc-cidr-block-association</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>vpc-ipv6-cidr-block-association</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>subnet-ipv6-cidr-block-association</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>vpc-peering-connection</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>security-group</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>flow-log</resource>
  <useLongIds>true</useLongIds>
</item>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeImageAttribute

Describes the specified attribute of the specified AMI. You can specify only one attribute at a time.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Attribute

The AMI attribute.

**Note:** The blockDeviceMapping attribute is deprecated. Using this attribute returns the Client.AuthFailure error. To get information about the block device mappings for an AMI, use the DescribeImages action.

Type: String

Valid Values: description | kernel | ramdisk | launchPermission | productCodes | blockDeviceMapping | sriovNetSupport | bootMode | tpmSupport | uefiData | lastLaunchedTime | imdsSupport

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ImageId

The ID of the AMI.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

blockDeviceMapping

The block device mapping entries.

Type: Array of BlockDeviceMapping objects

bootMode

The boot mode.

Type: AttributeValue object

description

A description for the AMI.

Type: AttributeValue object

imageId

The ID of the AMI.

Type: String

imdsSupport

If v2.0, it indicates that IMDSv2 is specified in the AMI. Instances launched from this AMI will have HttpTokens automatically set to required so that, by default, the instance requires that IMDSv2 is used when requesting instance metadata. In addition, HttpPutResponseHopLimit is set to 2. For more information, see Configure the AMI in the Amazon EC2 User Guide.

Type: AttributeValue object

kernel

The kernel ID.

Type: AttributeValue object

lastLaunchedTime

The date and time, in ISO 8601 date-time format, when the AMI was last used to launch an EC2 instance. When the AMI is used to launch an instance, there is a 24-hour delay before that usage is reported.
Note

lastLaunchedTime data is available starting April 2017.

Type: **AttributeValue** object

**launchPermission**

The launch permissions.

Type: Array of **LaunchPermission** objects

**productCodes**

The product codes.

Type: Array of **ProductCode** objects

**ramdisk**

The RAM disk ID.

Type: **AttributeValue** object

**requestId**

The ID of the request.

Type: String

**sriovNetSupport**

Indicates whether enhanced networking with the Intel 82599 Virtual Function interface is enabled.

Type: **AttributeValue** object

**tpmSupport**

If the image is configured for NitroTPM support, the value is v2.0.

Type: **AttributeValue** object

**uefiData**

Base64 representation of the non-volatile UEFI variable store. To retrieve the UEFI data, use the `GetInstanceUefiData` command. You can inspect and modify the UEFI data by using the python-
uefivars tool on GitHub. For more information, see UEFI Secure Boot in the Amazon EC2 User Guide.

Type: AttributeValue object

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example lists the launch permissions for the specified AMI.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeImageAttribute
&ImageId=ami-61a54008
&Attribute=launchPermission
&AUTHPARAMS

Sample Response

<DescribeImageAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imageId>ami-61a54008</imageId>
  <launchPermission>
    <item>
      <group>all</group>
    </item>
    <item>
      <userId>495219933132</userId>
    </item>
  </launchPermission>
</DescribeImageAttributeResponse>

Example 2

This example lists the product codes for the specified AMI.
Sample Request

https://ec2.amazonaws.com/?Action=DescribeImageAttribute
&ImageId=ami-2bb65342
&Attribute=productCodes
&AUTHPARAMS

Sample Response

<DescribeImageAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
  requestId=59dbff89-35bd-4eac-99ed-be587EXAMPLE">
  <imageId>ami-2bb65342</imageId>
  <productCodes>
    <item>
      <productCode>a1b2c3d4e5f6g7h8i9j10k11</productCode>
      <type>marketplace</type>
    </item>
  </productCodes>
</DescribeImageAttributeResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeImages

Describes the specified images (AMIs, AKIs, and ARIs) available to you or all of the images available to you.

The images available to you include public images, private images that you own, and private images owned by other AWS accounts for which you have explicit launch permissions.

Recently deregistered images appear in the returned results for a short interval and then return empty results. After all instances that reference a deregistered AMI are terminated, specifying the ID of the image will eventually return an error indicating that the AMI ID cannot be found.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ExecutableBy.N

Scopes the images by users with explicit launch permissions. Specify an AWS account ID, self (the sender of the request), or all (public AMIs).

- If you specify an AWS account ID that is not your own, only AMIs shared with that specific AWS account ID are returned. However, AMIs that are shared with the account's organization or organizational unit (OU) are not returned.
- If you specify self or your own AWS account ID, AMIs shared with your account are returned. In addition, AMIs that are shared with the organization or OU of which you are member are also returned.
- If you specify all, all public AMIs are returned.

Type: Array of strings
Filter

The filters.

- **architecture** - The image architecture (i386 | x86_64 | arm64 | x86_64_mac | arm64_mac).
- **block-device-mapping.delete-on-termination** - A Boolean value that indicates whether the Amazon EBS volume is deleted on instance termination.
- **block-device-mapping.device-name** - The device name specified in the block device mapping (for example, /dev/sdh or xvdh).
- **block-device-mapping.snapshot-id** - The ID of the snapshot used for the Amazon EBS volume.
- **block-device-mapping.volume-size** - The volume size of the Amazon EBS volume, in GiB.
- **block-device-mapping.volume-type** - The volume type of the Amazon EBS volume (io1 | io2 | gp2 | gp3 | sc1 | st1 | standard).
- **block-device-mapping.encrypted** - A Boolean that indicates whether the Amazon EBS volume is encrypted.
- **creation-date** - The time when the image was created, in the ISO 8601 format in the UTC time zone (YYYY-MM-DDThh:mm:ss.sssZ), for example, 2021-09-29T11:04:43.305Z. You can use a wildcard (*), for example, 2021-09-29T*, which matches an entire day.
- **description** - The description of the image (provided during image creation).
- **ena-support** - A Boolean that indicates whether enhanced networking with ENA is enabled.
- **hypervisor** - The hypervisor type (ovm | xen).
- **image-id** - The ID of the image.
- **image-type** - The image type (machine | kernel | ramdisk).
- **is-public** - A Boolean that indicates whether the image is public.
- **kernel-id** - The kernel ID.
- **manifest-location** - The location of the image manifest.
- **name** - The name of the AMI (provided during image creation).
- **owner-alias** - The owner alias (amazon | aws-marketplace). The valid aliases are defined in an Amazon-maintained list. This is not the AWS account alias that can be set using the IAM console. We recommend that you use the Owner request parameter instead of this filter.
• owner-id - The AWS account ID of the owner. We recommend that you use the **Owner** request parameter instead of this filter.

• platform - The platform. The only supported value is `windows`.

• product-code - The product code.

• product-code.type - The type of the product code (marketplace).

• ramdisk-id - The RAM disk ID.

• root-device-name - The device name of the root device volume (for example, `/dev/sda1`).

• root-device-type - The type of the root device volume (`ebs` | `instance-store`).

• source-instance-id - The ID of the instance that the AMI was created from if the AMI was created using `CreateImage`. This filter is applicable only if the AMI was created using `CreateImage`.

• state - The state of the image (`available` | `pending` | `failed`).

• state-reason-code - The reason code for the state change.

• state-reason-message - The message for the state change.

• sriov-net-support - A value of `simple` indicates that enhanced networking with the Intel 82599 VF interface is enabled.

• tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key `Owner` and the value `TeamA`, specify `tag:Owner` for the filter name and `TeamA` for the filter value.

• tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

• virtualization-type - The virtualization type (`paravirtual` | `hvm`).

Type: Array of Filter objects

Required: No

**ImageId.N**

The image IDs.

Default: Describes all images available to you.

Type: Array of strings

Required: No
Include Deprecated

Specifies whether to include deprecated AMIs.

Default: No deprecated AMIs are included in the response.

**Note**
If you are the AMI owner, all deprecated AMIs appear in the response regardless of what you specify for this parameter.

Type: Boolean
Required: No

Include Disabled

Specifies whether to include disabled AMIs.

Default: No disabled AMIs are included in the response.

Type: Boolean
Required: No

Max Results

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see [Pagination](#).

Type: Integer
Required: No

Next Token

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String
Required: No
Owner.N

Scopes the results to images with the specified owners. You can specify a combination of AWS account IDs, self, amazon, and aws-marketplace. If you omit this parameter, the results include all images for which you have launch permissions, regardless of ownership.

Type: Array of strings
Required: No

Response Elements

The following elements are returned by the service.

imagesSet

Information about the images.

Type: Array of Image objects

nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example describes the specified AMI.
Sample Request

https://ec2.amazonaws.com/?Action=DescribeImages
&ImageId.1=ami-1234567890EXAMPLE
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imagesSet>
    <item>
      <virtualizationType>hvm</virtualizationType>
      <description>Provided by Red Hat, Inc.</description>
      <platformDetails>Red Hat Enterprise Linux</platformDetails>
      <enaSupport>true</enaSupport>
      <hypervisor>xen</hypervisor>
      <state>available</state>
      <sriovNetSupport>simple</sriovNetSupport>
      <imageId>ami-1234567890EXAMPLE</imageId>
      <usageOperation>RunInstances:0010</usageOperation>
      <blockDeviceMapping>
        <item>
          <deviceName>/dev/sda1</deviceName>
          <ebs>
            <snapshotId>snap-1234567890abcdef0</snapshotId>
            <volumeSize>15</volumeSize>
            <deleteOnTermination>false</deleteOnTermination>
            <volumeType>standard</volumeType>
          </ebs>
        </item>
      </blockDeviceMapping>
      <architecture>x86_64</architecture>
      <imageLocation>123456789012/RHEL-8.0.0_HVM-20190618-x86_64-1-Hourly2-GP2</imageLocation>
      <rootDeviceType>ebs</rootDeviceType>
      <ownerId>123456789012</ownerId>
      <rootDeviceName>/dev/sda1</rootDeviceName>
      <creationDate>2019-05-10T13:17:12.000Z</creationDate>
      <public>true</public>
      <imageType>machine</imageType>
      <name>RHEL-8.0.0_HVM-20190618-x86_64-1-Hourly2-GP2</name>
      <tagSet/>
    </item>
  </imagesSet>
</DescribeImagesResponse>
Example 2

This example filters the response to include only public Windows images with an x86_64 architecture.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeImages
&Filter.1.Name=is-public
&Filter.1.Value.1=true
&Filter.2.Name=architecture
&Filter.2.Value.1=x86_64
&Filter.3.Name=platform
&Filter.3.Value.1=windows
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imagesSet>
    <item>
      <imageId>ami-1a2b3c4d</imageId>
      <imageLocation>ec2-public-windows-images/Server2003r2-x86_64-Win-v1.07.manifest.xml</imageLocation>
      <imageState>available</imageState>
      <imageOwnerId>123456789012</imageOwnerId>
      <isPublic>true</isPublic>
      <architecture>x86_64</architecture>
      <imageType>machine</imageType>
      <platform>windows</platform>
      <imageOwnerAlias>amazon</imageOwnerAlias>
      <rootDeviceType>instance-store</rootDeviceType>
      <blockDeviceMapping/>
      <virtualizationType>hvm</virtualizationType>
      <tagSet/>
      <hypervisor>xen</hypervisor>
    </item>
  </imagesSet>
</DescribeImagesResponse>
Example 3

This example returns the results to display images where the owner is aws-marketplace.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeImages
&Owner.1=aws-marketplace
&AUTHPARAMS

Sample Response

  <requestId>4a4a27a2-2e7c-475d-b35b-ca822EXAMPLE</requestId>
  <imagesSet>
    <item>
      <imageId>ami-1a2b3c4d</imageId>
      <imageLocation>aws-marketplace/example-marketplace-amzn-ami.1</imageLocation>
      <imageState>available</imageState>
      <imageOwnerId>123456789012</imageOwnerId>
      <isPublic>true</isPublic>
      <productCodes>
        <item>
          <productCode>a1b2c3d4e5f6g7h8i9j10k11</productCode>
          <type>marketplace</type>
        </item>
      </productCodes>
      <architecture>i386</architecture>
      <imageType>machine</imageType>
      <kernelId>aki-1a2b3c4d</kernelId>
      <imageOwnerAlias>aws-marketplace</imageOwnerAlias>
      <name>example-marketplace-amzn-ami.1</name>
      <description>Amazon Linux AMI i386 EBS</description>
      <rootDeviceType>ebs</rootDeviceType>
      <rootDeviceName>/dev/sda1</rootDeviceName>
      <blockDeviceMapping>
        <item>
          <deviceName>/dev/sda1</deviceName>
        </item>
      </blockDeviceMapping>
    </item>
  </imagesSet>
</DescribeImagesResponse>
<ebs>
  <snapshotId>snap-1234567890abcdef0</snapshotId>
  <volumeSize>8</volumeSize>
  <deleteOnTermination>true</deleteOnTermination>
</ebs>
</item>
</blockDeviceMapping>
<virtualizationType>paravirtual</virtualizationType>
<hypervisor>xen</hypervisor>
</item>
...
</imagesSet>
</DescribeImagesResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeImportImageTasks

Displays details about an import virtual machine or import snapshot tasks that are already created.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

Filters.N

Filter tasks using the task-state filter and one of the following values: active, completed, deleting, or deleted.

Type: Array of Filter objects
Required: No

ImportTaskid.N

The IDs of the import image tasks.

Type: Array of strings
Required: No

MaxResults

The maximum number of results to return in a single call.

Type: Integer
Required: No
NextToken

A token that indicates the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

importImageTaskSet

A list of zero or more import image tasks that are currently active or were completed or canceled in the previous 7 days.

Type: Array of ImportImageTask objects

nextToken

The token to use to get the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeImportSnapshotTasks

Describes your import snapshot tasks.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Filters.N**

The filters.

Type: Array of [Filter](#) objects

Required: No

**ImportTaskId.N**

A list of import snapshot task IDs.

Type: Array of strings

Required: No

**MaxResults**

The maximum number of results to return in a single call. To retrieve the remaining results, make another call with the returned NextToken value.

Type: Integer

Required: No
NextToken

A token that indicates the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

importSnapshotTaskSet

A list of zero or more import snapshot tasks that are currently active or were completed or canceled in the previous 7 days.

Type: Array of ImportSnapshotTask objects

nextToken

The token to use to get the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
See Also

- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeInstanceAttribute

Describes the specified attribute of the specified instance. You can specify only one attribute at a time. Valid attribute values are: instanceType | kernel | ramdisk | userData | disableApiTermination | instanceInitiatedShutdownBehavior | rootDeviceName | blockDeviceMapping | productCodes | sourceDestCheck | groupSet | ebsOptimized | sriovNetSupport

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Attribute

The instance attribute.

Note: The enaSupport attribute is not supported at this time.

Type: String

Valid Values: instanceType | kernel | ramdisk | userData | disableApiTermination | instanceInitiatedShutdownBehavior | rootDeviceName | blockDeviceMapping | productCodes | sourceDestCheck | groupSet | ebsOptimized | sriovNetSupport | enaSupport | enclaveOptions | disableApiStop

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceId

The ID of the instance.
Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**blockDeviceMapping**

The block device mapping of the instance.

Type: Array of `InstanceBlockDeviceMapping` objects

**disableApiStop**

To enable the instance for AWS Stop Protection, set this parameter to `true`; otherwise, set it to `false`.

Type: `AttributeBooleanValue` object

**disableApiTermination**

If the value is `true`, you can't terminate the instance through the Amazon EC2 console, CLI, or API; otherwise, you can.

Type: `AttributeBooleanValue` object

**ebsOptimized**

Indicates whether the instance is optimized for Amazon EBS I/O.

Type: `AttributeBooleanValue` object

**enaSupport**

Indicates whether enhanced networking with ENA is enabled.

Type: `AttributeBooleanValue` object

**enclaveOptions**

To enable the instance for AWS Nitro Enclaves, set this parameter to `true`; otherwise, set it to `false`. 
Type: **EnclaveOptions** object

groupSet

The security groups associated with the instance.

Type: Array of **GroupIdentifier** objects

instanceld

The ID of the instance.

Type: String

instanceInitiatedShutdownBehavior

Indicates whether an instance stops or terminates when you initiate shutdown from the instance (using the operating system command for system shutdown).

Type: **AttributeValue** object

instanceType

The instance type.

Type: **AttributeValue** object

kernel

The kernel ID.

Type: **AttributeValue** object

productCodes

A list of product codes.

Type: Array of **ProductCode** objects

ramdisk

The RAM disk ID.

Type: **AttributeValue** object

requestId

The ID of the request.
Type: String

**rootDeviceName**

The device name of the root device volume (for example, /dev/sda1).

Type: `AttributeValue` object

**sourceDestCheck**

Enable or disable source/destination checks, which ensure that the instance is either the source or the destination of any traffic that it receives. If the value is `true`, source/destination checks are enabled; otherwise, they are disabled. The default value is `true`. You must disable source/destination checks if the instance runs services such as network address translation, routing, or firewalls.

Type: `AttributeValue` object

**sriovNetSupport**

Indicates whether enhanced networking with the Intel 82599 Virtual Function interface is enabled.

Type: `AttributeValue` object

**userData**

The user data.

Type: `AttributeValue` object

### Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

### Examples

#### Example 1

This example lists the instance type of the specified instance.

**Sample Request**

```plaintext
https://ec2.amazonaws.com/?Action=DescribeInstanceAttribute
```
&InstanceId=i-1234567890abcdef0
&Attribute=instanceType
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-1234567890abcdef0</instanceId>
  <instanceType>
    <value>t1.micro</value>
  </instanceType>
</DescribeInstanceAttributeResponse>

Example 2

This example lists the current value of the InstanceInitiatedShutdownBehavior attribute for the specified instance.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeInstanceAttribute
&InstanceId=i-1234567890abcdef0
&Attribute=instanceInitiatedShutdownBehavior
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-1234567890abcdef0</instanceId>
  <instanceInitiatedShutdownBehavior>
    <value>stop</value>
  </instanceInitiatedShutdownBehavior>
</DescribeInstanceAttributeResponse>

Example 3

This example lists the current value of the DisableApiTermination attribute for the specified instance.
Sample Request

https://ec2.amazonaws.com/?Action=DescribeInstanceAttribute
&InstanceId=i-1234567890abcdef0
&Attribute/disableApiTermination
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-1234567890abcdef0</instanceId>
  <disableApiTermination>
    <value>false</value>
  </disableApiTermination>
</DescribeInstanceAttributeResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeInstanceConnectEndpoints

Describes the specified EC2 Instance Connect Endpoints or all EC2 Instance Connect Endpoints.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Filter.N**

One or more filters.

- **instance-connect-endpoint-id** - The ID of the EC2 Instance Connect Endpoint.
- **state** - The state of the EC2 Instance Connect Endpoint (create-in-progress|create-complete|create-failed|delete-in-progress|delete-complete|delete-failed).
- **subnet-id** - The ID of the subnet in which the EC2 Instance Connect Endpoint was created.
- **tag:<key>** - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
- **tag-key** - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.
- **tag-value** - The value of a tag assigned to the resource. Use this filter to find all resources that have a tag with a specific value, regardless of tag key.
- **vpc-id** - The ID of the VPC in which the EC2 Instance Connect Endpoint was created.

Type: Array of Filter objects
Required: No

**InstanceConnectEndpointId.N**

One or more EC2 Instance Connect Endpoint IDs.

Type: Array of strings

Required: No

**MaxResults**

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see [Pagination](#).

Type: Integer


Required: No

**NextToken**

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

## Response Elements

The following elements are returned by the service.

**instanceConnectEndpointSet**

Information about the EC2 Instance Connect Endpoints.

Type: Array of [Ec2InstanceConnectEndpoint](#) objects

**nextToken**

The token to include in another request to get the next page of items. This value is null when there are no more items to return.
Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
Describes the credit option for CPU usage of the specified burstable performance instances. The credit options are standard and unlimited.

If you do not specify an instance ID, Amazon EC2 returns burstable performance instances with the unlimited credit option, as well as instances that were previously configured as T2, T3, and T3a with the unlimited credit option. For example, if you resize a T2 instance, while it is configured as unlimited, to an M4 instance, Amazon EC2 returns the M4 instance.

If you specify one or more instance IDs, Amazon EC2 returns the credit option (standard or unlimited) of those instances. If you specify an instance ID that is not valid, such as an instance that is not a burstable performance instance, an error is returned.

Recently terminated instances might appear in the returned results. This interval is usually less than one hour.

If an Availability Zone is experiencing a service disruption and you specify instance IDs in the affected zone, or do not specify any instance IDs at all, the call fails. If you specify only instance IDs in an unaffected zone, the call works normally.

For more information, see Burstable performance instances in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.
- **instance-id** - The ID of the instance.
  Type: Array of Filter objects
  Required: No

**InstanceId.N**

The instance IDs.

Default: Describes all your instances.

Constraints: Maximum 1000 explicitly specified instance IDs.

Type: Array of strings

Required: No

**MaxResults**

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see [Pagination](#).

You cannot specify this parameter and the instance IDs parameter in the same call.

Type: Integer


Required: No

**NextToken**

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

### Response Elements

The following elements are returned by the service.
instanceCreditSpecificationSet

Information about the credit option for CPU usage of an instance.

Type: Array of InstanceCreditSpecification objects

nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This request describes the current credit option for CPU usage of the specified instance.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeInstanceCreditSpecifications
&InstanceId.1=i-1234567890abcdef0
&AUTHPARAMS

Sample Response

<DescribeInstanceCreditSpecificationsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>1b234b5c-d6ef-7gh8-90i1-j2345678901</requestId>
  <instanceCreditSpecificationSet>
    <item>
<cpuCredits>unlimited</cpuCredits>
<instanceId>i-1234567890abcdef0</instanceId>
</item>
</instanceCreditSpecificationSet>
</DescribeInstanceCreditSpecificationsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeInstanceEventNotificationAttributes

Describes the tag keys that are registered to appear in scheduled event notifications for resources in the current Region.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

instanceTagAttribute

Information about the registered tag keys.

Type: InstanceTagNotificationAttribute object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeInstanceEventWindows

Describes the specified event windows or all event windows.

If you specify event window IDs, the output includes information for only the specified event windows. If you specify filters, the output includes information for only those event windows that meet the filter criteria. If you do not specify event windows IDs or filters, the output includes information for all event windows, which can affect performance. We recommend that you use pagination to ensure that the operation returns quickly and successfully.

For more information, see Define event windows for scheduled events in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Filter.N**

One or more filters.

- dedicated-host-id - The event windows associated with the specified Dedicated Host ID.
- event-window-name - The event windows associated with the specified names.
- instance-id - The event windows associated with the specified instance ID.
- instance-tag - The event windows associated with the specified tag and value.
- instance-tag-key - The event windows associated with the specified tag key, regardless of the value.
- instance-tag-value - The event windows associated with the specified tag value, regardless of the key.
- `tag:<key>` - The key/value combination of a tag assigned to the event window. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key `Owner` and the value `CMX`, specify `tag:Owner` for the filter name and `CMX` for the filter value.

- `tag-key` - The key of a tag assigned to the event window. Use this filter to find all event windows that have a tag with a specific key, regardless of the tag value.

- `tag-value` - The value of a tag assigned to the event window. Use this filter to find all event windows that have a tag with a specific value, regardless of the tag key.

  Type: Array of [Filter](https://docs.aws.amazon.com) objects

  Required: No

**InstanceEventWindowId.N**

The IDs of the event windows.

Type: Array of strings

Required: No

**MaxResults**

The maximum number of results to return in a single call. To retrieve the remaining results, make another call with the returned `NextToken` value. This value can be between 20 and 500. You cannot specify this parameter and the event window IDs parameter in the same call.

Type: Integer


Required: No

**NextToken**

The token to request the next page of results.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.
instanceEventWindowSet

Information about the event windows.

Type: Array of `InstanceEventWindow` objects

nextToken

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeInstances

Describes the specified instances or all instances.

If you specify instance IDs, the output includes information for only the specified instances. If you specify filters, the output includes information for only those instances that meet the filter criteria. If you do not specify instance IDs or filters, the output includes information for all instances, which can affect performance. We recommend that you use pagination to ensure that the operation returns quickly and successfully.

If you specify an instance ID that is not valid, an error is returned. If you specify an instance that you do not own, it is not included in the output.

Recently terminated instances might appear in the returned results. This interval is usually less than one hour.

If you describe instances in the rare case where an Availability Zone is experiencing a service disruption and you specify instance IDs that are in the affected zone, or do not specify any instance IDs at all, the call fails. If you describe instances and specify only instance IDs that are in an unaffected zone, the call works normally.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- **affinity** - The affinity setting for an instance running on a Dedicated Host (default | host).
• architecture - The instance architecture (i386 | x86_64 | arm64).
• availability-zone - The Availability Zone of the instance.
• block-device-mapping.attach-time - The attach time for an EBS volume mapped to the instance, for example, 2022-09-15T17:15:20.000Z.
• block-device-mapping.delete-on-termination - A Boolean that indicates whether the EBS volume is deleted on instance termination.
• block-device-mapping.device-name - The device name specified in the block device mapping (for example, /dev/sdh or xvdh).
• block-device-mapping.status - The status for the EBS volume (attaching | attached | detaching | detached).
• block-device-mapping.volume-id - The volume ID of the EBS volume.
• boot-mode - The boot mode that was specified by the AMI (legacy-bios | uefi | uefi-preferred).
• capacity-reservation-id - The ID of the Capacity Reservation into which the instance was launched.
• capacity-reservation-specification.capacity-reservation-preference - The instance's Capacity Reservation preference (open | none).
• capacity-reservation-specification.capacity-reservation-target.capacity-reservation-id - The ID of the targeted Capacity Reservation.
• capacity-reservation-specification.capacity-reservation-target.capacity-reservation-resource-group-arn - The ARN of the targeted Capacity Reservation group.
• client-token - The idempotency token you provided when you launched the instance.
• current-instance-boot-mode - The boot mode that is used to launch the instance at launch or start (legacy-bios | uefi).
• dns-name - The public DNS name of the instance.
• ebs-optimized - A Boolean that indicates whether the instance is optimized for Amazon EBS I/O.
• ena-support - A Boolean that indicates whether the instance is enabled for enhanced networking with ENA.
• enclave-options.enabled - A Boolean that indicates whether the instance is enabled for AWS Nitro Enclaves.
• `hibernation-options.configured` - A Boolean that indicates whether the instance is enabled for hibernation. A value of `true` means that the instance is enabled for hibernation.

• `host-id` - The ID of the Dedicated Host on which the instance is running, if applicable.

• `hypervisor` - The hypervisor type of the instance (ovm | xen). The value `xen` is used for both Xen and Nitro hypervisors.

• `iam-instance-profile.arn` - The instance profile associated with the instance. Specified as an ARN.

• `iam-instance-profile.id` - The instance profile associated with the instance. Specified as an ID.

• `iam-instance-profile.name` - The instance profile associated with the instance. Specified as a name.

• `image-id` - The ID of the image used to launch the instance.

• `instance-id` - The ID of the instance.

• `instance-lifecycle` - Indicates whether this is a Spot Instance, a Scheduled Instance, or a Capacity Block (spot | scheduled | capacity-block).

• `instance-state-code` - The state of the instance, as a 16-bit unsigned integer. The high byte is used for internal purposes and should be ignored. The low byte is set based on the state represented. The valid values are: 0 (pending), 16 (running), 32 (shutting-down), 48 (terminated), 64 (stopping), and 80 (stopped).

• `instance-state-name` - The state of the instance (pending | running | shutting-down | terminated | stopping | stopped).

• `instance-type` - The type of instance (for example, `t2.micro`).

• `instance.group-id` - The ID of the security group for the instance.

• `instance.group-name` - The name of the security group for the instance.

• `ip-address` - The public IPv4 address of the instance.

• `ipv6-address` - The IPv6 address of the instance.

• `kernel-id` - The kernel ID.

• `key-name` - The name of the key pair used when the instance was launched.

• `launch-index` - When launching multiple instances, this is the index for the instance in the launch group (for example, 0, 1, 2, and so on).
• **launch-time** - The time when the instance was launched, in the ISO 8601 format in the UTC time zone (YYYY-MM-DDThh:mm:ss.sssZ), for example, 2021-09-29T11:04:43.305Z. You can use a wildcard (*), for example, 2021-09-29T*, which matches an entire day.

• **maintenance-options.auto-recovery** - The current automatic recovery behavior of the instance (disabled | default).

• **metadata-options.http-endpoint** - The status of access to the HTTP metadata endpoint on your instance (enabled | disabled)

• **metadata-options.http-protocol-ipv4** - Indicates whether the IPv4 endpoint is enabled (disabled | enabled).

• **metadata-options.http-protocol-ipv6** - Indicates whether the IPv6 endpoint is enabled (disabled | enabled).

• **metadata-options.http-put-response-hop-limit** - The HTTP metadata request put response hop limit (integer, possible values 1 to 64)

• **metadata-options.http-tokens** - The metadata request authorization state (optional | required)

• **metadata-options.instance-metadata-tags** - The status of access to instance tags from the instance metadata (enabled | disabled)

• **metadata-options.state** - The state of the metadata option changes (pending | applied).

• **monitoring-state** - Indicates whether detailed monitoring is enabled (disabled | enabled).

• **network-interface.addresses.associationallocation-id** - The allocation ID.

• **network-interface.addresses.associationassociation-id** - The association ID.

• **network-interface.addresses.association.carrier-ip** - The carrier IP address.

• **network-interface.addresses.association.customer-owned-ip** - The customer-owned IP address.

• **network-interface.addresses.association.ip-owner-id** - The owner ID of the private IPv4 address associated with the network interface.

• **network-interface.addresses.association.public-dns-name** - The public DNS name.

• **network-interface.addresses.association.public-ip** - The ID of the association of an Elastic IP address (IPv4) with a network interface.
• network-interface.addresses.primary - Specifies whether the IPv4 address of the network interface is the primary private IPv4 address.
• network-interface.addresses.private-dns-name - The private DNS name.
• network-interface.addresses.private-ip-address - The private IPv4 address associated with the network interface.
• network-interface.association.allocation-id - The allocation ID returned when you allocated the Elastic IP address (IPv4) for your network interface.
• network-interface.association.association-id - The association ID returned when the network interface was associated with an IPv4 address.
• network-interface.association.carrier-ip - The customer-owned IP address.
• network-interface.association.customer-owned-ip - The customer-owned IP address.
• network-interface.association.ip-owner-id - The owner of the Elastic IP address (IPv4) associated with the network interface.
• network-interface.association.public-dns-name - The public DNS name.
• network-interface.association.public-ip - The address of the Elastic IP address (IPv4) bound to the network interface.
• network-interface.attachment.attach-time - The time that the network interface was attached to an instance.
• network-interface.attachment.attachment-id - The ID of the interface attachment.
• network-interface.attachment.delete-on-termination - Specifies whether the attachment is deleted when an instance is terminated.
• network-interface.attachment.device-index - The device index to which the network interface is attached.
• network-interface.attachment.instance-id - The ID of the instance to which the network interface is attached.
• network-interface.attachment.instance-owner-id - The owner ID of the instance to which the network interface is attached.
• network-interface.attachment.network-card-index - The index of the network card.
• network-interface.attachment.status - The status of the attachment (attaching | attached | detaching | detached).
- `network-interface.availability-zone` - The Availability Zone for the network interface.
- `network-interface.deny-all-igw-traffic` - A Boolean that indicates whether a network interface with an IPv6 address is unreachable from the public internet.
- `network-interface.description` - The description of the network interface.
- `network-interface.group-id` - The ID of a security group associated with the network interface.
- `network-interface.group-name` - The name of a security group associated with the network interface.
- `network-interface.ipv4-prefixes.ipv4-prefix` - The IPv4 prefixes that are assigned to the network interface.
- `network-interface.ipv6-address` - The IPv6 address associated with the network interface.
- `network-interface.ipv6-addresses.ipv6-address` - The IPv6 address associated with the network interface.
- `network-interface.ipv6-addresses.is-primary-ipv6` - A Boolean that indicates whether this is the primary IPv6 address.
- `network-interface.ipv6-native` - A Boolean that indicates whether this is an IPv6 only network interface.
- `network-interface.ipv6-prefixes.ipv6-prefix` - The IPv6 prefix assigned to the network interface.
- `network-interface.mac-address` - The MAC address of the network interface.
- `network-interface.network-interface-id` - The ID of the network interface.
- `network-interface.outpost-arn` - The ARN of the Outpost.
- `network-interface.owner-id` - The ID of the owner of the network interface.
- `network-interface.private-dns-name` - The private DNS name of the network interface.
- `network-interface.private-ip-address` - The private IPv4 address.
- `network-interface.public-dns-name` - The public DNS name.
- `network-interface.requester-id` - The requester ID for the network interface.
- `network-interface.requester-managed` - Indicates whether the network interface is being managed by AWS.
- **network-interface.status** - The status of the network interface (available) | in-use).
- **network-interface.source-dest-check** - Whether the network interface performs source/destination checking. A value of true means that checking is enabled, and false means that checking is disabled. The value must be false for the network interface to perform network address translation (NAT) in your VPC.
- **network-interface.subnet-id** - The ID of the subnet for the network interface.
- **network-interface.tag-key** - The key of a tag assigned to the network interface.
- **network-interface.tag-value** - The value of a tag assigned to the network interface.
- **network-interface.vpc-id** - The ID of the VPC for the network interface.
- **outpost-arn** - The Amazon Resource Name (ARN) of the Outpost.
- **owner-id** - The AWS account ID of the instance owner.
- **placement-group-name** - The name of the placement group for the instance.
- **placement-partition-number** - The partition in which the instance is located.
- **platform** - The platform. To list only Windows instances, use windows.
- **private-dns-name** - The private IPv4 DNS name of the instance.
- **private-dns-name-options.enable-resource-name-dns-a-record** - A Boolean that indicates whether to respond to DNS queries for instance hostnames with DNS A records.
- **private-dns-name-options.enable-resource-name-dns-aaaa-record** - A Boolean that indicates whether to respond to DNS queries for instance hostnames with DNSAAAA records.
- **private-dns-name-options.hostname-type** - The type of hostname (ip-name | resource-name).
- **private-ip-address** - The private IPv4 address of the instance.
- **product-code** - The product code associated with the AMI used to launch the instance.
- **product-code.type** - The type of product code (devpay | marketplace).
- **ramdisk-id** - The RAM disk ID.
- **reason** - The reason for the current state of the instance (for example, shows "User Initiated [date]" when you stop or terminate the instance). Similar to the state-reason-code filter.
- **requester-id** - The ID of the entity that launched the instance on your behalf (for example, AWS Management Console, Auto Scaling, and so on).
- **reservation-id** - The ID of the instance's reservation. A reservation ID is created any time you launch an instance. A reservation ID has a one-to-one relationship with an instance launch request, but can be associated with more than one instance if you launch multiple instances using the same launch request. For example, if you launch one instance, you get one reservation ID. If you launch ten instances using the same launch request, you also get one reservation ID.
- **root-device-name** - The device name of the root device volume (for example, /dev/sda1).
- **root-device-type** - The type of the root device volume (ebs | instance-store).
- **source-dest-check** - Indicates whether the instance performs source/destination checking. A value of true means that checking is enabled, and false means that checking is disabled. The value must be false for the instance to perform network address translation (NAT) in your VPC.
- **spot-instance-request-id** - The ID of the Spot Instance request.
- **state-reason-code** - The reason code for the state change.
- **state-reason-message** - A message that describes the state change.
- **subnet-id** - The ID of the subnet for the instance.
- **tag:<key>** - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
- **tag-key** - The key of a tag assigned to the resource. Use this filter to find all resources that have a tag with a specific key, regardless of the tag value.
- **tenancy** - The tenancy of an instance (dedicated | default | host).
- **tpm-support** - Indicates if the instance is configured for NitroTPM support (v2.0).
- **usage-operation** - The usage operation value for the instance (RunInstances | RunInstances:00g0 | RunInstances:0010 | RunInstances:1010)
• usage-operation-update-time - The time that the usage operation was last updated, for example, 2022-09-15T17:15:20.000Z.
• virtualization-type - The virtualization type of the instance (paravirtual | hvm).
• vpc-id - The ID of the VPC that the instance is running in.

Type: Array of Filter objects

Required: No

InstanceId.N

The instance IDs.

Default: Describes all your instances.

Type: Array of strings

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

You cannot specify this parameter and the instance IDs parameter in the same request.

Type: Integer

Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No
Response Elements

The following elements are returned by the service.

nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

reservationSet

Information about the reservations.

Type: Array of Reservation objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1: Describe all instances

This example describes all instances owned by your AWS account in the current Region. It uses pagination. The first example request gets the first page of results. The second example request uses the token returned by the previous request. Continue until there are no more results.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeInstances
&MaxResults=10
&AUTHPARAMS
Sample Request

https://ec2.amazonaws.com/?Action=DescribeInstances
&MaxResults=10
&NextToken=eyJ0ZXh0VG9rZW4iOiBudWxsLCAiYm90b190cnVuY2F0ZV9hbW91bnQiEXAMPLE=
&AUTHPARAMS

Example 2: Describe an instance

This example describes the specified instance.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeInstances
&InstanceId.1=i-1234567890abcdef0
&AUTHPARAMS

Sample Response

<DescribeInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>8f7724cf-496f-496e-8fe3-example</requestId>
  <reservationSet>
    <item>
      <reservationId>r-1234567890abcdef0</reservationId>
      <ownerId>123456789012</ownerId>
      <groupSet/>
      <instancesSet>
        <item>
          <instanceId>i-1234567890abcdef0</instanceId>
          <imageId>ami-bff32ccc</imageId>
          <instanceState>
            <code>16</code>
            <name>running</name>
          </instanceState>
          <privateDnsName>ip-192-168-1-88.eu-west-1.compute.internal</privateDnsName>
          <dnsName>ec2-54-194-252-215.eu-west-1.compute.amazonaws.com</dnsName>
          <reason/>
          <keyName>my_keypair</keyName>
          <amiLaunchIndex>0</amiLaunchIndex>
          <productCodes/>
          <instanceType>t2.micro</instanceType>
        </item>
      </instancesSet>
    </item>
  </reservationSet>
</DescribeInstancesResponse>
<launchTime>2018-05-08T16:46:19.000Z</launchTime>
<placement>
  <availabilityZone>eu-west-1c</availabilityZone>
  <groupName/>
  <tenancy>default</tenancy>
</placement>
<monitoring>
  <state>disabled</state>
</monitoring>
<subnetId>subnet-56f5f633</subnetId>
<vpcId>vpc-11112222</vpcId>
<privateIpAddress>192.168.1.88</privateIpAddress>
<ipAddress>54.194.252.215</ipAddress>
<sourceDestCheck>true</sourceDestCheck>
<groupSet>
  <item>
    <groupId>sg-e4076980</groupId>
    <groupName>SecurityGroup1</groupName>
  </item>
</groupSet>
<architecture>x86_64</architecture>
<rootDeviceType>ebs</rootDeviceType>
<rootDeviceName>/dev/xvda</rootDeviceName>
<blockDeviceMapping>
  <item>
    <deviceName>/dev/xvda</deviceName>
    <ebs>
      <volumeId>vol-1234567890abcdef0</volumeId>
      <status>attached</status>
      <attachTime>2015-12-22T10:44:09.000Z</attachTime>
      <deleteOnTermination>true</deleteOnTermination>
    </ebs>
  </item>
</blockDeviceMapping>
<virtualizationType>hvm</virtualizationType>
<clientToken>xMcwG14507example</clientToken>
<tagSet>
  <item>
    <key>Name</key>
    <value>Server_1</value>
  </item>
</tagSet>
<hypervisor>xen</hypervisor>
<networkInterfaceSet>
<item>
  <networkInterfaceId>eni-551ba033</networkInterfaceId>
  <subnetId>subnet-56f5f633</subnetId>
  <vpcId>vpc-11112222</vpcId>
  <description>Primary network interface</description>
  <ownerId>123456789012</ownerId>
  <status>in-use</status>
  <macAddress>02:dd:2c:5e:01:69</macAddress>
  <privateIpAddress>192.168.1.88</privateIpAddress>
  <privateDnsName>ip-192-168-1-88.eu-west-1.compute.internal</privateDnsName>
  <sourceDestCheck>true</sourceDestCheck>
  <groupSet>
    <item>
      <groupId>sg-e4076980</groupId>
      <groupName>SecurityGroup1</groupName>
    </item>
  </groupSet>
  <attachment>
    <attachmentId>eni-attach-39697adc</attachmentId>
    <deviceIndex>0</deviceIndex>
    <status>attached</status>
    <attachTime>2018-05-08T16:46:19.000Z</attachTime>
    <deleteOnTermination>true</deleteOnTermination>
  </attachment>
  <association>
    <publicIp>54.194.252.215</publicIp>
    <publicDnsName>ec2-54-194-252-215.eu-west-1.compute.amazonaws.com</publicDnsName>
    <ipOwnerId>amazon</ipOwnerId>
  </association>
  <privateIpAddressesSet>
    <item>
      <primary>true</primary>
      <association>
        <publicIp>54.194.252.215</publicIp>
        <publicDnsName>ec2-54-194-252-215.eu-west-1.compute.amazonaws.com</publicDnsName>
        <ipOwnerId>amazon</ipOwnerId>
      </association>
    </item>
  </privateIpAddressesSet>
</item>
Example 3: Filter by instance type

This example describes only the instances that have the m1.small or m1.large instance type and an attached Amazon EBS volume to be deleted on termination.

Sample Request

```
```

Example 4: Filter by VPC

This example describes all instances that are running in the specified VPC.
Sample Request

https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=vpc-id
&Filter.1.Value.1=* 
&AUTHPARAMS

Example 5: Filter by tag key

This example describes any instances that have a tag with the key Owner, regardless of the value of the tag.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=tag-key
&Filter.1.Value.1=Owner
&AUTHPARAMS

Example 6: Filter by tag key and value

This example lists only the instances that have a tag with the key Owner and the value DbAdmin.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=tag:Owner
&Filter.1.Value.1=DbAdmin
&AUTHPARAMS

Example 7: Filter by placement group

This example describes any instances that are in the placement group with the name HDFS-Group-A.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=placement-group-name
&Filter.1.Value=HDFS-Group-A
Example 8: Filter by placement group partition

This example describes only the instances that are in partition 2 of the placement group with the name HDFS-Group-A.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=placement-group-name
&Filter.1.Value=HDFS-Group-A
&Filter.2.Name=placement-partition-number
&Filter.2.Value=2

Example 9: Filter by metadata authentication

The following example displays details about your instances that are not using any token header authentication requirement to access instance metadata. The response is truncated to show only the relevant pieces.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.Name=metadata-options.http-tokens
&Filter.Values=optional

Sample Response

<DescribeInstances xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <instanceId>i-1234567890abcdef0</instanceId>
  <MetadataOptions>
    <state>applied</state>
    <HttpTokens>optional</HttpTokens>
    <HttpPutResponseHopLimit>1</HttpPutResponseHopLimit>
    <HttpEndpoint>enabled</HttpEndpoint>
  </MetadataOptions>
</DescribeInstances>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeInstanceStatus

Describes the status of the specified instances or all of your instances. By default, only running instances are described, unless you specifically indicate to return the status of all instances.

Instance status includes the following components:

- **Status checks** - Amazon EC2 performs status checks on running EC2 instances to identify hardware and software issues. For more information, see [Status checks for your instances](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/StatusChecks.html) and [Troubleshoot instances with failed status checks](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/TroubleshootingStatusChecks.html) in the *Amazon EC2 User Guide*.

- **Scheduled events** - Amazon EC2 can schedule events (such as reboot, stop, or terminate) for your instances related to hardware issues, software updates, or system maintenance. For more information, see [Scheduled events for your instances](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/ScheduledEvents.html) in the *Amazon EC2 User Guide*.

- **Instance state** - You can manage your instances from the moment you launch them through their termination. For more information, see [Instance lifecycle](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/InstanceLifecyle.html) in the *Amazon EC2 User Guide*.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](https://docs.aws.amazon.com/AWSECS/latest/UserGuide/common-query-parameters.html).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Filter.N**

The filters.

- **availability-zone** - The Availability Zone of the instance.
- **event.code** - The code for the scheduled event (instance-reboot | system-reboot | system-maintenance | instance-retirement | instance-stop).
- **event.description** - A description of the event.
- **event.instance-event-id** - The ID of the event whose date and time you are modifying.
• **event.not-after** - The latest end time for the scheduled event (for example, 2014-09-15T17:15:20.000Z).

• **event.not-before** - The earliest start time for the scheduled event (for example, 2014-09-15T17:15:20.000Z).

• **event.not-before-deadline** - The deadline for starting the event (for example, 2014-09-15T17:15:20.000Z).

• **instance-state-code** - The code for the instance state, as a 16-bit unsigned integer. The high byte is used for internal purposes and should be ignored. The low byte is set based on the state represented. The valid values are 0 (pending), 16 (running), 32 (shutting-down), 48 (terminated), 64 (stopping), and 80 (stopped).

• **instance-state-name** - The state of the instance (pending | running | shutting-down | terminated | stopping | stopped).

• **instance-status.reachability** - Filters on instance status where the name is reachability (passed | failed | initializing | insufficient-data).

• **instance-status.status** - The status of the instance (ok | impaired | initializing | insufficient-data | not-applicable).

• **system-status.reachability** - Filters on system status where the name is reachability (passed | failed | initializing | insufficient-data).

• **system-status.status** - The system status of the instance (ok | impaired | initializing | insufficient-data | not-applicable).

Type: Array of [Filter](#) objects

**Required:** No

### IncludeAllInstances

When `true`, includes the health status for all instances. When `false`, includes the health status for running instances only.

**Default:** false

Type: Boolean

**Required:** No

### InstanceId.N

The instance IDs.
Default: Describes all your instances.

Constraints: Maximum 100 explicitly specified instance IDs.

Type: Array of strings

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

You cannot specify this parameter and the instance IDs parameter in the same request.

Type: Integer

Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

instanceStatusSet

Information about the status of the instances.

Type: Array of InstanceStatus objects

nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.
**Type:** String

**requestId**

The ID of the request.

**Type:** String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example 1**

This example returns instance status descriptions for all running instances.

**Sample Request**

```
https://ec2.amazonaws.com/?
Action=DescribeInstanceStatus
&AUTHPARAMS
```

**Example 2**

This example returns instance status descriptions for the specified instances.

**Sample Request**

```
https://ec2.amazonaws.com/?
Action=DescribeInstanceStatus
&InstanceId.1=i-1234567890abcdef0
&InstanceId.2=i-0598c7d356eba48d7
&AUTHPARAMS
```

**Example 3**

This example returns instance status descriptions for all instances specified by supported DescribeInstanceStatus filters.
Sample Request

https://ec2.amazonaws.com/?
Action=DescribeInstanceStatus
&Filter.1.Name=system-status.reachability
&Filter.1.Value.failed
&AUTHPARAMS

Sample Response

<DescribeInstanceStatusResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>3be1508e-c444-4fef-89cc-0b1223c4f02fEXAMPLE</requestId>
  <instanceStatusSet>
    <item>
      <instanceId>i-1234567890abcdef0</instanceId>
      <availabilityZone>us-east-1d</availabilityZone>
      <instanceState>
        <code>16</code>
        <name>running</name>
      </instanceState>
      <systemStatus>
        <status>impaired</status>
        <details>
          <item>
            <name>reachability</name>
            <status>failed</status>
            <impairedSince>YYYY-MM-DDTHH:MM:SS.000Z</impairedSince>
          </item>
        </details>
      </systemStatus>
    </item>
    <instanceStatus>
      <status>impaired</status>
      <details>
        <item>
          <name>reachability</name>
          <status>failed</status>
          <impairedSince>YYYY-MM-DDTHH:MM:SS.000Z</impairedSince>
        </item>
      </details>
    </instanceStatus>
  </instanceStatusSet>
  <eventsSet>
    <item>
      <code>instance-retirement</code>
    </item>
  </eventsSet>
</DescribeInstanceStatusResponse>
<description>The instance is running on degraded hardware</description>
<notBefore>YYYY-MM-DDTHH:MM:SS+0000</notBefore>
<notAfter>YYYY-MM-DDTHH:MM:SS+0000</notAfter>
</item>
</eventsSet>
</item>

<item>
<instanceId>i-0598c7d356eba48d7</instanceId>
<availabilityZone>us-east-1d</availabilityZone>
<instanceState>
  <code>16</code>
  <name>running</name>
</instanceState>
<systemStatus>
  <status>ok</status>
  <details>
    <item>
      <name>reachability</name>
      <status>passed</status>
    </item>
  </details>
</systemStatus>
<instanceStatus>
  <status>ok</status>
  <details>
    <item>
      <name>reachability</name>
      <status>passed</status>
    </item>
  </details>
</instanceStatus>
<eventsSet>
  <item>
    <code>instance-reboot</code>
    <description>The instance is scheduled for a reboot</description>
    <notBefore>YYYY-MM-DDTHH:MM:SS+0000</notBefore>
    <notAfter>YYYY-MM-DDTHH:MM:SS+0000</notAfter>
  </item>
</eventsSet>
</item>

<item>
<instanceId>i-0987654321abcdef0</instanceId>
<availabilityZone>us-east-1d</availabilityZone>
<instanceState>
<code>16</code>
<name>running</name>
</instanceState>
</systemStatus>
<instanceStatus>
 <status>ok</status>
 <details>
  <item>
   <name>reachability</name>
   <status>passed</status>
  </item>
 </details>
</instanceStatus>
</item>
</item>
<item>
 <instanceId>i-0598c7d356e8ba48d8</instanceId>
 <availabilityZone>us-east-1d</availabilityZone>
 <instanceState>
  <code>16</code>
  <name>running</name>
 </instanceState>
 <systemStatus>
  <status>ok</status>
  <details>
   <item>
    <name>reachability</name>
    <status>passed</status>
   </item>
  </details>
 </systemStatus>
</instanceStatus>
</item>

Examples
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeInstanceTopology

Describes a tree-based hierarchy that represents the physical host placement of your EC2 instances within an Availability Zone or Local Zone. You can use this information to determine the relative proximity of your EC2 instances within the AWS network to support your tightly coupled workloads.

Limitations

- Supported zones
  - Availability Zone
  - Local Zone
- Supported instance types
  - hpc6a.48xlarge | hpc6id.32xlarge | hpc7a.12xlarge | hpc7a.24xlarge | hpc7a.48xlarge | hpc7a.96xlarge | hpc7g.4xlarge | hpc7g.8xlarge | hpc7g.16xlarge
  - p3dn.24xlarge | p4d.24xlarge | p4de.24xlarge | p5.48xlarge
  - trn1.2xlarge | trn1.32xlarge | trn1n.32xlarge

For more information, see Amazon EC2 instance topology in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.
• availability-zone - The name of the Availability Zone (for example, us-west-2a) or Local Zone (for example, us-west-2-1ax-1b) that the instance is in.

• instance-type - The instance type (for example, p4d.24xlarge) or instance family (for example, p4d*). You can use the * wildcard to match zero or more characters, or the ? wildcard to match zero or one character.

• zone-id - The ID of the Availability Zone (for example, usw2-az2) or Local Zone (for example, usw2-1ax1-az1) that the instance is in.

Type: Array of Filter objects

Required: No

GroupName.N

The name of the placement group that each instance is in.

Constraints: Maximum 100 explicitly specified placement group names.

Type: Array of strings

Required: No

InstanceId.N

The instance IDs.

Default: Describes all your instances.

Constraints: Maximum 100 explicitly specified instance IDs.

Type: Array of strings

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

You can't specify this parameter and the instance IDs parameter in the same request.

Default: 20

Type: Integer
Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

**NextToken**

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**instanceSet**

Information about the topology of each instance.

Type: Array of `InstanceTopology` objects

**nextToken**

The token to include in another request to get the next page of items. This value is `null` when there are no more items to return.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeInstanceTypeOfferings

Returns a list of all instance types offered. The results can be filtered by location (Region or Availability Zone). If no location is specified, the instance types offered in the current Region are returned.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

- **Type**: Boolean
- **Required**: No

**Filter.N**

One or more filters. Filter names and values are case-sensitive.

- **location** - This depends on the location type. For example, if the location type is `region` (default), the location is the Region code (for example, `us-east-2`).
- **instance-type** - The instance type. For example, `c5.2xlarge`.

- **Type**: Array of [Filter](#) objects
- **Required**: No

**LocationType**

The location type.

- **Type**: String

- **Valid Values**: `region` | `availability-zone` | `availability-zone-id` | `outpost`
- **Required**: No
MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer


Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

instanceTypeOfferingSet

The instance types offered.

Type: Array of InstanceTypeOffering objects

nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeInstanceTypes

Describes the details of the instance types that are offered in a location. The results can be filtered by the attributes of the instance types.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

Filter.N

One or more filters. Filter names and values are case-sensitive.

- auto-recovery-supported - Indicates whether Amazon CloudWatch action based recovery is supported (true | false).
- bare-metal - Indicates whether it is a bare metal instance type (true | false).
- burstable-performance-supported - Indicates whether the instance type is a burstable performance T instance type (true | false).
- current-generation - Indicates whether this instance type is the latest generation instance type of an instance family (true | false).
- ebs-info.ebs-optimized-info.baseline-bandwidth-in-mbps - The baseline bandwidth performance for an EBS-optimized instance type, in Mbps.
- ebs-info.ebs-optimized-info.baseline-iops - The baseline input/output storage operations per second for an EBS-optimized instance type.
- ebs-info.ebs-optimized-info.baseline-throughput-in-mbps - The baseline throughput performance for an EBS-optimized instance type, in MB/s.
- ebs-info.ebs-optimized-info.maximum-bandwidth-in-mbps - The maximum bandwidth performance for an EBS-optimized instance type, in Mbps.
- `ebs-info.ebs-optimized-info.maximum-iops` - The maximum input/output storage operations per second for an EBS-optimized instance type.
- `ebs-info.ebs-optimized-support` - Indicates whether the instance type is EBS-optimized (supported | unsupported | default).
- `ebs-info.encryption-support` - Indicates whether EBS encryption is supported (supported | unsupported).
- `ebs-info.nvme-support` - Indicates whether non-volatile memory express (NVMe) is supported for EBS volumes (required | supported | unsupported).
- `free-tier-eligible` - Indicates whether the instance type is eligible to use in the free tier (true | false).
- `hibernation-supported` - Indicates whether On-Demand hibernation is supported (true | false).
- `hypervisor` - The hypervisor (nitro | xen).
- `instance-storage-info.disk.count` - The number of local disks.
- `instance-storage-info.disk.size-in-gb` - The storage size of each instance storage disk, in GB.
- `instance-storage-info.disk.type` - The storage technology for the local instance storage disks (hdd | ssd).
- `instance-storage-info.encryption-support` - Indicates whether data is encrypted at rest (required | supported | unsupported).
- `instance-storage-info.nvme-support` - Indicates whether non-volatile memory express (NVMe) is supported for instance store (required | supported | unsupported).
- `instance-storage-info.total-size-in-gb` - The total amount of storage available from all local instance storage, in GB.
- `instance-storage-supported` - Indicates whether the instance type has local instance storage (true | false).
- `instance-type` - The instance type (for example c5.2xlarge or c5*).
- `memory-info.size-in-mib` - The memory size.
- `network-info.efa-info.maximum-efa-interfaces` - The maximum number of Elastic Fabric Adapters (EFAs) per instance.
• **network-info.efa-supported** - Indicates whether the instance type supports Elastic Fabric Adapter (EFA) (true | false).

• **network-info.ena-support** - Indicates whether Elastic Network Adapter (ENA) is supported or required (required | supported | unsupported).

• **network-info.encryption-in-transit-supported** - Indicates whether the instance type automatically encrypts in-transit traffic between instances (true | false).

• **network-info.ipv4-addresses-per-interface** - The maximum number of private IPv4 addresses per network interface.

• **network-info.ipv6-addresses-per-interface** - The maximum number of private IPv6 addresses per network interface.

• **network-info.ipv6-supported** - Indicates whether the instance type supports IPv6 (true | false).

• **network-info.maximum-network-cards** - The maximum number of network cards per instance.

• **network-info.maximum-network-interfaces** - The maximum number of network interfaces per instance.

• **network-info.network-performance** - The network performance (for example, "25 Gigabit").

• **nitro-enclaves-support** - Indicates whether Nitro Enclaves is supported (supported | unsupported).

• **nitro-tpm-support** - Indicates whether NitroTPM is supported (supported | unsupported).

• **nitro-tpm-info.supported-versions** - The supported NitroTPM version (2.0).

• **processor-info.supported-architecture** - The CPU architecture (arm64 | i386 | x86_64).

• **processor-info.sustained-clock-speed-in-ghz** - The CPU clock speed, in GHz.

• **processor-info.supported-features** - The supported CPU features (amd-sev-snp).

• **supported-boot-mode** - The boot mode (legacy-bios | uefi).

• **supported-root-device-type** - The root device type (ebs | instance-store).

• **supported-usage-class** - The usage class (on-demand | spot).

• **supported-virtualization-type** - The virtualization type (hvm | paravirtual).

• **vcpu-info.default-cores** - The default number of cores for the instance type.
- vcpu-info.default-threads-per-core - The default number of threads per core for the instance type.
- vcpu-info.default-vcpus - The default number of vCPUs for the instance type.
- vcpu-info.valid-cores - The number of cores that can be configured for the instance type.
- vcpu-info.valid-threads-per-core - The number of threads per core that can be configured for the instance type. For example, "1" or "1,2".

Type: Array of Filter objects

Required: No

InstanceType.N

The instance types. For more information, see Instance types in the Amazon EC2 User Guide.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.large | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.large | c5.xlarge | c5a.1large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c6.g.medium | c6.g.large | c6.g.xlarge | c6.g.2xlarge | c6.g.4xlarge | c6.g.8xlarge | c6.g.12xlarge | c6.g.16xlarge | c6.g.meta | c6.gd.medium | c6.gd.large | c6.gd.xlarge | c6.gd.2xlarge | c6.gd.4xlarge | c6.gd.8xlarge | c6.gd.12xlarge | c6.gd.16xlarge | c6.gd.meta | c6.gn.medium | c6.gn.large | c6.gn.xlarge | c6.gn.2xlarge | c6.gn.4xlarge | c6.gn.8xlarge | c6.gn.12xlarge | c6.gn.16xlarge | c6i.large | c6i.xlarge | c6i.2xlarge | c6i.4xlarge | c6i.8xlarge | c6i.12xlarge | c6i.16xlarge | c6i.24xlarge | c6i.32xlarge
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<td>m6iddn.12xlarge</td>
<td>m6iddn.16xlarge</td>
<td>m6iddn.24xlarge</td>
<td>m6iddn.32xlarge</td>
<td>r6in.large</td>
</tr>
<tr>
<td>r6in.xlarge</td>
<td>r6in.2xlarge</td>
<td>r6in.4xlarge</td>
<td>r6in.8xlarge</td>
<td>r6in.12xlarge</td>
</tr>
<tr>
<td>r6in.16xlarge</td>
<td>r6in.24xlarge</td>
<td>r6in.32xlarge</td>
<td>r6idn.large</td>
<td>r6idn.xlarge</td>
</tr>
<tr>
<td>r6idn.2xlarge</td>
<td>r6idn.4xlarge</td>
<td>r6idn.8xlarge</td>
<td>r6idn.12xlarge</td>
<td>r6idn.16xlarge</td>
</tr>
</tbody>
</table>
AWS Elastic Compute Cloud

| m7i.metal-24xl | m7i.metal-48xl | r7i.metal-24xl | r7i.metal-48xl |
| r7iz.metal-16xl | r7iz.metal-32xl

Required: No

**MaxResults**

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see [Pagination](#).

Type: Integer

Valid Range: Minimum value of 5. Maximum value of 100.

Required: No

**NextToken**

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**instanceTypeSet**

The instance type. For more information, see [Instance types](#) in the *Amazon EC2 User Guide*.

Type: Array of [InstanceTypeInfo](#) objects

**nextToken**

The token to include in another request to get the next page of items. This value is `null` when there are no more items to return.

Type: String

**requestId**

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see `Common client error codes`.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeInternetGateways

Describes one or more of your internet gateways.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- attachment.state - The current state of the attachment between the gateway and the VPC (available). Present only if a VPC is attached.
- attachment.vpc-id - The ID of an attached VPC.
- internet-gateway-id - The ID of the Internet gateway.
- owner-id - The ID of the AWS account that owns the internet gateway.
- tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
- tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

Type: Array of Filter objects

Required: No

InternetGatewayId.N

The IDs of the internet gateways.
Default: Describes all your internet gateways.

Type: Array of strings

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, seePagination.

Type: Integer


Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

internetGatewaySet

Information about one or more internet gateways.

Type: Array of InternetGateway objects

cancellationToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes all your internet gateways.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeInternetGateways
&AUTHPARAMS

Sample Response

<DescribeInternetGatewaysResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>e0fbdd4f-8e6d-437c-92eb-bc72864831d8</requestId>
  <internetGatewaySet>
    <item>
      <internetGatewayId>igw-036dde5c85EXAMPLE</internetGatewayId>
      <ownerId>11112222333304</ownerId>
      <attachmentSet/>
      <tagSet/>
    </item>
    <item>
      <internetGatewayId>igw-0EXAMPLE</internetGatewayId>
      <ownerId>053534965804</ownerId>
      <attachmentSet>
        <item>
          <vpcId>vpc-cEXAMPLE</vpcId>
          <state>available</state>
        </item>
      </attachmentSet>
      <tagSet/>
    </item>
  </internetGatewaySet>
</DescribeInternetGatewaysResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeIpamByoasn

Describes your Autonomous System Numbers (ASNs), their provisioning statuses, and the BYOIP CIDRs with which they are associated. For more information, see Tutorial: Bring your ASN to IPAM in the Amazon VPC IPAM guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRun0peration. Otherwise, it is Unauthorized0peration.

Type: Boolean
Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer
Valid Range: Minimum value of 1. Maximum value of 100.
Required: No

NextToken

The token for the next page of results.

Type: String
Required: No

Response Elements

The following elements are returned by the service.
**byoasnSet**

ASN and BYOIP CIDR associations.

Type: Array of [Byoasn](#) objects

**nextToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeIpamPools

Get information about your IPAM pools.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters for the request. For more information about filtering, see Filtering CLI output.

Type: Array of Filter objects

Required: No

IpamPoolId.N

The IDs of the IPAM pools you would like information on.

Type: Array of strings

Required: No

MaxResults

The maximum number of results to return in the request.

Type: Integer

Required: No

NextToken

The token for the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

ipamPoolSet

Information about the IPAM pools.

Type: Array of IpamPool objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• **AWS SDK for .NET**
• **AWS SDK for C++**
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for JavaScript V3**
• **AWS SDK for PHP V3**
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
Describes IPAM resource discoveries. A resource discovery is an IPAM component that enables IPAM to manage and monitor resources that belong to the owning account.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**Filter.N**

The resource discovery filters.

Type: Array of `Filter` objects

Required: No

**IpamResourceDiscoveryId.N**

The IPAM resource discovery IDs.

Type: Array of strings

Required: No

**MaxResults**

The maximum number of resource discoveries to return in one page of results.

Type: Integer

Required: No

**NextToken**

Specify the pagination token from a previous request to retrieve the next page of results.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**ipamResourceDiscoverySet**

The resource discoveries.

Type: Array of [IpamResourceDiscovery](#) objects

**nextToken**

Specify the pagination token from a previous request to retrieve the next page of results.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribelpamResourceDiscoveryAssociations

Describes resource discovery association with an Amazon VPC IPAM. An associated resource discovery is a resource discovery that has been associated with an IPAM.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

Filter.N

The resource discovery association filters.

Type: Array of Filter objects
Required: No

IpamResourceDiscoveryAssociationId.N

The resource discovery association IDs.

Type: Array of strings
Required: No

MaxResults

The maximum number of resource discovery associations to return in one page of results.

Type: Integer
Required: No

**NextToken**

Specify the pagination token from a previous request to retrieve the next page of results.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**ipamResourceDiscoveryAssociationSet**

The resource discovery associations.

Type: Array of [IpamResourceDiscoveryAssociation](#) objects

**nextToken**

Specify the pagination token from a previous request to retrieve the next page of results.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
**Describelpams**

Get information about your IPAM pools.

For more information, see [What is IPAM?](#) in the *Amazon VPC IPAM User Guide*.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**Filter.N**

One or more filters for the request. For more information about filtering, see [Filtering CLI output](#).

Type: Array of `Filter` objects

Required: No

**IpamId.N**

The IDs of the IPAMs you want information on.

Type: Array of strings

Required: No

**MaxResults**

The maximum number of results to return in the request.

Type: Integer

Required: No

NextToken

The token for the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

ipamSet

Information about the IPAMs.

Type: Array of Ipam objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeIpamScopes

Get information about your IPAM scopes.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters for the request. For more information about filtering, see Filtering CLI output.

Type: Array of Filter objects

Required: No

IpamScopeId.N

The IDs of the scopes you want information on.

Type: Array of strings

Required: No

MaxResults

The maximum number of results to return in the request.

Type: Integer

NextToken

The token for the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

ipamScopeSet

The scopes you want information on.

Type: Array of IpamScope objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
See Also

- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeIpv6Pools

Describes your IPv6 address pools.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters.

- tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.

- tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.
Required: No

**NextToken**

The token for the next page of results.

Type: String

Required: No

**PoolId.N**

The IDs of the IPv6 address pools.

Type: Array of strings

Required: No

**Response Elements**

The following elements are returned by the service.

**ipv6PoolSet**

Information about the IPv6 address pools.

Type: Array of [Ipv6Pool](#) objects

**nextToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeKeyPairs

Describes the specified key pairs or all of your key pairs.

For more information about key pairs, see Amazon EC2 key pairs in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- key-pair-id - The ID of the key pair.
- fingerprint - The fingerprint of the key pair.
- key-name - The name of the key pair.
- tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.
- tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.

Type: Array of Filter objects

Required: No
**IncludePublicKey**

If true, the public key material is included in the response.

Default: false

Type: Boolean

Required: No

**KeyName.N**

The key pair names.

Default: Describes all of your key pairs.

Type: Array of strings

Required: No

**KeyPairId.N**

The IDs of the key pairs.

Type: Array of strings

Required: No

**Response Elements**

The following elements are returned by the service.

**keySet**

Information about the key pairs.

Type: Array of [KeyPairInfo](#) objects

**requestId**

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes the key pair with name my-key-pair.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeKeyPairs
&KeyName.1=my-key-pair

Sample Response

<DescribeKeyPairsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <keySet>
    <item>
      <keyName>my-key-pair</keyName>
    </item>
  </keySet>
</DescribeKeyPairsResponse>

Example

This example filters the response to include only key pairs whose names include the string Dave.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeKeyPairs
&Filter.1.Name=key-name
&Filter.1.Value.1=*Dave*

&AUTHPARAMS
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeLaunchTemplates

Describes one or more launch templates.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters.

- create-time - The time the launch template was created.
- launch-template-name - The name of the launch template.
- tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
- tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

Type: Array of Filter objects

Required: No

LaunchTemplateId.N

One or more launch template IDs.

Type: Array of strings
Required: No

**LaunchTemplateName.N**

One or more launch template names.

Type: Array of strings


Pattern: `[a-zA-Z0-9\(\)\./-_]+`

Required: No

**MaxResults**

The maximum number of results to return in a single call. To retrieve the remaining results, make another call with the returned NextToken value. This value can be between 1 and 200.

Type: Integer


Required: No

**NextToken**

The token to request the next page of results.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**launchTemplates**

Information about the launch templates.

Type: Array of LaunchTemplate objects
nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes all of your launch templates.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeLaunchTemplates
&AUTHPARAMS

Sample Response

<DescribeLaunchTemplatesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>1afa6e44-eb38-4229-8db6-d5eaexample</requestId>
  <launchTemplates>
    <item>
      <createTime>2017-10-31T11:38:52.000Z</createTime>
      <createdBy>arn:aws:iam::123456789012:root</createdBy>
      <defaultVersionNumber>1</defaultVersionNumber>
      <latestVersionNumber>1</latestVersionNumber>
      <launchTemplateId>lt-0a20c965061f64abc</launchTemplateId>
      <launchTemplateName>MyLaunchTemplate</launchTemplateName>
    </item>
  </launchTemplates>
</DescribeLaunchTemplatesResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeLaunchTemplateVersions

Describes one or more versions of a specified launch template. You can describe all versions, individual versions, or a range of versions. You can also describe all the latest versions or all the default versions of all the launch templates in your account.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters.

- create-time - The time the launch template version was created.
- ebs-optimized - A boolean that indicates whether the instance is optimized for Amazon EBS I/O.
- http-endpoint - Indicates whether the HTTP metadata endpoint on your instances is enabled (enabled | disabled).
- http-protocol-ipv4 - Indicates whether the IPv4 endpoint for the instance metadata service is enabled (enabled | disabled).
- host-resource-group-arn - The ARN of the host resource group in which to launch the instances.
- http-tokens - The state of token usage for your instance metadata requests (optional | required).
- iam-instance-profile - The ARN of the IAM instance profile.
- image-id - The ID of the AMI.
- instance-type - The instance type.
• **is-default-version** - A boolean that indicates whether the launch template version is the default version.
• **kernel-id** - The kernel ID.
• **license-configuration-arn** - The ARN of the license configuration.
• **network-card-index** - The index of the network card.
• **ram-disk-id** - The RAM disk ID.

Type: Array of [Filter objects](#)

Required: No

**LaunchTemplateName**

The name of the launch template.

To describe one or more versions of a specified launch template, you must specify either the LaunchTemplateName or the LaunchTemplateId, but not both.

To describe all the latest or default launch template versions in your account, you must omit this parameter.

Type: String

Required: No

**LaunchTemplateId**

The ID of the launch template.

To describe one or more versions of a specified launch template, you must specify either the LaunchTemplateId or the LaunchTemplateName, but not both.

To describe all the latest or default launch template versions in your account, you must omit this parameter.

Type: String

Required: No


Pattern: [a-zA-Z0-9\(\)\.\-_/]+
**LaunchTemplateVersion.N**

One or more versions of the launch template. Valid values depend on whether you are describing a specified launch template (by ID or name) or all launch templates in your account.

To describe one or more versions of a specified launch template, valid values are $Latest, $Default, and numbers.

To describe all launch templates in your account that are defined as the latest version, the valid value is $Latest. To describe all launch templates in your account that are defined as the default version, the valid value is $Default. You can specify $Latest and $Default in the same request. You cannot specify numbers.

Type: Array of strings

Required: No

**MaxResults**

The maximum number of results to return in a single call. To retrieve the remaining results, make another call with the returned NextToken value. This value can be between 1 and 200.

Type: Integer

Required: No

**MaxVersion**

The version number up to which to describe launch template versions.

Type: String

Required: No

**MinVersion**

The version number after which to describe launch template versions.

Type: String

Required: No

**NextToken**

The token to request the next page of results.
Type: String
Required: No

**ResolveAlias**

If `true`, and if a Systems Manager parameter is specified for `ImageId`, the AMI ID is displayed in the response for `imageId`.

If `false`, and if a Systems Manager parameter is specified for `ImageId`, the parameter is displayed in the response for `imageId`.


Default: `false`

Type: Boolean
Required: No

**Response Elements**

The following elements are returned by the service.

**launchTemplateVersionSet**

Information about the launch template versions.

Type: Array of `LaunchTemplateVersion` objects

**nextToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see [Common client error codes](https://aws.amazon.com/documentation/elasticloadbalancing/errors/).

Examples

Example 1

This example describes all versions of launch template `lt-0a20c965061f64abc` up to version 3.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeLaunchTemplateVersions
&LaunchTemplateId=lt-0a20c965061f64abc
&MaxVersion=3
&AUTHPARAMS
```

Sample Response

```
  <requestId>65cadec1-b364-4354-8ca8-4176dexample</requestId>
  <launchTemplateVersionSet>
    <item>
      <createTime>2017-10-31T11:38:52.000Z</createTime>
      <createdBy>arn:aws:iam::123456789012:root</createdBy>
      <defaultVersion>true</defaultVersion>
      <launchTemplateData>
        <imageId>ami-8c1be5f6</imageId>
        <instanceType>t2.micro</instanceType>
      </launchTemplateData>
      <launchTemplateId>lt-0a20c965061f64abc</launchTemplateId>
      <launchTemplateName>MyLaunchTemplate</launchTemplateName>
      <versionDescription>FirstVersion</versionDescription>
      <versionNumber>1</versionNumber>
    </item>
    <item>
      <createTime>2017-10-31T11:52:03.000Z</createTime>
      <createdBy>arn:aws:iam::123456789012:root</createdBy>
      <defaultVersion>false</defaultVersion>
      <launchTemplateData>
        <imageId>ami-12345678</imageId>
      </launchTemplateData>
      <launchTemplateId>lt-0a20c965061f64abc</launchTemplateId>
      <launchTemplateName>MyLaunchTemplate</launchTemplateName>
      <versionDescription>SecondVersion</versionDescription>
      <versionNumber>2</versionNumber>
    </item>
  </launchTemplateVersionSet>
</DescribeLaunchTemplateVersionsResponse>
```
Example 2

This example describes all the latest versions of the launch templates in your account.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeLaunchTemplateVersions
&LaunchTemplateVersion.1=$Latest
&AUTHPARAMS

Sample Response

   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   <requestId>65cadec1-b364-4354-8ca8-4176dexample</requestId>
   <launchTemplateVersionSet>
      <item>
         <createTime>2020-01-31T11:38:52.000Z</createTime>
         <createdBy>arn:aws:iam::123456789012:root</createdBy>
         <defaultVersion>true</defaultVersion>
         <launchTemplateData>
            <imageId>ami-8c1be5f6</imageId>
         </launchTemplateData>
      </item>
   </launchTemplateVersionSet>
</DescribeLaunchTemplateVersionsResponse>
Amazon Elastic Compute Cloud

API Reference

<instanceType>t2.micro</instanceType>
</launchTemplateData>
<launchTemplateId>lt-1111111111EXAMPLE</launchTemplateId>
<launchTemplateName>MyLaunchTemplate1</launchTemplateName>
<versionDescription>FirstTemplate</versionDescription>
<versionNumber>1</versionNumber>
</item>

<item>
<createTime>2020-02-14T11:52:03.000Z</createTime>
<createdBy>arn:aws:iam::123456789012:root</createdBy>
<defaultVersion>false</defaultVersion>
<launchTemplateData>
  <imageId>ami-12345678</imageId>
  <instanceType>t2.micro</instanceType>
</launchTemplateData>
<launchTemplateId>lt-2222222222EXAMPLE</launchTemplateId>
<launchTemplateName>MyLaunchTemplate2</launchTemplateName>
<versionDescription>ThirdVersion</versionDescription>
<versionNumber>3</versionNumber>
</item>

<item>
<createTime>2020-03-03T11:55:15.000Z</createTime>
<createdBy>arn:aws:iam::123456789012:root</createdBy>
<defaultVersion>false</defaultVersion>
<launchTemplateData>
  <imageId>ami-aabbccdd</imageId>
  <instanceType>t3.small</instanceType>
</launchTemplateData>
<launchTemplateId>lt-3333333333EXAMPLE</launchTemplateId>
<launchTemplateName>MyLaunchTemplate3</launchTemplateName>
<versionDescription>AMIOnlyv2</versionDescription>
<versionNumber>2</versionNumber>
</item>
</launchTemplateVersionSet>
</DescribeLaunchTemplateVersionsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeLocalGatewayRouteTables

Describes one or more local gateway route tables. By default, all local gateway route tables are described. Alternatively, you can filter the results.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters.

- **local-gateway-id** - The ID of a local gateway.
- **local-gateway-route-table-arn** - The Amazon Resource Name (ARN) of the local gateway route table.
- **local-gateway-route-table-id** - The ID of a local gateway route table.
- **outpost-arn** - The Amazon Resource Name (ARN) of the Outpost.
- **owner-id** - The ID of the AWS account that owns the local gateway route table.
- **state** - The state of the local gateway route table.

Type: Array of Filter objects

Required: No

LocalGatewayRouteTableId.N

The IDs of the local gateway route tables.

Type: Array of strings
Required: No

**MaxResults**

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned `nextToken` value.

Type: Integer


Required: No

**NextToken**

The token for the next page of results.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**localGatewayRouteTableSet**

Information about the local gateway route tables.

Type: Array of `LocalGatewayRouteTable` objects

**nextToken**

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeLocalGatewayRouteTableVirtualInterfaceGroupAssociations

Describes the associations between virtual interface groups and local gateway route tables.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is *DryRunOperation*. Otherwise, it is *UnauthorizedOperation*.

- **Type**: Boolean
- **Required**: No

**Filter.N**

One or more filters.

- **local-gateway-id** - The ID of a local gateway.
- **local-gateway-route-table-arn** - The Amazon Resource Name (ARN) of the local gateway route table for the virtual interface group.
- **local-gateway-route-table-id** - The ID of the local gateway route table.
- **local-gateway-route-table-virtual-interface-group-association-id** - The ID of the association.
- **local-gateway-route-table-virtual-interface-group-id** - The ID of the virtual interface group.
- **owner-id** - The ID of the AWS account that owns the local gateway virtual interface group association.
- **state** - The state of the association.

- **Type**: Array of [Filter](#) objects
- **Required**: No
LocalGatewayRouteTableVirtualInterfaceGroupAssociationId.N

The IDs of the associations.

Type: Array of strings

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer


Required: No

NextToken

The token for the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

localGatewayRouteTableVirtualInterfaceGroupAssociationSet

Information about the associations.

Type: Array of LocalGatewayRouteTableVirtualInterfaceGroupAssociation objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String
requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeLocalGatewayRouteTableVpcAssociations

Describes the specified associations between VPCs and local gateway route tables.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Filter.N**

One or more filters.

- **local-gateway-id** - The ID of a local gateway.
- **local-gateway-route-table-arn** - The Amazon Resource Name (ARN) of the local gateway route table for the association.
- **local-gateway-route-table-id** - The ID of the local gateway route table.
- **local-gateway-route-table-vpc-association-id** - The ID of the association.
- **owner-id** - The ID of the AWS account that owns the local gateway route table for the association.
- **state** - The state of the association.
- **vpc-id** - The ID of the VPC.

Type: Array of Filter objects

Required: No

**LocalGatewayRouteTableVpcAssociationId.N**

The IDs of the associations.
MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer


Required: No

NextToken

The token for the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

localGatewayRouteTableVpcAssociationSet

Information about the associations.

Type: Array of LocalGatewayRouteTableVpcAssociation objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeLocalGateways

Describes one or more local gateways. By default, all local gateways are described. Alternatively, you can filter the results.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).  

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean  
Required: No

**Filter.N**

One or more filters.

- `local-gateway-id` - The ID of a local gateway.  
- `outpost-arn` - The Amazon Resource Name (ARN) of the Outpost.  
- `owner-id` - The ID of the AWS account that owns the local gateway.  
- `state` - The state of the association.

Type: Array of [Filter](#) objects  
Required: No

**LocalGatewayId.N**

The IDs of the local gateways.

Type: Array of strings  
Required: No
MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer


Required: No

NextToken

The token for the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

localGatewaySet

Information about the local gateways.

Type: Array of LocalGateway objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeLocalGatewayVirtualInterfaceGroups

Describes the specified local gateway virtual interface groups.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters.

- local-gateway-id - The ID of a local gateway.
- local-gateway-virtual-interface-group-id - The ID of the virtual interface group.
- local-gateway-virtual-interface-id - The ID of the virtual interface.
- owner-id - The ID of the AWS account that owns the local gateway virtual interface group.

Type: Array of Filter objects

Required: No

LocalGatewayVirtualInterfaceGroupId.N

The IDs of the virtual interface groups.

Type: Array of strings

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.
Type: Integer


Required: No

**NextToken**

The token for the next page of results.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**localGatewayVirtualInterfaceGroupSet**

The virtual interface groups.

Type: Array of [LocalGatewayVirtualInterfaceGroup](#) objects

**nextToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeLocalGatewayVirtualInterfaces

Describes the specified local gateway virtual interfaces.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters.

- local-address - The local address.
- local-bgp-asn - The Border Gateway Protocol (BGP) Autonomous System Number (ASN) of the local gateway.
- local-gateway-id - The ID of the local gateway.
- local-gateway-virtual-interface-id - The ID of the virtual interface.
- owner-id - The ID of the AWS account that owns the local gateway virtual interface.
- peer-address - The peer address.
- peer-bgp-asn - The peer BGP ASN.
- vlan - The ID of the VLAN.

Type: Array of Filter objects

Required: No

LocalGatewayVirtualInterfaceId.N

The IDs of the virtual interfaces.
Type: Array of strings
Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer
Required: No

NextToken

The token for the next page of results.

Type: String
Required: No

Response Elements

The following elements are returned by the service.

localGatewayVirtualInterfaceSet

Information about the virtual interfaces.

Type: Array of LocalGatewayVirtualInterface objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeLockedSnapshots

Describes the lock status for a snapshot.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- lock-state - The state of the snapshot lock (compliance-cooloff | governance | compliance | expired).

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer


Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.
Type: String
Required: No

**SnapshotId.N**

The IDs of the snapshots for which to view the lock status.

Type: Array of strings
Required: No

**Response Elements**

The following elements are returned by the service.

**nextToken**

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

**requestId**

The ID of the request.

Type: String

**snapshotSet**

Information about the snapshots.

Type: Array of [LockedSnapshotsInfo](#) objects

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeManagedPrefixLists

Describes your managed prefix lists and any AWS-managed prefix lists.

To view the entries for your prefix list, use `GetManagedPrefixListEntries`.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see `Common Query Parameters`.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**Filter.N**

One or more filters.

- `owner-id` - The ID of the prefix list owner.
- `prefix-list-id` - The ID of the prefix list.
- `prefix-list-name` - The name of the prefix list.

Type: Array of `Filter` objects

Required: No

**MaxResults**

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned `nextToken` value.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No
NextToken

The token for the next page of results.

Type: String

Required: No

PrefixListId.N

One or more prefix list IDs.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

prefixListSet

Information about the prefix lists.

Type: Array of ManagedPrefixList objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.
Examples

Example

This example describes managed prefix lists and filters by the prefix lists owned by account 123456789012.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeManagedPrefixList
&Filter.1.Name=owner-id
&Filter.1.Value.1=123456789012
&AUTHPARAMS

Sample Response

   <requestId>ace27020-4268-4c9c-a8d3-example</requestId>
   <prefixListSet>
      <item>
         <addressFamily>IPv4</addressFamily>
         <maxEntries>10</maxEntries>
         <ownerId>123456789012</ownerId>
         <prefixListArn>arn:aws:ec2:us-east-1:123456789012:prefix-list/pl-0123123123123aabb</prefixListArn>
         <prefixListId>pl-0123123123123aabb</prefixListId>
         <prefixListName>tgw-attachments</prefixListName>
         <state>create-complete</state>
         <tagSet>
            <item>
               <key>Purpose</key>
               <value>For TGW-1a attachments</value>
            </item>
         </tagSet>
         <version>1</version>
      </item>
   </prefixListSet>
</DescribeManagedPrefixListsResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeMovingAddresses

Note
This action is deprecated.

Describes your Elastic IP addresses that are being moved from or being restored to the EC2-Classic platform. This request does not return information about any other Elastic IP addresses in your account.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

Filter.N

One or more filters.

- moving-status - The status of the Elastic IP address (MovingToVpc | RestoringToClassic).

Type: Array of Filter objects
Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results of the initial request can be seen by sending another request with the returned NextToken value. This value can be between 5 and 1000; if MaxResults is given a value outside of this range, an error is returned.
Default: If no value is provided, the default is 1000.

Type: Integer


Required: No

**NextToken**

The token for the next page of results.

Type: String

Required: No

**PublicIp.N**

One or more Elastic IP addresses.

Type: Array of strings

Required: No

**Response Elements**

The following elements are returned by the service.

**movingAddressStatusSet**

The status for each Elastic IP address.

Type: Array of [MovingAddressStatus](#) objects

**nextToken**

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

**requestId**

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeNatGateways

Describes one or more of your NAT gateways.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- nat-gateway-id - The ID of the NAT gateway.
- state - The state of the NAT gateway (pending | failed | available | deleting | deleted).
- subnet-id - The ID of the subnet in which the NAT gateway resides.
- tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
- tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.
- vpc-id - The ID of the VPC in which the NAT gateway resides.

Type: Array of Filter objects

Required: No
**MaxResults**

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see [Pagination](#).

Type: Integer


Required: No

**NatGatewayId.N**

The IDs of the NAT gateways.

Type: Array of strings

Required: No

**NextToken**

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**natGatewaySet**

Information about the NAT gateways.

Type: Array of [NatGateway](#) objects

**nextToken**

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String
requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes all of your NAT gateways.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeNatGateways
&AUTHPARAMS

Sample Response

  <requestId>fcb1ea98-1c04-4f9f-a96d-61442example</requestId>
  <natGatewaySet>
    <item>
      <createTime>2017-02-22T09:30:33.000Z</createTime>
      <natGatewayAddressSet>
        <item>
          <allocationId>eipalloc-8f409cb1</allocationId>
          <networkInterfaceId>eni-1c8fa2fc</networkInterfaceId>
          <privateIp>10.0.0.174</privateIp>
          <publicIp>203.0.113.5</publicIp>
        </item>
      </natGatewayAddressSet>
      <natGatewayId>nat-05a4fd8a2a3e2574d</natGatewayId>
      <state>available</state>
      <subnetId>subnet-7b16de0c</subnetId>
      <tagSet>
        <item>
<key>Name</key>
    <value>MyNatGateway</value>
</item>
</tagSet>
    <vpcId>vpc-1a2b3c4d</vpcId>
</item>
</natGatewaySet>
</DescribeNatGatewaysResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeNetworkAcls

Describes one or more of your network ACLs.

For more information, see Network ACLs in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- association.association-id - The ID of an association ID for the ACL.
- association.network-acl-id - The ID of the network ACL involved in the association.
- association.subnet-id - The ID of the subnet involved in the association.
- default - Indicates whether the ACL is the default network ACL for the VPC.
- entry.cidr - The IPv4 CIDR range specified in the entry.
- entry.icmp.code - The ICMP code specified in the entry, if any.
- entry.icmp.type - The ICMP type specified in the entry, if any.
- entry.ipv6-cidr - The IPv6 CIDR range specified in the entry.
- entry.port-range.from - The start of the port range specified in the entry.
- entry.port-range.to - The end of the port range specified in the entry.
- entry.protocol - The protocol specified in the entry (tcp | udp | icmp or a protocol number).
- entry.rule-action - Allows or denies the matching traffic (allow | deny).
- entry.egress - A Boolean that indicates the type of rule. Specify true for egress rules, or false for ingress rules.

- entry.rule-number - The number of an entry (in other words, rule) in the set of ACL entries.

- network-acl-id - The ID of the network ACL.

- owner-id - The ID of the AWS account that owns the network ACL.

- tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.

- tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

- vpc-id - The ID of the VPC for the network ACL.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer


Required: No

NetworkAclId.N

The IDs of the network ACLs.

Default: Describes all your network ACLs.

Type: Array of strings

Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.
Response Elements

The following elements are returned by the service.

**networkAclSet**

Information about one or more network ACLs.

Type: Array of [NetworkAcl](#) objects

**nextToken**

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

**Example**

This example describes all your network ACLs.

**Sample Request**

https://ec2.amazonaws.com/?Action=DescribeNetworkAcls

&AUTHPARAMS
Sample Response

  <requestId>be8171a0-2b2a-4a02-8b13-9c3436f2f02d</requestId>
  <networkAclSet>
    <item>
      <networkAclId>acl-0ea1f54ca7EXAMPLE</networkAclId>
      <vpcId>vpc-06e4ab6c6cEXAMPLE</vpcId>
      <ownerId>111122223333</ownerId>
      <default>true</default>
      <entrySet>
        <item>
          <ruleNumber>100</ruleNumber>
          <protocol>-1</protocol>
          <ruleAction>allow</ruleAction>
          <egress>true</egress>
          <cidrBlock>0.0.0.0/0</cidrBlock>
        </item>
        <item>
          <ruleNumber>32767</ruleNumber>
          <protocol>-1</protocol>
          <ruleAction>deny</ruleAction>
          <egress>true</egress>
          <cidrBlock>0.0.0.0/0</cidrBlock>
        </item>
        <item>
          <ruleNumber>100</ruleNumber>
          <protocol>-1</protocol>
          <ruleAction>allow</ruleAction>
          <egress>false</egress>
          <cidrBlock>0.0.0.0/0</cidrBlock>
        </item>
        <item>
          <ruleNumber>32767</ruleNumber>
          <protocol>-1</protocol>
          <ruleAction>deny</ruleAction>
          <egress>false</egress>
          <cidrBlock>0.0.0.0/0</cidrBlock>
        </item>
      </entrySet>
      <associationSet>
        <item>
          <networkAclAssociationId>aclassoc-0c1679dc41EXAMPLE</networkAclAssociationId>
        </item>
      </associationSet>
    </item>
  </networkAclSet>
</DescribeNetworkAclsResponse>
<networkAclId>acl-0ea1f54ca7EXAMPLE</networkAclId>
<subnetId>subnet-0931fc2fa5EXAMPLE</subnetId>
</item>
</associationSet>
<tagSet/>
</item>
</item>

<networkAclId>acl-09a47ac966EXAMPLE</networkAclId>
<vpcId>vpc-06b7830650EXAMPLE</vpcId>
<ownerId>111122223333</ownerId>
<default>true</default>
<entrySet>
  <item>
    <ruleNumber>100</ruleNumber>
    <protocol>-1</protocol>
    <ruleAction>allow</ruleAction>
    <egress>true</egress>
    <cidrBlock>0.0.0.0/0</cidrBlock>
  </item>
  <item>
    <ruleNumber>32767</ruleNumber>
    <protocol>-1</protocol>
    <ruleAction>deny</ruleAction>
    <egress>true</egress>
    <cidrBlock>0.0.0.0/0</cidrBlock>
  </item>
  <item>
    <ruleNumber>100</ruleNumber>
    <protocol>-1</protocol>
    <ruleAction>allow</ruleAction>
    <egress>false</egress>
    <cidrBlock>0.0.0.0/0</cidrBlock>
  </item>
  <item>
    <ruleNumber>32767</ruleNumber>
    <protocol>-1</protocol>
    <ruleAction>deny</ruleAction>
    <egress>false</egress>
    <cidrBlock>0.0.0.0/0</cidrBlock>
  </item>
</entrySet>
<associationSet/>
<tagSet/>
</item>
</item>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeNetworkInsightsAccessScopeAnalyses

Describes the specified Network Access Scope analyses.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AnalysisStartTimeBegin

Filters the results based on the start time. The analysis must have started on or after this time.

Type: Timestamp

Required: No

AnalysisStartTimeEnd

Filters the results based on the start time. The analysis must have started on or before this time.

Type: Timestamp

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

There are no supported filters.

Type: Array of Filter objects

Required: No
MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NetworkInsightsAccessScopeAnalysisId.N

The IDs of the Network Access Scope analyses.

Type: Array of strings

Required: No

NetworkInsightsAccessScopeId

The ID of the Network Access Scope.

Type: String

Required: No

NextToken

The token for the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

networkInsightsAccessScopeAnalysisSet

The Network Access Scope analyses.

Type: Array of NetworkInsightsAccessScopeAnalysis objects
nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeNetworkInsightsAccessScopes

Describes the specified Network Access Scopes.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

- Type: Boolean
- Required: No

**Filter.N**

There are no supported filters.

- Type: Array of [Filter](#) objects
- Required: No

**MaxResults**

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned `nextToken` value.

- Type: Integer
- Valid Range: Minimum value of 1. Maximum value of 100.
- Required: No

**NetworkInsightsAccessScopeId.N**

The IDs of the Network Access Scopes.

- Type: Array of strings
Required: No

**NextToken**

The token for the next page of results.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**networkInsightsAccessScopeSet**

The Network Access Scopes.

Type: Array of `NetworkInsightsAccessScope` objects

**nextToken**

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeNetworkInsightsAnalyses

Describes one or more of your network insights analyses.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AnalysisEndTime

The time when the network insights analyses ended.

Type: Timestamp

Required: No

AnalysisStartTime

The time when the network insights analyses started.

Type: Timestamp

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters. The following are the possible values:

- path-found - A Boolean value that indicates whether a feasible path is found.
- status - The status of the analysis (running | succeeded | failed).

Type: Array of Filter objects

Required: No
MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned `nextToken` value.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NetworkInsightsAnalysisId.N

The ID of the network insights analyses. You must specify either analysis IDs or a path ID.

Type: Array of strings

Required: No

NetworkInsightsPathId

The ID of the path. You must specify either a path ID or analysis IDs.

Type: String

Required: No

NextToken

The token for the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

`networkInsightsAnalysisSet`

Information about the network insights analyses.

Type: Array of `NetworkInsightsAnalysis` objects
nextToken

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeNetworkInsightsPaths

Describes one or more of your paths.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters. The following are the possible values:

- destination - The ID of the resource.
- filter-at-source.source-address - The source IPv4 address at the source.
- filter-at-source.source-port-range - The source port range at the source.
- filter-at-source.destination-address - The destination IPv4 address at the source.
- filter-at-source.destination-port-range - The destination port range at the source.
- filter-at-destination.source-address - The source IPv4 address at the destination.
- filter-at-destination.source-port-range - The source port range at the destination.
- filter-at-destination.destination-address - The destination IPv4 address at the destination.
- filter-at-destination.destination-port-range - The destination port range at the destination.
- protocol - The protocol.
- source - The ID of the resource.

Type: Array of Filter objects

Required: No
MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer
Valid Range: Minimum value of 1. Maximum value of 100.
Required: No

NetworkInsightsPathId.N

The IDs of the paths.

Type: Array of strings
Required: No

NextToken

The token for the next page of results.

Type: String
Required: No

Response Elements

The following elements are returned by the service.

networkInsightsPathSet

Information about the paths.

Type: Array of NetworkInsightsPath objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String
requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeNetworkInterfaceAttribute

Describes a network interface attribute. You can specify only one attribute at a time.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Attribute

The attribute of the network interface. This parameter is required.

Type: String

Valid Values: description | groupSet | sourceDestCheck | attachment

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

NetworkInterfaceId

The ID of the network interface.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

attachment

The attachment (if any) of the network interface.
Type: `NetworkInterfaceAttachment` object

description

The description of the network interface.

Type: `AttributeValue` object

groupSet

The security groups associated with the network interface.

Type: Array of `GroupIdentifier` objects

networkInterfaceId

The ID of the network interface.

Type: String

requestId

The ID of the request.

Type: String

sourceDestCheck

Indicates whether source/destination checking is enabled.

Type: `AttributeBooleanValue` object

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example describes the `sourceDestCheck` attribute of the specified network interface.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeNetworkInterfaceAttribute
&NetworkInterfaceId=eni-686ea200
&Attribute=sourceDestCheck
&AUTHPARAMS

Sample Response

  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <requestId>7a20c6b2-d71c-45fb-bba7-37306850544b</requestId>
  <networkInterfaceId>eni-686ea200</networkInterfaceId>
  <sourceDestCheck>
    <value>true</value>
  </sourceDestCheck>
</DescribeNetworkInterfaceAttributeResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeNetworkInterfacePermissions

Describes the permissions for your network interfaces.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Filter.N

One or more filters.

- network-interface-permission.network-interface-permission-id - The ID of the permission.
- network-interface-permission.network-interface-id - The ID of the network interface.
- network-interface-permission.aws-account-id - The AWS account ID.
- network-interface-permission.aws-service - The AWS service.
- network-interface-permission.permission - The type of permission (INSTANCE-ATTACH | EIP-ASSOCIATE).

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. If this parameter is not specified, up to 50 results are returned by default. For more information, see Pagination.

Type: Integer


Required: No

NetworkInterfacePermissionId.N

The network interface permission IDs.

Type: Array of strings
Required: No

**NextToken**

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**networkInterfacePermissions**

The network interface permissions.

Type: Array of [NetworkInterfacePermission](#) objects

**nextToken**

The token to include in another request to get the next page of items. This value is `null` when there are no more items to return.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example describes all of your network interface permissions.
Sample Request

https://ec2.amazonaws.com/?Action=DescribeNetworkInterfacePermissions
&AUTHPARAMS

Sample Response

<?xml version="1.0" encoding="UTF-8"?>
  <requestId>6d4fe5e1-4bd2-4e76-8980-04cexample</requestId>
  <networkInterfacePermissions>
    <item>
      <awsAccountId>123456789012</awsAccountId>
      <networkInterfaceId>eni-b909511a</networkInterfaceId>
      <networkInterfacePermissionId>eni-perm-06fd19020ede149ea</networkInterfacePermissionId>
      <permission>INSTANCE-ATTACH</permission>
      <permissionState>
        <state>GRANTED</state>
      </permissionState>
    </item>
  </networkInterfacePermissions>
</DescribeNetworkInterfacePermissionsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeNetworkInterfaces

Describes one or more of your network interfaces.

If you have a large number of network interfaces, the operation fails unless you use pagination or one of the following filters: group-id, mac-address, private-dns-name, private-ip-address, private-dns-name, subnet-id, or vpc-id.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter

One or more filters.

- association.allocation-id - The allocation ID returned when you allocated the Elastic IP address (IPv4) for your network interface.
- association.association-id - The association ID returned when the network interface was associated with an IPv4 address.
- addresses.association.owner-id - The owner ID of the addresses associated with the network interface.
- addresses.association.public-ip - The association ID returned when the network interface was associated with the Elastic IP address (IPv4).
- addresses.primary - Whether the private IPv4 address is the primary IP address associated with the network interface.
- addresses.private-ip-address - The private IPv4 addresses associated with the network interface.
- **association.ip-owner-id** - The owner of the Elastic IP address (IPv4) associated with the network interface.

- **association.public-ip** - The address of the Elastic IP address (IPv4) bound to the network interface.

- **association.public-dns-name** - The public DNS name for the network interface (IPv4).

- **attachment.attach-time** - The time that the network interface was attached to an instance.

- **attachment.attachment-id** - The ID of the interface attachment.

- **attachment.delete-on-termination** - Indicates whether the attachment is deleted when an instance is terminated.

- **attachment.device-index** - The device index to which the network interface is attached.

- **attachment.instance-id** - The ID of the instance to which the network interface is attached.

- **attachment.instance-owner-id** - The owner ID of the instance to which the network interface is attached.

- **attachment.status** - The status of the attachment (attaching | attached | detaching | detached).

- **availability-zone** - The Availability Zone of the network interface.

- **description** - The description of the network interface.

- **group-id** - The ID of a security group associated with the network interface.

- **ipv6-addresses.ipv6-address** - An IPv6 address associated with the network interface.

- **interface-type** - The type of network interface (api_gateway_managed | aws_codestar_connections_managed | branch | ec2_instance_connect_endpoint | efa | efs | gateway_load_balancer | gateway_load_balancer_endpoint | global_accelerator_managed | interface | iot_rules_managed | lambda | load_balancer | nat_gateway | network_load_balancer | quicksight | transit_gateway | trunk | vpc_endpoint).

- **mac-address** - The MAC address of the network interface.

- **network-interface-id** - The ID of the network interface.

- **owner-id** - The AWS account ID of the network interface owner.

- **private-dns-name** - The private DNS name of the network interface (IPv4).

- **private-ip-address** - The private IPv4 address or addresses of the network interface.
• **requester-id** - The alias or AWS account ID of the principal or service that created the network interface.

• **requester-managed** - Indicates whether the network interface is being managed by an AWS service (for example, AWS Management Console, Auto Scaling, and so on).

• **source-dest-check** - Indicates whether the network interface performs source/destination checking. A value of `true` means checking is enabled, and `false` means checking is disabled. The value must be `false` for the network interface to perform network address translation (NAT) in your VPC.

• **status** - The status of the network interface. If the network interface is not attached to an instance, the status is `available`; if a network interface is attached to an instance the status is `in-use`.

• **subnet-id** - The ID of the subnet for the network interface.

• **tag:<key>** - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key `Owner` and the value `TeamA`, specify `tag:Owner` for the filter name and `TeamA` for the filter value.

• **tag-key** - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

• **vpc-id** - The ID of the VPC for the network interface.

**Type:** Array of [Filter](#) objects

**Required:** No

### MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. You cannot specify this parameter and the network interface IDs parameter in the same request. For more information, see [Pagination](#).

**Type:** Integer

**Valid Range:** Minimum value of 5. Maximum value of 1000.

**Required:** No

### NetworkInterfaceId.N

The network interface IDs.
Default: Describes all your network interfaces.

Type: Array of strings

Required: No

**NextToken**

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**networkInterfaceSet**

Information about one or more network interfaces.

Type: Array of [NetworkInterface](#) objects

**nextToken**

The token to include in another request to get the next page of items. This value is `null` when there are no more items to return.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
Examples

Example 1

This example describes all your network interfaces.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeNetworkInterfaces

&AUTHPARAMS

Sample Response

<DescribeNetworkInterfacesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>fc45294c-006b-457b-bab9-012f5b3b0e40</requestId>
  <networkInterfaceSet>
    <item>
      <networkInterfaceId>eni-0f62d866</networkInterfaceId>
      <subnetId>subnet-c53c87ac</subnetId>
      <vpcId>vpc-cc3c87a5</vpcId>
      <availabilityZone>api-southeast-1b</availabilityZone>
      <description/>
      <ownerId>053230519467</ownerId>
      <requesterManaged>false</requesterManaged>
      <status>in-use</status>
      <macAddress>02:81:60:cb:27:37</macAddress>
      <privateIpAddress>10.0.0.146</privateIpAddress>
      <sourceDestCheck>true</sourceDestCheck>
      <groupSet>
        <item>
          <groupId>sg-3f4b5653</groupId>
          <groupName>default</groupName>
        </item>
      </groupSet>
      <attachment>
        <attachmentId>eni-attach-6537fc0c</attachmentId>
        <instanceId>i-1234567890abcdef0</instanceId>
        <instanceOwnerId>053230519467</instanceOwnerId>
        <deviceIndex>0</deviceIndex>
        <status>attached</status>
        <attachTime>2012-07-01T21:45:27.000Z</attachTime>
        <deleteOnTermination>true</deleteOnTermination>
      </attachment>
    </item>
  </networkInterfaceSet>
</DescribeNetworkInterfacesResponse>
<tagSet/>
<privateIpAddressesSet>
  <item>
    <privateIpAddress>10.0.0.146</privateIpAddress>
    <primary>true</primary>
  </item>
  <item>
    <privateIpAddress>10.0.0.148</privateIpAddress>
    <primary>false</primary>
  </item>
  <item>
    <privateIpAddress>10.0.0.150</privateIpAddress>
    <primary>false</primary>
  </item>
</privateIpAddressesSet>
<ipv6AddressesSet/>
</item>

<item>
  <networkInterfaceId>eni-a66ed5cf</networkInterfaceId>
  <subnetId>subnet-cd8a35a4</subnetId>
  <vpcId>vpc-f28a359b</vpcId>
  <availabilityZone>ap-southeast-1b</availabilityZone>
  <description>Primary network interface</description>
  <ownerId>053230519467</ownerId>
  <requesterManaged>false</requesterManaged>
  <status>in-use</status>
  <macAddress>02:78:d7:00:8a:1e</macAddress>
  <privateIpAddress>10.0.1.233</privateIpAddress>
  <sourceDestCheck>true</sourceDestCheck>
  <groupSet>
    <item>
      <groupId>sg-a2a0b2ce</groupId>
      <groupName>quick-start-1</groupName>
    </item>
  </groupSet>
  <attachment>
    <attachmentId>eni-attach-a99c57c0</attachmentId>
    <instanceId>i-0598c7d356eba48d7</instanceId>
    <instanceOwnerId>053230519467</instanceOwnerId>
    <deviceIndex>0</deviceIndex>
    <status>attached</status>
    <attachTime>2012-06-27T20:08:44.000Z</attachTime>
    <deleteOnTermination>true</deleteOnTermination>
  </attachment>
</item>
Example 2

This example uses a filter to describe only network interfaces that are in Availability Zone us-east-2a.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeNetworkInterfaces
&Filter.1.Name=availability-zone
&Filter.1.Value.1=us-east-2a
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

See Also

API Version 2016-11-15 1118
DescribePlacementGroups

Describes the specified placement groups or all of your placement groups. For more information, see Placement groups in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- group-name - The name of the placement group.
- group-arn - The Amazon Resource Name (ARN) of the placement group.
- spread-level - The spread level for the placement group (host | rack).
- state - The state of the placement group (pending | available | deleting | deleted).
- strategy - The strategy of the placement group (cluster | spread | partition).
- tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
- tag-key - The key of a tag assigned to the resource. Use this filter to find all resources that have a tag with a specific key, regardless of the tag value.

Type: Array of Filter objects

Required: No
**Groupld.N**

The IDs of the placement groups.

Type: Array of strings

Required: No

**GroupName.N**

The names of the placement groups.

Default: Describes all your placement groups, or only those otherwise specified.

Type: Array of strings

Required: No

**Response Elements**

The following elements are returned by the service.

**placementGroupSet**

Information about the placement groups.

Type: Array of PlacementGroup objects

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example 1**

This example describes the placement group named ABC-spread.
Sample Request

https://ec2.amazonaws.com/?Action=DescribePlacementGroups
&GroupName.1=ABC-spread
&AUTHPARAMS

Sample Response

  <requestID>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestID>
  <placementGroupSet>
    <item>
      <groupName>ABC-spread</groupName>
      <spreadLevel>rack</spreadLevel>
      <strategy>spread</strategy>
      <state>available</state>
    </item>
  </placementGroupSet>
</DescribePlacementGroupsResponse>

Example 2

This example filters the response to include only placement groups that include the string Project in the name.

Sample Request

https://ec2.amazonaws.com/?Action=DescribePlacementGroups
&Filter.1.Name=group-name
&Filter.1.Value=*Project*
&AUTHPARAMS

Sample Response

  <requestID>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestID>
  <placementGroupSet>
    <item>
      <groupName>Project-cluster</groupName>
      <strategy>cluster</strategy>
      <state>available</state>
    </item>
  </placementGroupSet>
</DescribePlacementGroupsResponse>
Example 3

This example describes the partition placement group named HDSF-Group-A with three partitions.

Sample Request

https://ec2.amazonaws.com/?Action=DescribePlacementGroups
&GroupName.1=HDSF-Group-A
&AUTHPARAMS

Sample Response

  <requestID>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestID>
  <placementGroupSet>
    <item>
      <groupName>HDSF-Group-A</groupName>
      <strategy>partition</strategy>
      <partitionCount>3</partitionCount>
      <state>available</state>
    </item>
  </placementGroupSet>
</DescribePlacementGroupsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribePrefixLists

Describes available AWS services in a prefix list format, which includes the prefix list name and prefix list ID of the service and the IP address range for the service.

We recommend that you use DescribeManagedPrefixLists instead.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Filter.N**

One or more filters.

- prefix-list-id: The ID of a prefix list.
- prefix-list-name: The name of a prefix list.

Type: Array of Filter objects

Required: No

**MaxResults**

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer

Required: No

**NextToken**

The token for the next page of results.
Type: String
Required: No

PrefixListId.N

One or more prefix list IDs.
Type: Array of strings
Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.
Type: String

prefixListSet

All available prefix lists.
Type: Array of PrefixList objects

requestId

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example lists all available AWS prefix lists.
Sample Request

https://ec2.amazonaws.com/?Action=DescribePrefixLists
&AUTHPARAMS

Sample Response

  <prefixListSet>
    <item>
      <prefixListName>com.amazonaws.us-west-2.s3</prefixListName>
      <prefixListId>pl-12345678</prefixListId>
      <cidrSet>
        <item>54.123.456.7/19</item>
      </cidrSet>
    </item>
  </prefixListSet>
  <requestId>614db4d4-ac7b-4cb6-853e-example</requestId>
</DescribePrefixListsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribePrincipalIdFormat

Describes the ID format settings for the root user and all IAM roles and IAM users that have explicitly specified a longer ID (17-character ID) preference.

By default, all IAM roles and IAM users default to the same ID settings as the root user, unless they explicitly override the settings. This request is useful for identifying those IAM users and IAM roles that have overridden the default ID settings.


Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

MaxResults

The maximum number of results to return in a single call. To retrieve the remaining results, make another call with the returned NextToken value.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.
Required: No

**NextToken**

The token to request the next page of results.

Type: String

Required: No

**Resource.N**


Type: Array of strings

Required: No

**Response Elements**

The following elements are returned by the service.

**nextToken**

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

**principalSet**

Information about the ID format settings for the ARN.

Type: Array of PrincipalIdFormat objects

**requestId**

The ID of the request.
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes the ID format for the root user and all IAM roles and IAM users that have explicitly specified a longer ID preference.

Sample Request

https://ec2.amazonaws.com/?Action=DescribePrincipalIdFormat
&amp;AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <principalSet>
    <item>
      <arn>arn:aws:iam::123456789012:root</arn>
      <statusSet>
        <item>
          <deadline>2016-12-15T12:00:00.000Z</deadline>
          <resource>reservation</resource>
          <useLongIds>true</useLongIds>
        </item>
        <item>
          <deadline>2016-12-15T12:00:00.000Z</deadline>
          <resource>instance</resource>
          <useLongIds>true</useLongIds>
        </item>
        <item>
          <deadline>2016-12-15T12:00:00.000Z</deadline>
          <resource>volume</resource>
          <useLongIds>true</useLongIds>
        </item>
      </statusSet>
    </item>
  </principalSet>
</DescribePrincipalIdFormatResponse>
<deadline>2016-12-15T12:00:00.000Z</deadline>
<resource>snapshot</resource>
<useLongIds>true</useLongIds>
</item>

<item>
    <resource>network-interface-attachment</resource>
    <useLongIds>true</useLongIds>
</item>

<item>
    <resource>network-interface</resource>
    <useLongIds>true</useLongIds>
</item>

<item>
    <resource>elastic-ip-allocation</resource>
    <useLongIds>true</useLongIds>
</item>

<item>
    <resource>elastic-ip-association</resource>
    <useLongIds>true</useLongIds>
</item>

<item>
    <resource>vpc</resource>
    <useLongIds>true</useLongIds>
</item>

<item>
    <resource>subnet</resource>
    <useLongIds>true</useLongIds>
</item>

<item>
    <resource>route-table</resource>
    <useLongIds>true</useLongIds>
</item>

<item>
    <resource>route-table-association</resource>
    <useLongIds>true</useLongIds>
</item>

<item>
    <resource>network-acl</resource>
    <useLongIds>true</useLongIds>
</item>

<item>
    <resource>network-acl-association</resource>
    <useLongIds>true</useLongIds>
</item>
<item>
  <resource>dhcp-options</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>internet-gateway</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>vpc-cidr-block-association</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>vpc-ipv6-cidr-block-association</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>subnet-ipv6-cidr-block-association</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>vpc-peering-connection</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>security-group</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>flow-log</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>customer-gateway</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>vpc-endpoint</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>vpn-connection</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>vpn-gateway</resource>
  <useLongIds>true</useLongIds>
</item>

</statusSet>
</item>

<item>
  <arn>arn:aws:iam::987654321000:user/user1</arn>
  <statusSet>
    <item>
      <deadline>2016-12-15T12:00:00.000Z</deadline>
      <resource>reservation</resource>
      <useLongIds>true</useLongIds>
    </item>
    <item>
      <deadline>2016-12-15T12:00:00.000Z</deadline>
      <resource>instance</resource>
      <useLongIds>true</useLongIds>
    </item>
    <item>
      <deadline>2016-12-15T12:00:00.000Z</deadline>
      <resource>volume</resource>
      <useLongIds>true</useLongIds>
    </item>
    <item>
      <deadline>2016-12-15T12:00:00.000Z</deadline>
      <resource>snapshot</resource>
      <useLongIds>true</useLongIds>
    </item>
    <item>
      <resource>network-interface-attachment</resource>
      <useLongIds>true</useLongIds>
    </item>
    <item>
      <resource>network-interface</resource>
      <useLongIds>true</useLongIds>
    </item>
    <item>
      <resource>elastic-ip-allocation</resource>
      <useLongIds>true</useLongIds>
    </item>
    <item>
      <resource>elastic-ip-association</resource>
      <useLongIds>true</useLongIds>
    </item>
  </statusSet>
</item>
<item>
  <resource>vpc</resource>
  <useLongIds>false</useLongIds>
</item>
<item>
  <resource>subnet</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>route-table</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>route-table-association</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>network-acl</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>network-acl-association</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>dhcp-options</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>internet-gateway</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>vpc-cidr-block-association</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>vpc-ipv6-cidr-block-association</resource>
  <useLongIds>true</useLongIds>
</item>
<item>
  <resource>subnet-ipv6-cidr-block-association</resource>
  <useLongIds>true</useLongIds>
</item>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribePublicIpv4Pools

Describes the specified IPv4 address pools.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Filter.N

One or more filters.

- `tag:<key>` - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key *Owner* and the value *TeamA*, specify `tag:Owner` for the filter name and *TeamA* for the filter value.

- `tag-key` - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

  Type: Array of Filter objects

  Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

  Type: Integer


  Required: No

NextToken

The token for the next page of results.

  Type: String

  Required: No
PoolId.N

The IDs of the address pools.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

publicIpv4PoolSet

Information about the address pools.

Type: Array of PublicIpv4Pool objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeRegions

Describes the Regions that are enabled for your account, or all Regions.

For a list of the Regions supported by Amazon EC2, see Amazon Elastic Compute Cloud endpoints and quotas.

For information about enabling and disabling Regions for your account, see Managing AWS Regions in the AWS General Reference.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AllRegions

Indicates whether to display all Regions, including Regions that are disabled for your account.

Type: Boolean

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- endpoint - The endpoint of the Region (for example, ec2.us-east-1.amazonaws.com).
- region-name - The name of the Region (for example, us-east-1).

Type: Array of Filter objects
RegionName.N

The names of the Regions. You can specify any Regions, whether they are enabled and disabled for your account.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

regionInfo

Information about the Regions.

Type: Array of Region objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example displays information about all Regions enabled for your account.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeRegions
&AUTHPARAMS
Example 2

This example displays information about all Regions, even the Regions that are disabled for your account.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeRegions
&AllRegions=true
&AUTHPARAMS

Example 3

This example displays information about the specified Regions only.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeRegions
&RegionName.1=us-east-1
&RegionName.2=eu-west-1
&AUTHPARAMS

Sample Response

<DescribeRegionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <regionInfo>
    <item>
      <regionName>us-east-1</regionName>
      <regionEndpoint>ec2.us-east-1.amazonaws.com</regionEndpoint>
    </item>
    <item>
      <regionName>eu-west-1</regionName>
      <regionEndpoint>ec2.eu-west-1.amazonaws.com</regionEndpoint>
    </item>
  </regionInfo>
</DescribeRegionsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
See Also

- **AWS Command Line Interface**
- **AWS SDK for .NET**
- **AWS SDK for C++**
- **AWS SDK for Go**
- **AWS SDK for Java V2**
- **AWS SDK for JavaScript V3**
- **AWS SDK for PHP V3**
- **AWS SDK for Python**
- **AWS SDK for Ruby V3**
DescribeReplaceRootVolumeTasks

Describes a root volume replacement task. For more information, see Replace a root volume in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

Filter to use:

• instance-id - The ID of the instance for which the root volume replacement task was created.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer


Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.
Type: String
Required: No

**ReplaceRootVolumeTaskId.N**

The ID of the root volume replacement task to view.

Type: Array of strings
Required: No

**Response Elements**

The following elements are returned by the service.

**nextToken**

The token to include in another request to get the next page of items. This value is `null` when there are no more items to return.

Type: String

**replaceRootVolumeTaskSet**

Information about the root volume replacement task.

Type: Array of [ReplaceRootVolumeTask](#) objects

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
See Also

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeReservedInstances

Describes one or more of the Reserved Instances that you purchased.

For more information about Reserved Instances, see Reserved Instances in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter

One or more filters.

- availability-zone - The Availability Zone where the Reserved Instance can be used.
- duration - The duration of the Reserved Instance (one year or three years), in seconds (31536000 | 94608000).
- end - The time when the Reserved Instance expires (for example, 2015-08-07T11:54:42.000Z).
- fixed-price - The purchase price of the Reserved Instance (for example, 9800.0).
- instance-type - The instance type that is covered by the reservation.
- scope - The scope of the Reserved Instance (Region or Availability Zone).
• **reserved-instances-id** - The ID of the Reserved Instance.

• **start** - The time at which the Reserved Instance purchase request was placed (for example, 2014-08-07T11:54:42.000Z).

• **state** - The state of the Reserved Instance (payment-pending | active | payment-failed | retired).

• **tag:<key>** - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.

• **tag-key** - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

• **usage-price** - The usage price of the Reserved Instance, per hour (for example, 0.84).

  Type: Array of Filter objects

  Required: No

**OfferingClass**

Descries whether the Reserved Instance is Standard or Convertible.

Type: String

Valid Values: standard | convertible

Required: No

**OfferingType**

The Reserved Instance offering type. If you are using tools that predate the 2011-11-01 API version, you only have access to the Medium Utilization Reserved Instance offering type.

Type: String

Valid Values: Heavy Utilization | Medium Utilization | Light Utilization | No Upfront | Partial Upfront | All Upfront

Required: No

**ReservedInstancesId.N**

One or more Reserved Instance IDs.
Default: Describes all your Reserved Instances, or only those otherwise specified.

Type: Array of strings

Required: No

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**reservedInstancesSet**

A list of Reserved Instances.

Type: Array of **ReservedInstances** objects

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example describes Reserved Instances owned by your account.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=DescribeReservedInstances
&AUTHPARAMS
```

**Sample Response**

```
<DescribeReservedInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
</DescribeReservedInstancesResponse>
```
<reservedInstancesSet>
  ...
  <item>
    <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesId>
    <instanceType>m1.xlarge</instanceType>
    <availabilityZone>us-east-1b</availabilityZone>
    <start>2015-07-14T11:00:00:00.000Z</start>
    <end>2016-07-13T12:00:00:000Z</end>
    <duration>31536000</duration>
    <fixedPrice>0.0</fixedPrice>
    <usagePrice>0.034</usagePrice>
    <instanceCount>2</instanceCount>
    <productDescription>Linux/UNIX (Amazon VPC)</productDescription>
    <state>active</state>
    <instanceTenancy>default</instanceTenancy>
    <currencyCode>USD</currencyCode>
    <offeringType>Partial Upfront</offeringType>
    <recurringCharges>
      <item>
        <frequency>Hourly</frequency>
        <amount>0.05</amount>
      </item>
    </recurringCharges>
    <offeringClass>standard</offeringClass>
    <scope>AvailabilityZone</scope>
  </item>
  ...
</reservedInstancesSet>

Example

This example filters the response to include only one-year, m1.small Linux/UNIX Reserved Instances. If you want Linux/UNIX Reserved Instances specifically for use with a VPC, set the product description to Linux/UNIX (Amazon VPC).

Sample Request

https://ec2.amazonaws.com/?Action=DescribeReservedInstances
&Filter.1.Name=duration
&Filter.1.Value.1=31536000
&Filter.2.Name=instance-type
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeReservedInstancesListings

Describes your account's Reserved Instance listings in the Reserved Instance Marketplace.

The Reserved Instance Marketplace matches sellers who want to resell Reserved Instance capacity that they no longer need with buyers who want to purchase additional capacity. Reserved Instances bought and sold through the Reserved Instance Marketplace work like any other Reserved Instances.

As a seller, you choose to list some or all of your Reserved Instances, and you specify the upfront price to receive for them. Your Reserved Instances are then listed in the Reserved Instance Marketplace and are available for purchase.

As a buyer, you specify the configuration of the Reserved Instance to purchase, and the Marketplace matches what you're searching for with what's available. The Marketplace first sells the lowest priced Reserved Instances to you, and continues to sell available Reserved Instance listings to you until your demand is met. You are charged based on the total price of all of the listings that you purchase.

For more information, see Reserved Instance Marketplace in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Filter.N

One or more filters.

- reserved-instances-id - The ID of the Reserved Instances.
- reserved-instances-listing-id - The ID of the Reserved Instances listing.
- status - The status of the Reserved Instance listing (pending | active | cancelled | closed).
- status-message - The reason for the status.

Type: Array of Filter objects

Required: No
ReservedInstancesId

One or more Reserved Instance IDs.

Type: String

Required: No

ReservedInstancesListingId

One or more Reserved Instance listing IDs.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

reservedInstancesListingsSet

Information about the Reserved Instance listing.

Type: Array of ReservedInstancesListing objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example shows all the listings associated with your account.
Sample Request

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesListings
&AUTHPARAMS

Sample Response

<DescribeReservedInstancesListingsResponse>
   <requestId>cec5c904-8f3a-4de5-8f5a-ff7f9EXAMPLE</requestId>
   <reservedInstancesListingsSet>
      <item>
         <reservedInstancesListingId>253dfbf9-c335-4808-b956-d942cEXAMPLE</reservedInstancesListingId>
         <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesId>
         <createDate>2012-07-06T19:35:29.000Z</createDate>
         <updateDate>2012-07-06T19:35:30.000Z</updateDate>
         <status>active</status>
         <statusMessage>ACTIVE</statusMessage>
         <instanceCounts>
            <item>
               <state>Available</state>
               <instanceCount>20</instanceCount>
            </item>
            <item>
               <state>Sold</state>
               <instanceCount>0</instanceCount>
            </item>
            <item>
               <state>Cancelled</state>
               <instanceCount>0</instanceCount>
            </item>
            <item>
               <state>Pending</state>
               <instanceCount>0</instanceCount>
            </item>
         </instanceCounts>
         <priceSchedules>
            <item>
               <term>8</term>
               <price>480.0</price>
               <currencyCode>USD</currencyCode>
               <active>false</active>
            </item>
         </priceSchedules>
      </item>
   </reservedInstancesListingsSet>
</DescribeReservedInstancesListingsResponse>
<item>
   <term>7</term>
   <price>420.0</price>
   <currencyCode>USD</currencyCode>
   <active>false</active>
</item>

<item>
   <term>6</term>
   <price>360.0</price>
   <currencyCode>USD</currencyCode>
   <active>active</active>
</item>

<item>
   <term>5</term>
   <price>300.0</price>
   <currencyCode>USD</currencyCode>
   <active>false</active>
</item>

<item>
   <term>4</term>
   <price>240.0</price>
   <currencyCode>USD</currencyCode>
   <active>false</active>
</item>

<item>
   <term>3</term>
   <price>180.0</price>
   <currencyCode>USD</currencyCode>
   <active>false</active>
</item>

<item>
   <term>2</term>
   <price>120.0</price>
   <currencyCode>USD</currencyCode>
   <active>false</active>
</item>

<item>
   <term>1</term>
   <price>60.0</price>
   <currencyCode>USD</currencyCode>
   <active>false</active>
</item>

</priceSchedules>
<tagSet/>
    <clientToken>myclienttoken1</clientToken>
  </item>
</reservedInstancesListingsSet>
</DescribeReservedInstancesListingsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeReservedInstancesModifications

Describes the modifications made to your Reserved Instances. If no parameter is specified, information about all your Reserved Instances modification requests is returned. If a modification ID is specified, only information about the specific modification is returned.

For more information, see Modifying Reserved Instances in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Filter.N

One or more filters.

- client-token - The idempotency token for the modification request.
- create-date - The time when the modification request was created.
- effective-date - The time when the modification becomes effective.
- modification-result.reserved-instances-id - The ID for the Reserved Instances created as part of the modification request. This ID is only available when the status of the modification is fulfilled.
- modification-result.target-configuration.availability-zone - The Availability Zone for the new Reserved Instances.
- modification-result.target-configuration.instance-count - The number of new Reserved Instances.
- modification-result.target-configuration.instance-type - The instance type of the new Reserved Instances.
- reserved-instances-id - The ID of the Reserved Instances modified.
- reserved-instances-modification-id - The ID of the modification request.
- status - The status of the Reserved Instances modification request (processing | fulfilled | failed).
- status-message - The reason for the status.
- update-date - The time when the modification request was last updated.

Type: Array of Filter objects
NextToken

The token to retrieve the next page of results.
Type: String
Required: No

ReservedInstancesModificationId.N

IDs for the submitted modification request.
Type: Array of strings
Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.
Type: String

requestId

The ID of the request.
Type: String

reservedInstancesModificationsSet

The Reserved Instance modification information.
Type: Array of ReservedInstancesModification objects

Errors

For information about the errors that are common to all actions, see Common client error codes.
Examples

Example 1

This example illustrates one usage of DescribeReservedInstancesModifications.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesModifications
&AUTHPARAMS

Example 2

This example filters the response to include only Reserved Instances modification requests with status processing.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesModifications
&Filter.1.Name=status
&Filter.1.Value.1=processing
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeReservedInstancesOfferings

Describes Reserved Instance offerings that are available for purchase. With Reserved Instances, you purchase the right to launch instances for a period of time. During that time period, you do not receive insufficient capacity errors, and you pay a lower usage rate than the rate charged for On-Demand instances for the actual time used.

If you have listed your own Reserved Instances for sale in the Reserved Instance Marketplace, they will be excluded from these results. This is to ensure that you do not purchase your own Reserved Instances.

For more information, see Reserved Instance Marketplace in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AvailabilityZone

The Availability Zone in which the Reserved Instance can be used.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters.

- availability-zone - The Availability Zone where the Reserved Instance can be used.
- duration - The duration of the Reserved Instance (for example, one year or three years), in seconds (31536000 | 94608000).
- **fixed-price** - The purchase price of the Reserved Instance (for example, 9800.0).
- **instance-type** - The instance type that is covered by the reservation.
- **marketplace** - Set to true to show only Reserved Instance Marketplace offerings. When this filter is not used, which is the default behavior, all offerings from both AWS and the Reserved Instance Marketplace are listed.
- **reserved-instances-offering-id** - The Reserved Instances offering ID.
- **scope** - The scope of the Reserved Instance (Availability Zone or Region).
- **usage-price** - The usage price of the Reserved Instance, per hour (for example, 0.84).

Type: Array of **Filter** objects

Required: No

**IncludeMarketplace**

Include Reserved Instance Marketplace offerings in the response.

Type: Boolean

Required: No

**InstanceTenancy**

The tenancy of the instances covered by the reservation. A Reserved Instance with a tenancy of dedicated is applied to instances that run in a VPC on single-tenant hardware (i.e., Dedicated Instances).

**Important:** The host value cannot be used with this parameter. Use the default or dedicated values only.

Default: default

Type: String

Valid Values: default | dedicated | host
**InstanceType**

The instance type that the reservation will cover (for example, m1.small). For more information, see [Instance types](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/instance-types.html) in the *Amazon EC2 User Guide*.

Type: String

Valid Values:

- a1.medium
- a1.large
- a1.xlarge
- a1.2xlarge
- a1.4xlarge
- a1.metal
- c1.medium
- c1.xlarge
- c3.large
- c3.xlarge
- c3.2xlarge
- c3.4xlarge
- c3.8xlarge
- c4.large
- c4.xlarge
- c4.2xlarge
- c4.4xlarge
- c4.8xlarge
- c5.large
- c5.xlarge
- c5.2xlarge
- c5.4xlarge
- c5.9xlarge
- c5.12xlarge
- c5.18xlarge
- c5.24xlarge
- c5.metal
- c5a.large
- c5a.xlarge
- c5a.2xlarge
- c5a.4xlarge
- c5a.8xlarge
- c5a.12xlarge
- c5a.16xlarge
- c5a.24xlarge
- c5ad.large
- c5ad.xlarge
- c5ad.2xlarge
- c5ad.4xlarge
- c5ad.8xlarge
- c5ad.12xlarge
- c5ad.16xlarge
- c5ad.24xlarge
- c5d.large
- c5d.xlarge
- c5d.2xlarge
- c5d.4xlarge
- c5d.9xlarge
- c5d.12xlarge
- c5d.18xlarge
- c5d.24xlarge
- c5d.metal
- c5n.large
- c5n.xlarge
- c5n.2xlarge
- c5n.4xlarge
- c5n.9xlarge
- c5n.18xlarge
- c5n.metal
- c6g.medium
- c6g.large
- c6g.xlarge
- c6g.2xlarge
- c6g.4xlarge
- c6g.8xlarge
- c6g.12xlarge
- c6g.16xlarge
- c6g.metal
- c6gd.medium
- c6gd.large
- c6gd.xlarge
- c6gd.2xlarge
- c6gd.4xlarge
- c6gd.8xlarge
- c6gd.12xlarge
- c6gd.16xlarge
- c6gd.metal
- c6gn.medium
- c6gn.large
- c6gn.xlarge
- c6gn.2xlarge
- c6gn.4xlarge
- c6gn.8xlarge
- c6gn.metal
- c6i.large
- c6i.xlarge
- c6i.2xlarge
- c6i.4xlarge
- c6i.8xlarge
- c6i.12xlarge
- c6i.16xlarge
- c6i.24xlarge
- c6i.32xlarge
- c6i.metal
- cc1.4xlarge
- cc2.8xlarge
- ccg1.4xlarge
- cr1.8xlarge
- d2.xlarge
- d2.2xlarge
- d2.4xlarge
- d2.8xlarge
- d3.xlarge
- d3.2xlarge
- d3.4xlarge
- d3.8xlarge
- d3en.xlarge
- d3en.2xlarge
- d3en.4xlarge
- d3en.6xlarge
- d3en.8xlarge
- d3en.12xlarge
- dl1.24xlarge
- f1.2xlarge
- f1.4xlarge
- f1.16xlarge
- g2.xlarge
- g2.8xlarge
- g3.4xlarge
- g3.8xlarge
- g3.16xlarge
- g3s.xlarge
- g4ad.xlarge
- g4ad.2xlarge
- g4ad.4xlarge
- g4ad.8xlarge
- g4ad.16xlarge
- g4dn.xlarge
- g4dn.2xlarge
- g4dn.4xlarge
- g4dn.8xlarge
- g4dn.12xlarge
- g4dn.16xlarge
- g4dn.metal
- g5.xlarge
- g5.2xlarge
- g5.4xlarge
- g5.8xlarge
- g5.12xlarge
- g5.16xlarge
- g5.24xlarge
| r4.xlarge | r4.2xlarge | r4.4xlarge | r4.8xlarge | r4.16xlarge |
| r5.large | r5.xlarge | r5.2xlarge | r5.4xlarge | r5.8xlarge | r5.12xlarge | r5.16xlarge | r5.24xlarge | r5.metal | r5a.large |
| r5a.xlarge | r5a.2xlarge | r5a.4xlarge | r5a.8xlarge | r5a.12xlarge | r5a.16xlarge | r5a.24xlarge | r5ad.large | r5ad.xlarge | r5ad.2xlarge |
| r5ad.4xlarge | r5ad.8xlarge | r5ad.12xlarge | r5ad.16xlarge | r5ad.24xlarge | r5b.large | r5b.xlarge | r5b.2xlarge | r5b.4xlarge |
| r5b.8xlarge | r5b.12xlarge | r5b.16xlarge | r5b.24xlarge | r5b.metal |
| r5d.large | r5d.xlarge | r5d.2xlarge | r5d.4xlarge | r5d.8xlarge | r5d.12xlarge | r5d.16xlarge | r5d.24xlarge | r5d.meta | r5dn.large |
| r5dn.xlarge | r5dn.2xlarge | r5dn.4xlarge | r5dn.8xlarge | r5dn.12xlarge |
| r5dn.16xlarge | r5dn.24xlarge | r5dn.meta | r5n.large | r5n.xlarge |
| r5n.2xlarge | r5n.4xlarge | r5n.8xlarge | r5n.12xlarge | r5n.16xlarge | r5n.24xlarge | r5n.meta | r6g.medium | r6g.large | r6g.xlarge |
| r6g.2xlarge | r6g.4xlarge | r6g.8xlarge | r6g.12xlarge | r6g.16xlarge | r6g.meta | r6gd.medium | r6gd.large | r6gd.xlarge | r6gd.2xlarge |
| r6gd.4xlarge | r6gd.8xlarge | r6gd.12xlarge | r6gd.16xlarge | r6gd.meta | r6i.large | r6i.xlarge | r6i.2xlarge | r6i.4xlarge |
| r6i.8xlarge | r6i.12xlarge | r6i.16xlarge | r6i.24xlarge | r6i.32xlarge | r6i.meta | t1.micro | t2.nano | t2.micro | t2.small | t2.medium |
| t2.large | t2.xlarge | t2.2xlarge | t3.nano | t3.micro | t3.small |
| t3.medium | t3.large | t3.xlarge | t3.2xlarge | t3a.nano | t3a.micro |
| t3a.small | t3a.medium | t3a.large | t3a.xlarge | t3a.2xlarge | t4g.nano | t4g.micro | t4g.small | t4g.medium | t4g.large | t4g.xlarge |
| t4g.2xlarge | u-6tb1.56xlarge | u-6tb1.112xlarge | u-9tb1.112xlarge | u-12tb1.112xlarge | u-6tb1.meta | u-9tb1.meta | u-12tb1.meta |
| u-18tb1.meta | u-24tb1.meta | vt1.3xlarge | vt1.6xlarge | vt1.24xlarge | x1.16xlarge | x1.32xlarge | x1e.xlarge | x1e.2xlarge | x1e.4xlarge |
| x1e.8xlarge | x1e.16xlarge | x1e.32xlarge | x2iezn.2xlarge | x2iezn.4xlarge | x2iezn.6xlarge | x2iezn.8xlarge | x2iezn.12xlarge | x2iezn.meta | x2gd.medium | x2gd.large | x2gd.xlarge | x2gd.2xlarge |
| x2gd.4xlarge | x2gd.8xlarge | x2gd.12xlarge | x2gd.16xlarge | x2gd.meta | z1d.large | z1d.xlarge | z1d.2xlarge | z1d.3xlarge |
| z1d.6xlarge | z1d.12xlarge | z1d.meta | x2idn.16xlarge | x2idn.24xlarge | x2idn.32xlarge | x2iedn.xlarge | x2iedn.2xlarge | x2iedn.4xlarge | x2iedn.8xlarge | x2iedn.16xlarge | x2iedn.24xlarge | x2iedn.32xlarge |
| c7gn.4xlarge | c7gn.8xlarge | c7gn.12xlarge | c7gn.16xlarge |
| p5.48xlarge | m7i.large | m7i.xlarge | m7i.2xlarge | m7i.4xlarge |
| m7i.8xlarge | m7i.12xlarge | m7i.16xlarge | m7i.24xlarge | m7i.48xlarge |
| m7i-flex.large | m7i-flex.xlarge | m7i-flex.2xlarge | m7i-flex.4xlarge |
| m7i-flex.8xlarge | m7a.medium | m7a.large | m7a.xlarge | m7a.2xlarge |
| m7a.4xlarge | m7a.8xlarge | m7a.12xlarge | m7a.16xlarge | m7a.24xlarge |
| m7a.32xlarge | m7a.48xlarge | m7a.metal-48x1 | hpc7a.12xlarge | hpc7a.24xlarge | hpc7a.48xlarge | hpc7a.96xlarge |
| c7gd.large | c7gd.xlarge | c7gd.2xlarge | c7gd.4xlarge | c7gd.8xlarge |
| c7gd.12xlarge | c7gd.16xlarge | m7gd.medium | m7gd.large | m7gd.xlarge |
| m7gd.2xlarge | m7gd.4xlarge | m7gd.8xlarge | m7gd.12xlarge | m7gd.16xlarge | r7gd.large | r7gd.xlarge | r7gd.2xlarge | r7gd.4xlarge | r7gd.8xlarge | r7gd.12xlarge | r7gd.16xlarge | r7a.medium | r7a.large | r7a.xlarge | r7a.2xlarge | r7a.4xlarge | r7a.8xlarge | r7a.12xlarge | r7a.16xlarge | r7a.24xlarge | r7a.32xlarge | r7a.48xlarge |
| c7i.large | c7i.xlarge | c7i.2xlarge | c7i.4xlarge | c7i.8xlarge |
| c7i.12xlarge | c7i.16xlarge | c7i.24xlarge | c7i.48xlarge | mac2-m2pro.metal | r7iz.large | r7iz.xlarge | r7iz.2xlarge | r7iz.4xlarge |
| r7iz.8xlarge | r7iz.12xlarge | r7iz.16xlarge | r7iz.32xlarge | c7a.medium | c7a.large | c7a.xlarge | c7a.2xlarge | c7a.4xlarge |
| c7a.8xlarge | c7a.12xlarge | c7a.16xlarge | c7a.24xlarge | c7a.32xlarge | c7a.48xlarge | c7a.metal-48x1 | r7a.metal-48x1 | r7i.large | r7i.xlarge | r7i.2xlarge | r7i.4xlarge | r7i.8xlarge | r7i.12xlarge |
| r7i.16xlarge | r7i.24xlarge | r7i.48xlarge | d12q.24xlarge | mac2-m2.metal | i4i.12xlarge | i4i.24xlarge | c7i.metal-24x1 | c7i.metal-48x1 | m7i.metal-24x1 | m7i.metal-48x1 | r7i.metal-24x1 | r7i.metal-48x1 | r7iz.metal-16x1 | r7iz.metal-32x1

**MaxDuration**

The maximum duration (in seconds) to filter when searching for offerings.

Default: 94608000 (3 years)

Type: Long

Required: No
MaxInstanceCount

The maximum number of instances to filter when searching for offerings.

Default: 20

Type: Integer

Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results of the initial request can be seen by sending another request with the returned NextToken value. The maximum is 100.

Default: 100

Type: Integer

Required: No

MinDuration

The minimum duration (in seconds) to filter when searching for offerings.

Default: 2592000 (1 month)

Type: Long

Required: No

NextToken

The token to retrieve the next page of results.

Type: String

Required: No

OfferingClass

The offering class of the Reserved Instance. Can be standard or convertible.

Type: String
OfferingType

The Reserved Instance offering type. If you are using tools that predate the 2011-11-01 API version, you only have access to the Medium Utilization Reserved Instance offering type.

Type: String

Valid Values: Heavy Utilization | Medium Utilization | Light Utilization | No Upfront | Partial Upfront | All Upfront

Required: No

ProductDescription

The Reserved Instance product platform description. Instances that include (Amazon VPC) in the description are for use with Amazon VPC.

Type: String

Valid Values: Linux/UNIX | Linux/UNIX (Amazon VPC) | Windows | Windows (Amazon VPC)

Required: No

ReservedInstancesOfferingId.N

One or more Reserved Instances offering IDs.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.
Type: String
requestId

The ID of the request.

Type: String
reservedInstancesOfferingsSet

A list of Reserved Instances offerings.

Type: Array of ReservedInstancesOffering objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example Describing Reserved Instance Marketplace Offerings Only

This example requests a list of Linux/UNIX, No Upfront Reserved Instances that are available through the Reserved Instance Marketplace only. When using the Query API, all strings must be URL-encoded.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&Filter.1.Name=marketplace
&Filter.1.Value.1=true
&IncludeMarketplace=true
&OfferingType=No+Upfront
&ProductDescription=Linux%2FUNIX
&Version=2016-11-15
&AUTHPARAMS

Errors
Sample Response

```xml
<DescribeReservedInstancesOfferingsResponse>
  <requestId>ce5c904-8f3a-4de5-8f5a-ff7f9EXAMPLE</requestId>
  <reservedInstancesOfferingsSet>
    <item>
      <reservedInstancesOfferingId>253dfbf9-c335-4808-b956-d942cEXAMPLE</reservedInstancesOfferingId>
      <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesId>
      <createDate>2012-07-06T19:35:29.000Z</createDate>
      <updateDate>2012-07-06T19:35:30.000Z</updateDate>
      <status>active</status>
      <statusMessage>ACTIVE</statusMessage>
      <instanceCounts>
        <item>
          <state>Available</state>
          <instanceCount>20</instanceCount>
        </item>
        <item>
          <state>Sold</state>
          <instanceCount>0</instanceCount>
        </item>
        <item>
          <state>Cancelled</state>
          <instanceCount>0</instanceCount>
        </item>
        <item>
          <state>Pending</state>
          <instanceCount>0</instanceCount>
        </item>
      </instanceCounts>
      <priceSchedules>
        <item>
          <term>8</term>
          <price>480.0</price>
          <currencyCode>USD</currencyCode>
          <active>false</active>
        </item>
        <item>
          <term>7</term>
          <price>420.0</price>
          <currencyCode>USD</currencyCode>
          <active>false</active>
        </item>
      </priceSchedules>
    </item>
  </reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
```
</item><item>
  <term>6</term>
  <price>360.0</price>
  <currencyCode>USD</currencyCode>
  <active>active</active>
</item>
</item>

</priceSchedules>
</tagSet>
</clientToken>
</item>
</reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
<DescribeReservedInstancesOfferingsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>2bc7dafa-dafd-4257-bdf9-c0814EXAMPLE</requestId>
  <reservedInstancesOfferingsSet>
    <item>
      <reservedInstancesOfferingId>a6ce8269-7b8c-42cd-a7f5-0841cEXAMPLE</reservedInstancesOfferingId>
      <instanceType>m3.xlarge</instanceType>
      <availabilityZone>us-east-1e</availabilityZone>
      <duration>2332800</duration>
      <fixedPrice>0.0</fixedPrice>
      <usagePrice>0.0</usagePrice>
      <productDescription>Linux/UNIX</productDescription>
      <instanceTenancy>default</instanceTenancy>
      <currencyCode>USD</currencyCode>
      <offeringType>No Upfront</offeringType>
      <recurringCharges>
        <item>
          <frequency>Hourly</frequency>
          <amount>0.19</amount>
        </item>
      </recurringCharges>
      <marketplace>true</marketplace>
      <pricingDetailsSet>
        <item>
          <price>0.0</price>
          <count>3</count>
        </item>
      </pricingDetailsSet>
      <offeringClass>standard</offeringClass>
      <scope>Availability Zone</scope>
    </item>
    <item>
      <reservedInstancesOfferingId>2bc7dafa-dafd-4257-bdf9-c0814EXAMPLE</reservedInstancesOfferingId>
      <instanceType>m3.2xlarge</instanceType>
      <availabilityZone>us-east-1b</availabilityZone>
      <duration>15552000</duration>
      <fixedPrice>1.01</fixedPrice>
      <usagePrice>0.0</usagePrice>
      <productDescription>Linux/UNIX</productDescription>
      <instanceTenancy>default</instanceTenancy>
      <currencyCode>USD</currencyCode>
    </item>
  </reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
Example Describing Offerings Only

This example lists AWS offerings only.

Sample Request

http://ec2.amazonaws.com/doc/2016-11-15/?Action=DescribeReservedInstancesOfferings
&IncludeMarketplace=false
&AUTHPARAMS

Sample Response

<DescribeReservedInstancesOfferingsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
  requestId="2bc7dafa-dafd-4257-b6tf-c0814EXAMPLE"
  reservedInstancesOfferingsSet>
  <item>
    <reservedInstancesOfferingId>a6ce8269-7b8c-42cd-a6y5-0841cEXAMPLE</reservedInstancesOfferingId>
    <instanceType>c1.medium</instanceType>
    <availabilityZone>us-east-1e</availabilityZone>
    <duration>94608000</duration>
    <fixedPrice>631.0</fixedPrice>
  </item>
</DescribeReservedInstancesOfferingsResponse>
<usagePrice>0.0</usagePrice>
<productDescription>Linux/UNIX</productDescription>
<instanceTenancy>default</instanceTenancy>
<currencyCode>USD</currencyCode>
<offeringType>Partial Upfront</offeringType>
<recurringCharges>
  <item>
    <frequency>Hourly</frequency>
    <amount>0.28</amount>
  </item>
</recurringCharges>
<marketplace>false</marketplace>
<pricingDetailsSet/>
<offeringClass>standard</offeringClass>
<scope>Availability Zone</scope>
</item>
<item>
  <reservedInstancesOfferingId>2bc7dafa-rafd-6t7y-bdf9-c0814EXAMPLE</reservedInstancesOfferingId>
  <instanceType>c1.medium</instanceType>
  <availabilityZone>us-east-1b</availabilityZone>
  <duration>94608000</duration>
  <fixedPrice>631.0</fixedPrice>
  <usagePrice>0.0</usagePrice>
  <productDescription>Linux/UNIX</productDescription>
  <instanceTenancy>default</instanceTenancy>
  <currencyCode>USD</currencyCode>
  <offeringType>Partial Upfront</offeringType>
  <recurringCharges>
    <item>
      <frequency>Hourly</frequency>
      <amount>0.88</amount>
    </item>
  </recurringCharges>
  <marketplace>false</marketplace>
  <pricingDetailsSet/>
  <offeringClass>convertible</offeringClass>
  <scope>Availability Zone</scope>
</reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
Example Using Tokens to Manage Results

You can use pagination support to query the results sequentially and in parts.

Specify the maximum number of results that are returned in the response. Then, each paginated response contains a token that can be provided as input to a subsequent DescribeReservedInstancesOfferings call to fetch the next page. (Make sure that you use URL encoding for the token value.)

Sample Request

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&MaxResults=5
&AUTHPARAMS

Sample Response

<DescribeReservedInstancesOfferingsResponse>
  <requestId>d072f652-cc57-458c-89e0-e6c02EXAMPLE</requestId>
  <reservedInstancesOfferingsSet>
    ...
    <item>
      <reservedInstancesOfferingId>649fd0c8-7846-46b8-8f84-a6400EXAMPLE</reservedInstancesOfferingId>
      <instanceType>c1.medium</instanceType>
      <availabilityZone>us-east-1a</availabilityZone>
      <duration>94608000</duration>
      <fixedPrice>631.0</fixedPrice>
      <usagePrice>0.0</usagePrice>
      <productDescription>Linux/UNIX (Amazon VPC)</productDescription>
      <instanceTenancy>default</instanceTenancy>
      <currencyCode>USD</currencyCode>
      <offeringType>Partial Upfront</offeringType>
      <recurringCharges>
        <item>
          <frequency>Hourly</frequency>
          <amount>0.028</amount>
        </item>
      </recurringCharges>
      <marketplace>false</marketplace>
      <pricingDetailsSet/>
    </item>
  </reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
Example Using Filters

This example filters the response to include only one-year, m1.small or m1.large Linux/UNIX Reserved Instances. If you want Linux/UNIX Reserved Instances specifically for use with a VPC, set the product description to Linux/UNIX (Amazon VPC).

Sample Request

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&Filter.1.Name=duration
&Filter.1.Value.1=31536000
&Filter.2.Name=instance-type
&Filter.2.Value.1=m1.small
&Filter.2.Value.2=m1.large
&Filter.3.Name=product-description
&Filter.3.Value.1=Linux%2FUNIX

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeRouteTables

Describes one or more of your route tables.

Each subnet in your VPC must be associated with a route table. If a subnet is not explicitly associated with any route table, it is implicitly associated with the main route table. This command does not return the subnet ID for implicit associations.

For more information, see Route tables in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

• association.gateway-id - The ID of the gateway involved in the association.
• association.route-table-association-id - The ID of an association ID for the route table.
• association.route-table-id - The ID of the route table involved in the association.
• association.subnet-id - The ID of the subnet involved in the association.
• association.main - Indicates whether the route table is the main route table for the VPC (true | false). Route tables that do not have an association ID are not returned in the response.
• owner-id - The ID of the AWS account that owns the route table.
• route-table-id - The ID of the route table.
• route.destination-cidr-block - The IPv4 CIDR range specified in a route in the table.
- `route.destination-ipv6-cidr-block` - The IPv6 CIDR range specified in a route in the route table.
- `route.destination-prefix-list-id` - The ID (prefix) of the AWS service specified in a route in the table.
- `route.egress-only-internet-gateway-id` - The ID of an egress-only Internet gateway specified in a route in the route table.
- `route.gateway-id` - The ID of a gateway specified in a route in the table.
- `route.instance-id` - The ID of an instance specified in a route in the table.
- `route.nat-gateway-id` - The ID of a NAT gateway.
- `route.transit-gateway-id` - The ID of a transit gateway.
- `route.origin` - Describes how the route was created. `CreateRouteTable` indicates that the route was automatically created when the route table was created; `CreateRoute` indicates that the route was manually added to the route table; `EnableVgwRoutePropagation` indicates that the route was propagated by route propagation.
- `route.state` - The state of a route in the route table (`active` | `blackhole`). The blackhole state indicates that the route's target isn't available (for example, the specified gateway isn't attached to the VPC, the specified NAT instance has been terminated, and so on).
- `route.vpc-peering-connection-id` - The ID of a VPC peering connection specified in a route in the table.
- `tag:<key>` - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key `Owner` and the value `TeamA`, specify `tag:Owner` for the filter name and `TeamA` for the filter value.
- `tag-key` - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.
- `vpc-id` - The ID of the VPC for the route table.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.
Type: Integer

Valid Range: Minimum value of 5. Maximum value of 100.

Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

RouteTableId.N

The IDs of the route tables.

Default: Describes all your route tables.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

routeTableSet

Information about one or more route tables.
Type: Array of RouteTable objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes all your route tables. The first route table in the returned list is the VPC's main route table. Its association ID represents the association between the table and the VPC.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeRouteTables
&AUTHPARAMS

Sample Response

<DescribeRouteTablesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>fe876446-c8c0-4f2d-a6df-ed506example</requestId>
  <routeTableSet>
    <item>
      <routeTableId>rtb-1122334455667788a</routeTableId>
      <vpcId>vpc-12345678912345678</vpcId>
      <ownerId>111122223333</ownerId>
      <routeSet>
        <item>
          <destinationCidrBlock>10.0.1.0/32</destinationCidrBlock>
          <gatewayId>igw-012345678901abcdef</gatewayId>
          <state>active</state>
          <origin>CreateRoute</origin>
        </item>
        <item>
          <destinationCidrBlock>172.31.0.0/16</destinationCidrBlock>
          <gatewayId>local</gatewayId>
          <state>active</state>
          <origin>CreateRouteTable</origin>
        </item>
      </routeSet>
    </item>
  </routeTableSet>
</DescribeRouteTablesResponse>
<destinationCidrBlock>0.0.0.0/0</destinationCidrBlock>
<gatewayId>igw-012345678901abcdef</gatewayId>
<state>active</state>
<origin>CreateRoute</origin>
</item>
</routeSet>
</associationSet>
<item>
<routeTableAssociationId>rtbassoc-04ca7a6914a0b4fc</routeTableAssociationId>
<routeTableId>rtb-1122334455667788a</routeTableId>
<main>true</main>
</item>
</associationSet>
<propagatingVgwSet/>
<tagSet/>
</item>
</routeTableSet>
</DescribeRouteTablesResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeScheduledInstanceAvailability

Finds available schedules that meet the specified criteria.

You can search for an available schedule no more than 3 months in advance. You must meet the minimum required duration of 1,200 hours per year. For example, the minimum daily schedule is 4 hours, the minimum weekly schedule is 24 hours, and the minimum monthly schedule is 100 hours.

After you find a schedule that meets your needs, call PurchaseScheduledInstances to purchase Scheduled Instances with that schedule.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- availability-zone - The Availability Zone (for example, us-west-2a).
- instance-type - The instance type (for example, c4.large).
- platform - The platform (Linux/UNIX or Windows).

Type: Array of Filter objects

Required: No

FirstSlotStartTimeRange

The time period for the first schedule to start.

Type: SlotDateTimeRangeRequest object
Required: Yes

**MaxResults**

The maximum number of results to return in a single call. This value can be between 5 and 300. The default value is 300. To retrieve the remaining results, make another call with the returned NextToken value.

Type: Integer


Required: No

**MaxSlotDurationInHours**

The maximum available duration, in hours. This value must be greater than MinSlotDurationInHours and less than 1,720.

Type: Integer

Required: No

**MinSlotDurationInHours**

The minimum available duration, in hours. The minimum required duration is 1,200 hours per year. For example, the minimum daily schedule is 4 hours, the minimum weekly schedule is 24 hours, and the minimum monthly schedule is 100 hours.

Type: Integer

Required: No

**NextToken**

The token for the next set of results.

Type: String

Required: No

**Recurrence**

The schedule recurrence.

Type: [ScheduledInstanceRecurrenceRequest](#) object
Response Elements

The following elements are returned by the service.

**nextToken**

The token required to retrieve the next set of results. This value is null when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**scheduledInstanceAvailabilitySet**

Information about the available Scheduled Instances.

Type: Array of [ScheduledInstanceAvailability](#) objects

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeScheduledInstances

Describes the specified Scheduled Instances or all your Scheduled Instances.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- **availability-zone** - The Availability Zone (for example, us-west-2a).
- **instance-type** - The instance type (for example, c4.large).
- **platform** - The platform (Linux/UNIX or Windows).

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return in a single call. This value can be between 5 and 300. The default value is 100. To retrieve the remaining results, make another call with the returned NextToken value.

Type: Integer

Required: No

NextToken

The token for the next set of results.
Type: String
Required: No

**ScheduledInstanceId.N**

The Scheduled Instance IDs.

Type: Array of strings
Required: No

**SlotStartTimeRange**

The time period for the first schedule to start.

Type: [SlotStartTimeRangeRequest](#) object
Required: No

### Response Elements

The following elements are returned by the service.

**nextToken**

The token required to retrieve the next set of results. This value is null when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**scheduledInstanceSet**

Information about the Scheduled Instances.

Type: Array of [ScheduledInstance](#) objects

### Errors

For information about the errors that are common to all actions, see [Common client error codes](#).
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeSecurityGroupReferences

Describes the VPCs on the other side of a VPC peering connection or the VPCs attached to a transit gateway that are referencing the security groups you've specified in this request.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

GroupId.N

The IDs of the security groups in your account.

Type: Array of strings
Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

securityGroupReferenceSet

Information about the VPCs with the referencing security groups.

Type: Array of SecurityGroupReference objects
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example describes the security group references for sg-11aa22bb. The response indicates that this security group is referenced by a security group in VPC vpc-1a2b3c4d.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeSecurityGroupReferences
&GroupId.1=sg-11aa22bb
&AUTHPARAMS

Sample Response

  <requestId>19744c88-baa2-45df-905f-example</requestId>
  <securityGroupReferenceSet>
    <item>
      <referencingVpcId>vpc-1a2b3c4d</referencingVpcId>
      <vpcPeeringConnectionId>pcx-b04deed9</vpcPeeringConnectionId>
      <groupId>sg-11aa22bb</groupId>
    </item>
  </securityGroupReferenceSet>
</DescribeSecurityGroupReferencesResponse>

Example 2

This example describes the security group references for sg-11aa22bb and sg-1111aaaa.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeSecurityGroupReferences
&GroupId.1=sg-11aa22bb
&GroupId.2=sg-1111aaaa
&AUTHPARAMS
Sample Response

```xml
  <requestId>d1835dca-61c1-459d-99cb-example</requestId>
  <securityGroupReferenceSet>
    <item>
      <referencingVpcId>vpc-81326ae4</referencingVpcId>
      <vpcPeeringConnectionId>pcx-b04deed9</vpcPeeringConnectionId>
      <groupId>sg-11aa22bb</groupId>
    </item>
    <item>
      <referencingVpcId>vpc-1a2b3c4d</referencingVpcId>
      <vpcPeeringConnectionId>pcx-aabbccdd</vpcPeeringConnectionId>
      <groupId>sg-1111aaaa</groupId>
    </item>
  </securityGroupReferenceSet>
</DescribeSecurityGroupReferencesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeSecurityGroupRules

Describes one or more of your security group rules.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters.

- group-id - The ID of the security group.
- security-group-rule-id - The ID of the security group rule.
- tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. This value can be between 5 and 1000. If this parameter is not specified, then all items are returned. For more information, see Pagination.

Type: Integer

Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

SecurityGroupRuleId.N

The IDs of the security group rules.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

securityGroupRuleSet

Information about security group rules.

Type: Array of SecurityGroupRule objects
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeSecurityGroups

Describes the specified security groups or all of your security groups.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters. If using multiple filters for rules, the results include security groups for which any combination of rules - not necessarily a single rule - match all filters.

- **description** - The description of the security group.
- **egress.ip-permission.cidr** - An IPv4 CIDR block for an outbound security group rule.
- **egress.ip-permission.from-port** - For an outbound rule, the start of port range for the TCP and UDP protocols, or an ICMP type number.
- **egress.ip-permission.group-id** - The ID of a security group that has been referenced in an outbound security group rule.
- **egress.ip-permission.group-name** - The name of a security group that is referenced in an outbound security group rule.
- **egress.ip-permission.ipv6-cidr** - An IPv6 CIDR block for an outbound security group rule.
- **egress.ip-permission.prefix-list-id** - The ID of a prefix list to which a security group rule allows outbound access.
- **egress.ip-permission.protocol** - The IP protocol for an outbound security group rule (tcp | udp | icmp, a protocol number, or -1 for all protocols).
• **egress.ip-permission.to-port** - For an outbound rule, the end of port range for the TCP and UDP protocols, or an ICMP code.

• **egress.ip-permission.user-id** - The ID of an AWS account that has been referenced in an outbound security group rule.

• **group-id** - The ID of the security group.

• **group-name** - The name of the security group.

• **ip-permission.cidr** - An IPv4 CIDR block for an inbound security group rule.

• **ip-permission.from-port** - For an inbound rule, the start of port range for the TCP and UDP protocols, or an ICMP type number.

• **ip-permission.group-id** - The ID of a security group that has been referenced in an inbound security group rule.

• **ip-permission.group-name** - The name of a security group that is referenced in an inbound security group rule.

• **ip-permission.ipv6-cidr** - An IPv6 CIDR block for an inbound security group rule.

• **ip-permission.prefix-list-id** - The ID of a prefix list from which a security group rule allows inbound access.

• **ip-permission.protocol** - The IP protocol for an inbound security group rule (tcp | udp | icmp, a protocol number, or -1 for all protocols).

• **ip-permission.to-port** - For an inbound rule, the end of port range for the TCP and UDP protocols, or an ICMP code.

• **ip-permission.user-id** - The ID of an AWS account that has been referenced in an inbound security group rule.

• **owner-id** - The AWS account ID of the owner of the security group.

• **tag:<key>** - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key `Owner` and the value `TeamA`, specify `tag:Owner` for the filter name and `TeamA` for the filter value.

• **tag-key** - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

• **vpc-id** - The ID of the VPC specified when the security group was created.

**Type:** Array of Filter objects
Required: No

**GroupId.N**

The IDs of the security groups. Required for security groups in a nondefault VPC.

Default: Describes all of your security groups.

Type: Array of strings

Required: No

**GroupName.N**

[Default VPC] The names of the security groups. You can specify either the security group name or the security group ID.

Default: Describes all of your security groups.

Type: Array of strings

Required: No

**MaxResults**

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. This value can be between 5 and 1000. If this parameter is not specified, then all items are returned. For more information, see [Pagination](#).

Type: Integer


Required: No

**NextToken**

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No
Response Elements

The following elements are returned by the service.

nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

securityGroupInfo

Information about the security groups.

Type: Array of SecurityGroup objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example describes the specified security group. The response indicates that this security group references another security group. The referenced group can be in a different VPC if used through a VPC peering connection. If the referenced security group or the VPC peering connection is deleted, the rule becomes stale but is not automatically removed from the security group.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeSecurityGroups&GroupId.1=sg-1a2b3c4d&AUTHPARAMS
Sample Response

  <requestId>edb7c570-be05-4192-bd1b-example</requestId>
  <securityGroupInfo>
    <item>
      <ownerId>123456789012</ownerId>
      <groupId>sg-1a2b3c4d</groupId>
      <groupName>MySecurityGroup</groupName>
      <groupDescription>MySecurityGroup</groupDescription>
      <vpcId>vpc-81326ae4</vpcId>
      <ipPermissions>
        <item>
          <ipProtocol>tcp</ipProtocol>
          <fromPort>22</fromPort>
          <toPort>22</toPort>
          <groups/>
          <ipRanges>
            <item>
              <cidrIp>0.0.0.0/0</cidrIp>
            </item>
          </ipRanges>
        </item>
        <item>
          <ipProtocol>icmp</ipProtocol>
          <fromPort>-1</fromPort>
          <toPort>-1</toPort>
          <groups>
            <item>
              <securityGroupRuleId>sgr-abcdefghi01234560</securityGroupRuleId>
              <userId>111222333444</userId>
              <groupId>sg-11aa22bb</groupId>
              <vpcId>vpc-dd326ab8</vpcId>
              <vpcPeeringConnectionId>pcx-11223344</vpcPeeringConnectionId>
              <peeringStatus>active</peeringStatus>
            </item>
          </groups>
        </item>
      </ipPermissions>
    </item>
  </securityGroupInfo>
</DescribeSecurityGroupsResponse>
Example 2

This example describes all security groups that grant access over port 22 and that grant access from instances associated with app_server_group or database_group.

Sample Request

```
&Filter.1.Name=ip-permission.protocol
&Filter.1.Value.1=tcp
&Filter.2.Name=ip-permission.from-port
&Filter.2.Value.1=22
&Filter.3.Name=ip-permission.to-port
&Filter.3.Value.1=22
&Filter.4.Name=ip-permission.group-name
&Filter.4.Value.1=app_server_group
&Filter.4.Value.2=database_group

Example 3

This example describes the specified security group. The security group has a rule that allows all outbound IPv6 traffic (this rule is added by default for security groups in an IPv6-enabled VPC) and a rule that allows inbound access over SSH for IPv6 traffic.
Sample Request

&GroupId.1=sg-9bf6ceff
&AUTHPARAMS

Sample Response

  <requestId>1d62ee0-acdd-481d-88c9-example</requestId>
  <securityGroupInfo>
    <item>
      <ownerId>123456789012</ownerId>
      <groupId>sg-9bf6ceff</groupId>
      <groupName>SSHAccess</groupName>
      <groupDescription>Security group for SSH access</groupDescription>
      <vpcId>vpc-31896b55</vpcId>
      <ipPermissions>
        <item>
          <ipProtocol>tcp</ipProtocol>
          <fromPort>22</fromPort>
          <toPort>22</toPort>
          <ipRanges/>
          <ipv6Ranges/>
          <prefixListIds/>
        </item>
      </ipPermissions>
      <ipPermissionsEgress>
        <item>
          <ipProtocol>-1</ipProtocol>
          <ipRanges/>
          <ipv6Ranges/>
          <prefixListIds/>
        </item>
      </ipPermissionsEgress>
    </item>
  </securityGroupInfo>
</DescribeSecurityGroupsResponse>
Example 4

This example describes the specified security group. For the ingress rule that permits RDP traffic from IPv4 address range 203.0.113.0/24, there is a rule description.

Sample Request

&GroupId.1=sg-bcc24bcd
&AUTHPARAMS

Sample Response

 <requestId>6b0c76fb-0da6-4357-bb60-1fexample</requestId>
 <securityGroupInfo>
  <item>
   <ownerId>123456789012</ownerId>
   <groupId>sg-bcc24bcd</groupId>
   <groupName>default</groupName>
   <groupDescription>default VPC security group</groupDescription>
   <vpcId>vpc-a33cbfda</vpcId>
   <ipPermissions>
    <item>
     <ipProtocol>-1</ipProtocol>
     <groups>
      <item>
       <userId>123456789012</userId>
      </item>
     </groups>
    </item>
   </ipPermissions>
  </item>
 </securityGroupInfo>
</DescribeSecurityGroupsResponse>
<groupId>sg-bcc24bcd</groupId>
</item>
</groups>
<ipRanges/>
<ipv6Ranges/>
<prefixListIds/>
</item>
</item>
    <ipProtocol>tcp</ipProtocol>
    <fromPort>3389</fromPort>
    <toPort>3389</toPort>
    <groups/>
    <ipRanges>
      <item>
        <cidrIp>203.0.113.0/24</cidrIp>
        <description>RDP access from B network</description>
      </item>
    </ipRanges>
    <ipv6Ranges/>
    <prefixListIds/>
  </item>
</ipPermissions>
<ipPermissionsEgress>
  <item>
    <ipProtocol>-1</ipProtocol>
    <groups/>
    <ipRanges>
      <item>
        <cidrIp>0.0.0.0/0</cidrIp>
      </item>
    </ipRanges>
    <ipv6Ranges/>
    <prefixListIds/>
  </item>
</ipPermissionsEgress>
</securityGroupInfo>
</DescribeSecurityGroupsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeSnapshotAttribute

Describes the specified attribute of the specified snapshot. You can specify only one attribute at a time.

For more information about EBS snapshots, see Amazon EBS snapshots in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Attribute

The snapshot attribute you would like to view.

Type: String

Valid Values: productCodes | createVolumePermission

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

SnapshotId

The ID of the EBS snapshot.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
createVolumePermission

The users and groups that have the permissions for creating volumes from the snapshot.

Type: Array of CreateVolumePermission objects

productCodes

The product codes.

Type: Array of ProductCode objects

requestId

The ID of the request.

Type: String

snapshotId

The ID of the EBS snapshot.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes the create volume permissions for the specified snapshot.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeSnapshotAttribute
&SnapshotId=snap-1234567890abcdef0
&Attribute=createVolumePermission
&AUTHPARAMS

Sample Response

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeSnapshots

Describes the specified EBS snapshots available to you or all of the EBS snapshots available to you.

The snapshots available to you include public snapshots, private snapshots that you own, and private snapshots owned by other AWS accounts for which you have explicit create volume permissions.

The create volume permissions fall into the following categories:

- **public**: The owner of the snapshot granted create volume permissions for the snapshot to the all group. All AWS accounts have create volume permissions for these snapshots.
- **explicit**: The owner of the snapshot granted create volume permissions to a specific AWS account.
- **implicit**: An AWS account has implicit create volume permissions for all snapshots it owns.

The list of snapshots returned can be filtered by specifying snapshot IDs, snapshot owners, or AWS accounts with create volume permissions. If no options are specified, Amazon EC2 returns all snapshots for which you have create volume permissions.

If you specify one or more snapshot IDs, only snapshots that have the specified IDs are returned. If you specify an invalid snapshot ID, an error is returned. If you specify a snapshot ID for which you do not have access, it is not included in the returned results.

If you specify one or more snapshot owners using the OwnerIds option, only snapshots from the specified owners and for which you have access are returned. The results can include the AWS account IDs of the specified owners, amazon for snapshots owned by Amazon, or self for snapshots that you own.

If you specify a list of restorable users, only snapshots with create snapshot permissions for those users are returned. You can specify AWS account IDs (if you own the snapshots), self for snapshots for which you own or have explicit permissions, or all for public snapshots.

If you are describing a long list of snapshots, we recommend that you paginate the output to make the list more manageable. For more information, see [Pagination](#).

To get the state of fast snapshot restores for a snapshot, use [DescribeFastSnapshotRestores](#).

For more information about EBS snapshots, see [Amazon EBS snapshots](#) in the [Amazon Elastic Compute Cloud User Guide](#).
Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

• description - A description of the snapshot.
• encrypted - Indicates whether the snapshot is encrypted (true | false)
• owner-alias - The owner alias, from an Amazon-maintained list (amazon). This is not the user-configured AWS account alias set using the IAM console. We recommend that you use the related parameter instead of this filter.
• owner-id - The AWS account ID of the owner. We recommend that you use the related parameter instead of this filter.
• progress - The progress of the snapshot, as a percentage (for example, 80%).
• snapshot-id - The snapshot ID.
• start-time - The time stamp when the snapshot was initiated.
• status - The status of the snapshot (pending | completed | error).
• storage-tier - The storage tier of the snapshot (archive | standard).
• tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
• tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.
• volume-id - The ID of the volume the snapshot is for.
- **volume-size** - The size of the volume, in GiB.

  Type: Array of Filter objects

  Required: No

**MaxResults**

The maximum number of snapshots to return for this request. This value can be between 5 and 1,000; if this value is larger than 1,000, only 1,000 results are returned. If this parameter is not used, then the request returns all snapshots. You cannot specify this parameter and the snapshot IDs parameter in the same request. For more information, see Pagination.

  Type: Integer

  Required: No

**NextToken**

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

  Type: String

  Required: No

**Owner.N**

Scopes the results to snapshots with the specified owners. You can specify a combination of AWS account IDs, self, and amazon.

  Type: Array of strings

  Required: No

**RestorableBy.N**

The IDs of the AWS accounts that can create volumes from the snapshot.

  Type: Array of strings

  Required: No

**SnapshotId.N**

The snapshot IDs.
Default: Describes the snapshots for which you have create volume permissions.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to include in another request to return the next page of snapshots. This value is null when there are no more snapshots to return.

Type: String

requestId

The ID of the request.

Type: String

snapshotSet

Information about the snapshots.

Type: Array of Snapshot objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes a snapshot with an ID of snap-1234567890abcdef0.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeSnapshots
Sample Response

```xml
<DescribeSnapshotsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <snapshotSet>
    <item>
      <snapshotId>snap-1234567890abcdef0</snapshotId>
      <volumeId>vol-1234567890abcdef0</volumeId>
      <status>pending</status>
      <startTime>YYYY-MM-DDTHH:MM:SS.SSSZ</startTime>
      <progress>80%</progress>
      <ownerId>111122223333</ownerId>
      <volumeSize>15</volumeSize>
      <description>Daily Backup</description>
      <encrypted>true</encrypted>
      <kmsKeyId>arn:aws:kms:us-east-1:123456789012:key/6876fb1b-example</kmsKeyId>
      <tagSet/>
    </item>
  </snapshotSet>
</DescribeSnapshotsResponse>
```

Example

This example filters the response to include only snapshots with the pending status, and a tag with the key Owner and the value DbAdmin.

Sample Request

```xml
https://ec2.amazonaws.com/?Action=DescribeSnapshots
&Filter.1.Name=status
&Filter.1.Value.1=pending
&Filter.2.Name=tag:Owner
&Filter.2.Value.1=DbAdmin
&AUTHPARAMS
```

Sample Response

```xml
<DescribeSnapshotsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
</DescribeSnapshotsResponse>
```
<snapshotSet>
    <item>
        <snapshotId>snap-1234567890abcdef0</snapshotId>
        <volumeId>vol-1234567890abcdef0</volumeId>
        <status>pending</status>
        <startTime>YYYY-MM-DDTHH:MM:SS.SSSZ</startTime>
        <progress>30%</progress>
        <ownerId>111122223333</ownerId>
        <volumeSize>15</volumeSize>
        <description>Daily Backup</description>
        <tagSet>
            <item>
                <key>Purpose</key>
                <value>demo_db_14_backup</value>
            </item>
        </tagSet>
        <encrypted>true</encrypted>
        <kmsKeyId>arn:aws:kms:us-east-1:123456789012:key/6876fb1b-example</kmsKeyId>
    </item>
</snapshotSet>
</DescribeSnapshotsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](https://aws.amazon.com/cli/)
- [AWS SDK for .NET](https://docs.aws.amazon.com/sdk-for-net/v3/)
- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://aws.amazon.com/sdk-for-golang/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for JavaScript V3](https://aws.amazon.com/sdk-for-javascript/)
- [AWS SDK for PHP V3](https://aws.amazon.com/sdk-for-php/)
- [AWS SDK for Python](https://aws.amazon.com/sdk-for-python/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)

See Also

API Version 2016-11-15 1214
DescribeSnapshotTierStatus

Describes the storage tier status of one or more Amazon EBS snapshots.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

Filter.N

The filters.
- snapshot-id - The snapshot ID.
- volume-id - The ID of the volume the snapshot is for.

Type: Array of Filter objects
Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer
Required: No
NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

snapshotTierStatusSet

Information about the snapshot’s storage tier.

Type: Array of SnapshotTierStatus objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeSpotDatafeedSubscription

Describes the data feed for Spot Instances. For more information, see Spot Instance data feed in the Amazon EC2 User Guide for Linux Instances.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

spotDatafeedSubscription

The Spot Instance data feed subscription.

Type: SpotDatafeedSubscription object

Errors

For information about the errors that are common to all actions, see Common client error codes.
Examples

Example

This example describes the data feed for the account.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeSpotDatafeedSubscription
&AUTHPARAMS

Sample Response

<DescribeSpotDatafeedSubscriptionResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <spotDatafeedSubscription>
    <ownerId>123456789012</ownerId>
    <bucket>my-s3-bucket</bucket>
    <prefix>spotdata_</prefix>
    <state>Active</state>
  </spotDatafeedSubscription>
</DescribeSpotDatafeedSubscriptionResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeSpotFleetInstances

Describes the running instances for the specified Spot Fleet.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**MaxResults**

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see [Pagination](#).

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.

Required: No

**NextToken**

The token to include in another request to get the next page of items. This value is `null` when there are no more items to return.

Type: String

Required: No

**SpotFleetRequestId**

The ID of the Spot Fleet request.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

activeInstanceSet

The running instances. This list is refreshed periodically and might be out of date.

Type: Array of `ActiveInstance` objects

nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

spotFleetRequestId

The ID of the Spot Fleet request.

Type: String

Errors

For information about the errors that are common to all actions, see `Common client error codes`.

Examples

Example

This example describes the running instances for Spot Fleet request sfr-123f8fc2-cb31-425e-abcd-example2710.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSpotFleetInstances
&SpotFleetRequestID=sfr-123f8fc2-cb31-425e-abcd-example2710
```
Sample Response

```xml
<DescribeSpotFleetInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>cfb09950-45e2-472d-a6a9-example</requestId>
  <spotFleetRequestId>sfr-123f8fc2-cb31-425e-abcd-example2710</spotFleetRequestId>
  <activeInstanceSet>
    <item>
      <instanceId>i-1234567890abcdef0</instanceId>
      <spotInstanceRequestId>sir-1a1a1a1a</spotInstanceRequestId>
      <instanceType>m3.medium</instanceType>
    </item>
    <item>
      <instanceId>i-1234567890abcdef1</instanceId>
      <spotInstanceRequestId>sir-2b2b2b2b</spotInstanceRequestId>
      <instanceType>m3.medium</instanceType>
    </item>
    <item>
      <instanceId>i-1234567890abcdef2</instanceId>
      <spotInstanceRequestId>sir-3c3c3c3c</spotInstanceRequestId>
      <instanceType>m3.medium</instanceType>
    </item>
    <item>
      <instanceId>i-1234567890abcdef3</instanceId>
      <spotInstanceRequestId>sir-4d4d4d4d</spotInstanceRequestId>
      <instanceType>m3.medium</instanceType>
    </item>
    <item>
      <instanceId>i-1234567890abcdef4</instanceId>
      <spotInstanceRequestId>sir-5e5e5e5e</spotInstanceRequestId>
      <instanceType>m3.medium</instanceType>
    </item>
  </activeInstanceSet>
</DescribeSpotFleetInstancesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeSpotFleetRequestHistory

Describes the events for the specified Spot Fleet request during the specified time.

Spot Fleet events are delayed by up to 30 seconds before they can be described. This ensures that you can query by the last evaluated time and not miss a recorded event. Spot Fleet events are available for 48 hours.

For more information, see Monitor fleet events using Amazon EventBridge in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

EventType

The type of events to describe. By default, all events are described.

Type: String

Valid Values: instanceChange | fleetRequestChange | error | information

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.
Required: No

**NextToken**

The token to include in another request to get the next page of items. This value is `null` when there are no more items to return.

Type: String

Required: No

**SpotFleetRequestId**

The ID of the Spot Fleet request.

Type: String

Required: Yes

**StartTime**

The starting date and time for the events, in UTC format (for example, `YYYY-MM-DDTHH:MM:SSZ`).

Type: Timestamp

Required: Yes

---

**Response Elements**

The following elements are returned by the service.

**historyRecordSet**

Information about the events in the history of the Spot Fleet request.

Type: Array of `HistoryRecord` objects

**lastEvaluatedTime**

The last date and time for the events, in UTC format (for example, `YYYY-MM-DDTHH:MM:SSZ`). All records up to this time were retrieved.

If `nextToken` indicates that there are more items, this value is not present.

Type: Timestamp
**nextToken**

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

**requestId**

The ID of the request.

Type: String

**spotFleetRequestId**

The ID of the Spot Fleet request.

Type: String

**startTime**

The starting date and time for the events, in UTC format (for example, YYYY-MM-DDTHH:MM:SSZ).

Type: Timestamp

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example describes the events for Spot Fleet request sfr-123f8fc2-cb31-425e-abcd-example2710 from the specified start time.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=DescribeSpotFleetRequestHistory
&SpotFleetRequestId=sfr-123f8fc2-cb31-425e-abcd-example2710
&StartTime=2015-07-01T12:00:00Z
&AUTHPARAMS
```
Sample Response

```xml
<DescribeSpotFleetRequestHistoryResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>30be3aaf-afd2-408c-b62b-example</requestId>
  <lastEvaluatedTime>2015-07-01T13:29:40+0000</lastEvaluatedTime>
  <spotFleetRequestId>sfr-123f8fc2-cb31-425e-abcd-example2710</spotFleetRequestId>
  <startTime>2015-07-01T12:00:00Z</startTime>
  <historyRecordSet>
    <item>
      <eventInformation>
        <eventSubType>submitted</eventSubType>
      </eventInformation>
      <eventType>fleetRequestChange</eventType>
      <timestamp>2015-07-01T13:10:10.219Z</timestamp>
    </item>
    <item>
      <eventInformation>
        <eventSubType>active</eventSubType>
      </eventInformation>
      <eventType>fleetRequestChange</eventType>
      <timestamp>2015-07-01T13:10:11.624Z</timestamp>
    </item>
    <item>
      <eventInformation>
        <eventSubType>price_update</eventSubType>
        <eventDescription>m3.medium, ami-1ecae776, Linux/UNIX (Amazon VPC); old price: 0.0153, new price: 0.0153</eventDescription>
      </eventInformation>
      <eventType>fleetRequestChange</eventType>
    </item>
    <item>
      <eventInformation>
        <instanceId>i-1234567890abcdef0</instanceId>
        <eventSubType>launched</eventSubType>
      </eventInformation>
      <eventType>instanceChange</eventType>
    </item>
    <item>
      <eventInformation>
        <instanceId>i-1234567890abcdef1</instanceId>
        <eventSubType>launched</eventSubType>
      </eventInformation>
      <eventType>instanceChange</eventType>
    </item>
  </historyRecordSet>
</DescribeSpotFleetRequestHistoryResponse>
```
<item>
  <eventInformation>
    <instanceId>i-1234567890abcdef2</instanceId>
    <eventSubType>launched</eventSubType>
  </eventInformation>
  <eventType>instanceChange</eventType>
  <timestamp>2015-07-01T13:20:57.773Z</timestamp>
</item>

<item>
  <eventInformation>
    <instanceId>i-1234567890abcdef3</instanceId>
    <eventSubType>launched</eventSubType>
  </eventInformation>
  <eventType>instanceChange</eventType>
</item>

<item>
  <eventInformation>
    <instanceId>i-1234567890abcdef4</instanceId>
    <eventSubType>launched</eventSubType>
  </eventInformation>
  <eventType>instanceChange</eventType>
</item>

</historyRecordSet>
</DescribeSpotFleetRequestHistoryResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeSpotFleetRequests

Describes your Spot Fleet requests.

Spot Fleet requests are deleted 48 hours after they are canceled and their instances are terminated.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer

Required: No

NextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

Required: No

SpotFleetRequestId.N

The IDs of the Spot Fleet requests.
Response Elements

The following elements are returned by the service.

nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

spotFleetRequestConfigSet

Information about the configuration of your Spot Fleet.

Type: Array of SpotFleetRequestConfig objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes all of your Spot Fleet requests.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeSpotFleetRequests

&AUTHPARAMS
Sample Response

```xml
  <requestId>4d68a6cc-8f2e-4be1-b425-example</requestId>
  <spotFleetRequestConfigSet>
    <item>
      <spotFleetRequestId>sfr-12345678-cb31-425e-8c23-example2710</spotFleetRequestId>
      <spotFleetRequestState>cancelled</spotFleetRequestState>
      <spotFleetRequestConfig>
        <spotPrice>0.0153</spotPrice>
        <targetCapacity>20</targetCapacity>
        <iamFleetRole>arn:aws:iam::123456789011:role/spot-fleet-role</iamFleetRole>
        <launchSpecifications>
          <item>
            <subnetId>subnet-1a2b3c4d</subnetId>
            <ebsOptimized>false</ebsOptimized>
            <imageId>ami-1ecae776</imageId>
            <instanceType>m4.xlarge</instanceType>
          </item>
          <item>
            <subnetId>subnet-1a2b3c4d</subnetId>
            <ebsOptimized>false</ebsOptimized>
            <imageId>ami-1ecae776</imageId>
            <instanceType>m3.medium</instanceType>
          </item>
        </launchSpecifications>
      </spotFleetRequestConfig>
    </item>
    <item>
      <spotFleetRequestId>sfr-abcdefgh-e71f-450d-880d-examplec127</spotFleetRequestId>
      <spotFleetRequestState>active</spotFleetRequestState>
      <spotFleetRequestConfig>
        <spotPrice>0.0153</spotPrice>
        <targetCapacity>5</targetCapacity>
        <iamFleetRole>arn:aws:iam::123456789011:role/spot-fleet-role</iamFleetRole>
        <launchSpecifications>
          <item>
            <subnetId>subnet-abc123ab</subnetId>
            <ebsOptimized>false</ebsOptimized>
            <imageId>ami-1ecae776</imageId>
          </item>
        </launchSpecifications>
      </spotFleetRequestConfig>
    </item>
  </spotFleetRequestConfigSet>
</DescribeSpotFleetRequestsResponse>
```
<instanceType>m4.large</instanceType>
</item>
</launchSpecifications>
</spotFleetRequestConfigSet>
</DescribeSpotFleetRequestsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeSpotInstanceRequests

Describes the specified Spot Instance requests.

You can use DescribeSpotInstanceRequests to find a running Spot Instance by examining the response. If the status of the Spot Instance is fulfilled, the instance ID appears in the response and contains the identifier of the instance. Alternatively, you can use DescribeInstances with a filter to look for instances where the instance lifecycle is spot.

We recommend that you set MaxResults to a value between 5 and 1000 to limit the number of items returned. This paginates the output, which makes the list more manageable and returns the items faster. If the list of items exceeds your MaxResults value, then that number of items is returned along with a NextToken value that can be passed to a subsequent DescribeSpotInstanceRequests request to retrieve the remaining items.

Spot Instance requests are deleted four hours after they are canceled and their instances are terminated.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- availability-zone-group - The Availability Zone group.
- create-time - The time stamp when the Spot Instance request was created.
- fault-code - The fault code related to the request.
• fault-message - The fault message related to the request.
• instance-id - The ID of the instance that fulfilled the request.
• launch-group - The Spot Instance launch group.
• launch.block-device-mapping.delete-on-termination - Indicates whether the EBS volume is deleted on instance termination.
• launch.block-device-mapping.device-name - The device name for the volume in the block device mapping (for example, /dev/sdh or xvdh).
• launch.block-device-mapping.snapshot-id - The ID of the snapshot for the EBS volume.
• launch.block-device-mapping.volume-size - The size of the EBS volume, in GiB.
• launch.block-device-mapping.volume-type - The type of EBS volume: gp2 or gp3 for General Purpose SSD, io1 or io2 for Provisioned IOPS SSD, st1 for Throughput Optimized HDD, sc1 for Cold HDD, or standard for Magnetic.
• launch.group-id - The ID of the security group for the instance.
• launch.group-name - The name of the security group for the instance.
• launch.image-id - The ID of the AMI.
• launch.instance-type - The type of instance (for example, m3.medium).
• launch.kernel-id - The kernel ID.
• launch.key-name - The name of the key pair the instance launched with.
• launch.monitoring-enabled - Whether detailed monitoring is enabled for the Spot Instance.
• launch.ramdisk-id - The RAM disk ID.
• launched-availability-zone - The Availability Zone in which the request is launched.
• network-interface.addresses.primary - Indicates whether the IP address is the primary private IP address.
• network-interface.delete-on-termination - Indicates whether the network interface is deleted when the instance is terminated.
• network-interface.description - A description of the network interface.
• network-interface.device-index - The index of the device for the network interface attachment on the instance.
• network-interface.group-id - The ID of the security group associated with the network interface.
• network-interface.network-interface-id - The ID of the network interface.
• network-interface.private-ip-address - The primary private IP address of the network interface.
• network-interface.subnet-id - The ID of the subnet for the instance.
• product-description - The product description associated with the instance (Linux/UNIX | Windows).
• spot-instance-request-id - The Spot Instance request ID.
• spot-price - The maximum hourly price for any Spot Instance launched to fulfill the request.
• state - The state of the Spot Instance request (open | active | closed | cancelled | failed). Spot request status information can help you track your Amazon EC2 Spot Instance requests. For more information, see Spot request status in the Amazon EC2 User Guide for Linux Instances.
• status-code - The short code describing the most recent evaluation of your Spot Instance request.
• status-message - The message explaining the status of the Spot Instance request.
• tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
• tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.
• type - The type of Spot Instance request (one-time | persistent).
• valid-from - The start date of the request.
• valid-until - The end date of the request.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.
Type: Integer

Required: No

**NextToken**

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

**SpotInstanceRequestId.N**

The IDs of the Spot Instance requests.

Type: Array of strings

Required: No

### Response Elements

The following elements are returned by the service.

**nextToken**

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

**requestId**

The ID of the request.

Type: String

**spotInstanceRequestSet**

The Spot Instance requests.

Type: Array of [SpotInstanceRequest](#) objects
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example for DescribeSpotInstanceRequests

This example returns information about current Spot Instance requests. In the response, if the status of the Spot Instance is fulfilled, the instance ID appears in the response and contains the identifier of the instance.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeSpotInstanceRequests
&AUTHPARAMS

Sample Response

<DescribeSpotInstanceRequestsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <spotInstanceRequestSet>
        <item>
            <spotInstanceRequestId>sir-1a2b3c4d</spotInstanceRequestId>
            <spotPrice>0.09</spotPrice>
            <type>one-time</type>
            <state>active</state>
            <status>
                <code>fulfilled</code>
                <updateTime>YYYY-MM-DDTHH:MM:SS.000Z</updateTime>
                <message>Your Spot request is fulfilled.</message>
            </status>
            <launchSpecification>
                <amiId>ami-1a2b3c4d</amiId>
                <keyName>my-key-pair</keyName>
                <groupSet>
                    <item>
                        <groupId>sg-1a2b3c4d</groupId>
                        <groupName>websrv</groupName>
                    </item>
                </groupSet>
                <instanceType>m3.medium</instanceType>
            </launchSpecification>
        </item>
    </spotInstanceRequestSet>
</DescribeSpotInstanceRequestsResponse>
<monitoring>
   <enabled>false</enabled>
</monitoring>
<ebsOptimized>false</ebsOptimized>
</launchSpecification>
<instanceId>i-1234567890abcdef0</instanceId>
<createTime>YYYY-MM-DDTHH:MM:SS.000Z</createTime>
$productDescription>Linux/UNIX</productDescription>
<launchedAvailabilityZone>us-west-2a</launchedAvailabilityZone>
</item>
<spotInstanceRequestSet/>
<DescribeSpotInstanceRequestsResponse>

Example for DescribeSpotInstanceRequests

This example describes all persistent Spot Instance requests that have resulted in the launch of at least one instance, that has been fulfilled in the us-west-2a Availability Zone, and that also has monitoring enabled.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeSpotInstanceRequests
&Filter.1.Name=type
&Filter.1.Value.1=persistent
&Filter.2.Name=instance-type
&Filter.2.Value.1=m3.medium
&Filter.3.Name=monitoring-enabled
&Filter.3.Value.1=true
&Filter.4.Name=launched-availability-zone
&Filter.4.Value.1=us-west-2a

Example for DescribeInstances

Alternatively, you can use DescribeInstances and use a filter to look for instances where the instance lifecycle contains spot.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=instance-lifecycle
&Filter.1.Value.1=spot
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeSpotPriceHistory

Describes the Spot price history. For more information, see Spot Instance pricing history in the Amazon EC2 User Guide for Linux Instances.

When you specify a start and end time, the operation returns the prices of the instance types within that time range. It also returns the last price change before the start time, which is the effective price as of the start time.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AvailabilityZone

Filters the results by the specified Availability Zone.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

EndTime

The date and time, up to the current date, from which to stop retrieving the price history data, in UTC format (for example, YYYY-MM-DDTHH:MM:SSZ).

Type: Timestamp

Required: No

Filter.N

The filters.

• availability-zone - The Availability Zone for which prices should be returned.
• instance-type - The type of instance (for example, m3.medium).
• product-description - The product description for the Spot price (Linux/UNIX | Red Hat Enterprise Linux | SUSE Linux | Windows | Linux/UNIX (Amazon VPC) | Red Hat Enterprise Linux (Amazon VPC) | SUSE Linux (Amazon VPC) | Windows (Amazon VPC)).
• spot-price - The Spot price. The value must match exactly (or use wildcards; greater than or less than comparison is not supported).
• timestamp - The time stamp of the Spot price history, in UTC format (for example, ddd MMM dd HH:mm:ss UTC YYYY). You can use wildcards (* and ?). Greater than or less than comparison is not supported.

Type: Array of Filter objects

Required: No

InstanceType.N

Filters the results by the specified instance types.

Type: Array of strings

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metal | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.xlarge | c5d.24xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c5n.9xlarge | c5n.18xlarge | c5n.metal | c6g.medium | c6g.large | c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6i.large | c6i.xlarge | c6i.2xlarge | c6i.4xlarge |
Request Parameters

API Version 2016-11-15 1244
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**Request Parameters**

**API Version** 2016-11-15 1245
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| m7i.metal-24x1 | m7i.metal-48x1 | r7i.metal-24x1 | r7i.metal-48x1 | r7iz.metal-16x1 | r7iz.metal-32x1

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer

Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

ProductDescription.N

Filters the results by the specified basic product descriptions.

Type: Array of strings

Required: No

StartTime

The date and time, up to the past 90 days, from which to start retrieving the price history data, in UTC format (for example, YYYY-MM-DDTHH:MM:SSZ).

Type: Timestamp

Required: No

Response Elements

The following elements are returned by the service.
nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

spotPriceHistorySet

The historical Spot prices.

Type: Array of SpotPrice objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example gets the Spot price history for the first day in November 2016 for the specified Availability Zone.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeSpotPriceHistory
&StartTime=2016-11-01T00:00:00.000Z
&EndTime=2016-11-01T23:59:59.000Z
&AvailabilityZone=us-west-2a
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
</DescribeSpotPriceHistoryResponse>
Example with Filters

This example uses filters to get the same results as the previous example.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeSpotPriceHistory
&Filter.1.Name=timestamp
&Filter.1.Value.1='Tue Nov 01 01* UTC 2016'
&Filter.2.Name=availability-zone
&Filter.2.Value.1=us-west-2a
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeStaleSecurityGroups

Describes the stale security group rules for security groups in a specified VPC. Rules are stale when they reference a deleted security group in the same VPC, peered VPC, or in separate VPCs attached to a transit gateway (with security group referencing support enabled). Rules can also be stale if they reference a security group in a peer VPC for which the VPC peering connection has been deleted or if they reference a security group in a VPC that has been detached from a transit gateway.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer


Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

nextToken

The token to include in another request to get the next page of items. If there are no additional items to return, the string is empty.

Type: String

requestId

The ID of the request.

Type: String

staleSecurityGroupSet

Information about the stale security groups.

Type: Array of StaleSecurityGroup objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes stale security group rules for vpc-11223344. The response shows that sg-5fa68d3a in your account has a stale ingress SSH rule that references sg-279ab042 in the peer
VPC, and sg-fe6fba9a in your account has a stale egress SSH rule that references sg-ef6fba8b in the peer VPC.

**Sample Request**

https://ec2.amazonaws.com/?Action=DescribeStaleSecurityGroups
&VpcId=vpc-11223344
&AUTHPARAMS

**Sample Response**

```xml
  <requestId>ece1f9a0-b201-4eec-b74b-example</requestId>
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    <item>
      <staleIpPermissionsEgress>
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          <toPort>22</toPort>
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              <vpcPeeringConnectionId>pcx-b04deed9</vpcPeeringConnectionId>
              <peeringStatus>active</peeringStatus>
              <description>Access to pcx-b04deed9</description>
            </item>
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          <ipProtocol>tcp</ipProtocol>
        </item>
      </staleIpPermissionsEgress>
      <groupName>Sg-1</groupName>
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      <groupId>sg-fe6fba9a</groupId>
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      <groupName>Sg-2</groupName>
      <vpcId>vpc-11223344</vpcId>
      <groupId>sg-5fa68d3a</groupId>
    </item>
  </staleSecurityGroupSet>
</DescribeStaleSecurityGroupsResponse>
```
<description>Sg-2 for peering</description>
<staleIpPermissions>
  <item>
    <fromPort>22</fromPort>
    <toPort>22</toPort>
    <groups>
      <item>
        <vpcId>vpc-7a20e51f</vpcId>
        <groupId>sg-279ab042</groupId>
        <vpcPeeringConnectionId>pcx-b04deed9</vpcPeeringConnectionId>
        <peeringStatus>active</peeringStatus>
        <description>Access from pcx-b04deed9</description>
      </item>
    </groups>
    <ipProtocol>tcp</ipProtocol>
  </item>
</staleIpPermissions>
</DescribeStaleSecurityGroupsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeStoreImageTasks

Describes the progress of the AMI store tasks. You can describe the store tasks for specified AMIs. If you don't specify the AMIs, you get a paginated list of store tasks from the last 31 days.

For each AMI task, the response indicates if the task is InProgress, Completed, or Failed. For tasks InProgress, the response shows the estimated progress as a percentage.

Tasks are listed in reverse chronological order. Currently, only tasks from the past 31 days can be viewed.

To use this API, you must have the required permissions. For more information, see Permissions for storing and restoring AMIs using Amazon S3 in the Amazon EC2 User Guide.

For more information, see Store and restore an AMI using Amazon S3 in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- task-state - Returns tasks in a certain state (InProgress | Completed | Failed)
- bucket - Returns task information for tasks that targeted a specific bucket. For the filter value, specify the bucket name.
When you specify the ImageIds parameter, any filters that you specify are ignored. To use the filters, you must remove the ImageIds parameter.

**Type:** Array of [Filter](#) objects  
**Required:** No

**ImageId.N**  
The AMI IDs for which to show progress. Up to 20 AMI IDs can be included in a request.  
**Type:** Array of strings  
**Required:** No

**MaxResults**  
The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see [Pagination](#).  
You cannot specify this parameter and the ImageIds parameter in the same call.  
**Type:** Integer  
**Valid Range:** Minimum value of 1. Maximum value of 200.  
**Required:** No

**NextToken**  
The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.  
**Type:** String  
**Required:** No

## Response Elements

The following elements are returned by the service.
nextToken

The token to include in another request to get the next page of items. This value is `null` when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

storeImageTaskResultSet

The information about the AMI store tasks.

Type: Array of StoreImageTaskResult objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeSubnets

Describes one or more of your subnets.

For more information, see Subnets in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- availability-zone - The Availability Zone for the subnet. You can also use availabilityZone as the filter name.
- availability-zone-id - The ID of the Availability Zone for the subnet. You can also use availabilityZoneId as the filter name.
- available-ip-address-count - The number of IPv4 addresses in the subnet that are available.
- cidr-block - The IPv4 CIDR block of the subnet. The CIDR block you specify must exactly match the subnet's CIDR block for information to be returned for the subnet. You can also use cidr or cidrBlock as the filter names.
- customer-owned-ipv4-pool - The customer-owned IPv4 address pool associated with the subnet.
- default-for-az - Indicates whether this is the default subnet for the Availability Zone (true | false). You can also use defaultForAz as the filter name.
- enable-dns64 - Indicates whether DNS queries made to the Amazon-provided DNS Resolver in this subnet should return synthetic IPv6 addresses for IPv4-only destinations.
• enable-lni-at-device-index - Indicates the device position for local network interfaces in this subnet. For example, 1 indicates local network interfaces in this subnet are the secondary network interface (eth1).

• ipv6-cidr-block-association.ipv6-cidr-block - An IPv6 CIDR block associated with the subnet.

• ipv6-cidr-block-association.association-id - An association ID for an IPv6 CIDR block associated with the subnet.

• ipv6-cidr-block-association.state - The state of an IPv6 CIDR block associated with the subnet.

• ipv6-native - Indicates whether this is an IPv6 only subnet (true | false).

• map-customer-owned-ip-on-launch - Indicates whether a network interface created in this subnet (including a network interface created by RunInstances) receives a customer-owned IPv4 address.

• map-public-ip-on-launch - Indicates whether instances launched in this subnet receive a public IPv4 address.

• outpost-arn - The Amazon Resource Name (ARN) of the Outpost.

• owner-id - The ID of the AWS account that owns the subnet.

• private-dns-name-options-on-launch.hostname-type - The type of hostname to assign to instances in the subnet at launch. For IPv4-only and dual-stack (IPv4 and IPv6) subnets, an instance DNS name can be based on the instance IPv4 address (ip-name) or the instance ID (resource-name). For IPv6 only subnets, an instance DNS name must be based on the instance ID (resource-name).

• private-dns-name-options-on-launch.enable-resource-name-dns-a-record - Indicates whether to respond to DNS queries for instance hostnames with DNS A records.

• private-dns-name-options-on-launch.enable-resource-name-dns-aaaa-record - Indicates whether to respond to DNS queries for instance hostnames with DNS AAAA records.

• state - The state of the subnet (pending | available).

• subnet-arn - The Amazon Resource Name (ARN) of the subnet.

• subnet-id - The ID of the subnet.

• tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that...
have a tag with the key `Owner` and the value `TeamA`, specify `tag:Owner` for the filter name and `TeamA` for the filter value.

- `tag-key` - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.
- `vpc-id` - The ID of the VPC for the subnet.

  Type: Array of `Filter` objects

  Required: No

**MaxResults**

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see [Pagination](#).

  Type: Integer


  Required: No

**NextToken**

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

  Type: String

  Required: No

**SubnetId.N**

The IDs of the subnets.

  Default: Describes all your subnets.

  Type: Array of strings

  Required: No

**Response Elements**

The following elements are returned by the service.
nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

subnetSet

Information about one or more subnets.

Type: Array of Subnet objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example describes the subnets.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeSubnets&AUTHPARAMS

Sample Response

<DescribeSubnetsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>1927e20c-0ed0-4a02-a6d7-d955fbd2d13c</requestId>
  <subnetSet>
    <item>
      <subnetId>subnet-0bb1c79de301436ee</subnetId>
    </item>
  </subnetSet>
  <subnetArn>arn:aws:ec2:us-east-2:111122223333:subnet/subnet-0bb1c79de3EXAMPLE</subnetArn>
</DescribeSubnetsResponse>
Example 2

This example uses filters to describe any subnet you own that is in the VPC with the ID vpc-0056ae9fffdEXAMPLE or vpc-0096ae9fffdEXAMPLE, and whose state is available.
Sample Request

https://ec2.amazonaws.com/?Action=DescribeSubnets
&Filter.1.Name=vpc-id
&Filter.1.Value.1=vpc-0056ae9fffdEXAMPLE
&Filter.1.Value.2=vpc-0096ae9fffdEXAMPLE
&Filter.2.Name=state
&Filter.2.Value.1=available
&AUTHPARAMS

Sample Response

<DescribeSubnetsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>43e9cb52-0e10-40fe-b457-988c8fbfe26</requestId>
  <subnetSet>
    <item>
      <subnetId>subnet-0f8c6c2f37EXAMPLE</subnetId>
      <subnetArn>arn:aws:ec2:us-west-2:123456789012:subnet/subnet-0f8c6c2f37903e9dc</subnetArn>
      <state>available</state>
      <ownerId>123456789012</ownerId>
      <vpcId>vpc-0056ae9fffdEXAMPLE</vpcId>
      <cidrBlock>172.168.0.0/16</cidrBlock>
      <ipv6CidrBlockAssociationSet/>
      <availableIpAddressCount>65531</availableIpAddressCount>
      <availabilityZone>us-west-2b</availabilityZone>
      <availabilityZoneId>usw2-az2</availabilityZoneId>
      <defaultForAz>false</defaultForAz>
      <mapPublicIpOnLaunch>false</mapPublicIpOnLaunch>
      <assignIpv6AddressOnCreation>false</assignIpv6AddressOnCreation>
    </item>
  </subnetSet>
</DescribeSubnetsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeTags

Describes the specified tags for your EC2 resources.

For more information about tags, see Tag your Amazon EC2 resources in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- **key** - The tag key.
- **resource-id** - The ID of the resource.
- **tag:<key>** - The key/value combination of the tag. For example, specify "tag:Owner" for the filter name and "TeamA" for the filter value to find resources with the tag "Owner=TeamA".
- **value** - The tag value.

Type: Array of Filter objects
MaxResults

The maximum number of items to return for this request. This value can be between 5 and 1000. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer

Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

tagSet

The tags.

Type: Array of TagDescription objects
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes all the tags in your account.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeTags
&AUTHPARAMS

Sample Response

<DescribeTagsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15="/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <tagSet>
    <item>
      <resourceId>ami-1a2b3c4d</resourceId>
      <resourceType>image</resourceType>
      <key>webserver</key>
      <value/>
    </item>
    <item>
      <resourceId>ami-1a2b3c4d</resourceId>
      <resourceType>image</resourceType>
      <key>stack</key>
      <value>Production</value>
    </item>
    <item>
      <resourceId>i-1234567890abcdef0</resourceId>
      <resourceType>instance</resourceType>
      <key>webserver</key>
      <value/>
    </item>
    <item>
      <resourceId>i-1234567890abcdef0</resourceId>
      <resourceType>instance</resourceType>
      <key>stack</key>
      <value/>
    </item>
  </tagSet>
</DescribeTagsResponse>
Example

This example describes only the tags for the AMI with ID ami-1a2b3c4d.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeTags
&Filter.1.Name=resource-id
&Filter.1.Value.1=ami-1a2b3c4d
&AUTHPARAMS

Sample Response

<DescribeTagsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">    <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
    <tagSet>
        <item>
            <resourceId>ami-1a2b3c4d</resourceId>
            <resourceType>image</resourceType>
            <key>webserver</key>
            <value/>
        </item>
        <item>
            <resourceId>ami-1a2b3c4d</resourceId>
            <resourceType>image</resourceType>
            <key>stack</key>
        </item>
    </tagSet>
</DescribeTagsResponse>
Example

This example describes the tags for all your instances.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeTags
&Filter.1.Name=resource-type
&Filter.1.Value.1=instance
&AUTHPARAMS
```

Sample Response

```
<DescribeTagsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <tagSet>
    <item>
      <resourceId>i-0598c7d356eba48d7</resourceId>
      <resourceType>instance</resourceType>
      <key>webserver</key>
      <value/>
    </item>
    <item>
      <resourceId>i-0598c7d356eba48d7</resourceId>
      <resourceType>instance</resourceType>
      <key>stack</key>
      <value>Production</value>
    </item>
    <item>
      <resourceId>i-1234567890abcdef0</resourceId>
      <resourceType>instance</resourceType>
      <key>database_server</key>
      <value/>
    </item>
    <item>
      <resourceId>i-1234567890abcdef0</resourceId>
      <resourceType>instance</resourceType>
      <key>stack</key>
      <value>Production</value>
    </item>
  </tagSet>
</DescribeTagsResponse>
```
Example

This example describes the tags for all your instances tagged with the key webserver. You can use wildcards with filters, so you could specify the value as ?ebsever to find tags with the key webserver or Webserver.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeTags
&Filter.1.Name=key
&Filter.1.Value.1=webserver

Sample Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <tagSet>
    <item>
      <resourceId>i-1234567890abcdef0</resourceId>
      <resourceType>instance</resourceType>
      <key>webserver</key>
      <value/>
    </item>
  </tagSet>
</DescribeTagsResponse>

Example

This example describes the tags for all your instances tagged with either stack=Test or stack=Production.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeTags
&Filter.1.Name=resource-type
Sample Response

```xml
<DescribeTagsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <tagSet>
    <item>
      <resourceId>i-1234567890abcdef0</resourceId>
      <resourceType>instance</resourceType>
      <key>stack</key>
      <value>Production</value>
    </item>
    <item>
      <resourceId>i-0598c7d356eba48d7</resourceId>
      <resourceType>instance</resourceType>
      <key>stack</key>
      <value>Test</value>
    </item>
  </tagSet>
</DescribeTagsResponse>
```

Example

This example describes the tags for all your instances tagged with Purpose=[empty string].

Sample Request

```xml
https://ec2.amazonaws.com/?Action=DescribeTags
&Filter.1.Name=resource-type
&Filter.1.Value.1=instance
&Filter.2.Name=key
&Filter.2.Value.1=Purpose
&Filter.3.Name=value
&Filter.3.Value.1=
&AUTHPARAMS
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeTrafficMirrorFilters

Describes one or more Traffic Mirror filters.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. The possible values are:

- description: The Traffic Mirror filter description.
- traffic-mirror-filter-id: The ID of the Traffic Mirror filter.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer


Required: No

NextToken

The token for the next page of results.
Type: String

Required: No

TrafficMirrorFilterId.N

The ID of the Traffic Mirror filter.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. The value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

trafficMirrorFilterSet

Information about one or more Traffic Mirror filters.

Type: Array of TrafficMirrorFilter objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
See Also

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeTrafficMirrorSessions

Describes one or more Traffic Mirror sessions. By default, all Traffic Mirror sessions are described. Alternatively, you can filter the results.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. The possible values are:

- description: The Traffic Mirror session description.
- network-interface-id: The ID of the Traffic Mirror session network interface.
- owner-id: The ID of the account that owns the Traffic Mirror session.
- packet-length: The assigned number of packets to mirror.
- session-number: The assigned session number.
- traffic-mirror-filter-id: The ID of the Traffic Mirror filter.
- traffic-mirror-session-id: The ID of the Traffic Mirror session.
- traffic-mirror-target-id: The ID of the Traffic Mirror target.
- virtual-network-id: The virtual network ID of the Traffic Mirror session.

Type: Array of Filter objects

Required: No
**MaxResults**

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned `nextToken` value.

Type: Integer


Required: No

**NextToken**

The token for the next page of results.

Type: String

Required: No

**TrafficMirrorSessionId.N**

The ID of the Traffic Mirror session.

Type: Array of strings

Required: No

**Response Elements**

The following elements are returned by the service.

**nextToken**

The token to use to retrieve the next page of results. The value is `null` when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String
trafficMirrorSessionSet

Describes one or more Traffic Mirror sessions. By default, all Traffic Mirror sessions are described. Alternatively, you can filter the results.

Type: Array of TrafficMirrorSession objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeTrafficMirrorTargets

Information about one or more Traffic Mirror targets.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. The possible values are:

- description: The Traffic Mirror target description.
- network-interface-id: The ID of the Traffic Mirror session network interface.
- network-load-balancer-arn: The Amazon Resource Name (ARN) of the Network Load Balancer that is associated with the session.
- owner-id: The ID of the account that owns the Traffic Mirror session.
- traffic-mirror-target-id: The ID of the Traffic Mirror target.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer

Required: No

**NextToken**

The token for the next page of results.

Type: String

Required: No

**TrafficMirrorTargetId.N**

The ID of the Traffic Mirror targets.

Type: Array of strings

Required: No

**Response Elements**

The following elements are returned by the service.

**nextToken**

The token to use to retrieve the next page of results. The value is null when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**trafficMirrorTargetSet**

Information about one or more Traffic Mirror targets.

Type: Array of [TrafficMirrorTarget](#) objects

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeTransitGatewayAttachments

Describes one or more attachments between resources and transit gateways. By default, all attachments are described. Alternatively, you can filter the results by attachment ID, attachment state, resource ID, or resource owner.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

Filter.N

One or more filters. The possible values are:

- association.state - The state of the association (associating | associated | disassociating).
- association.transit-gateway-route-table-id - The ID of the route table for the transit gateway.
- resource-id - The ID of the resource.
- resource-owner-id - The ID of the AWS account that owns the resource.
- resource-type - The resource type. Valid values are vpc | vpn | direct-connect-gateway | peering | connect.
- state - The state of the attachment. Valid values are available | deleted | deleting | failed | failing | initiatingRequest | modifying | pendingAcceptance | pending | rollingBack | rejected | rejecting.
- transit-gateway-attachment-id - The ID of the attachment.
- transit-gateway-id - The ID of the transit gateway.
- transit-gateway-owner-id - The ID of the AWS account that owns the transit gateway.
Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer


Required: No

NextToken

The token for the next page of results.

Type: String

Required: No

TransitGatewayAttachmentIds.N

The IDs of the attachments.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.
Type: String

transitGatewayAttachments

Information about the attachments.

Type: Array of TransitGatewayAttachment objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeTransitGatewayConnectPeers

Describes one or more Connect peers.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. The possible values are:

- `state` - The state of the Connect peer (`pending` | `available` | `deleting` | `deleted`).
- `transit-gateway-attachment-id` - The ID of the attachment.
- `transit-gateway-connect-peer-id` - The ID of the Connect peer.

Type: Array of `Filter` objects

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned `nextToken` value.

Type: Integer


Required: No

NextToken

The token for the next page of results.
Type: String
Required: No

TransitGatewayConnectPeerIds.N

The IDs of the Connect peers.
Type: Array of strings
Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.
Type: String

requestId

The ID of the request.
Type: String

transitGatewayConnectPeerSet

Information about the Connect peers.
Type: Array of TransitGatewayConnectPeer objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
See Also

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeTransitGatewayConnects

Describes one or more Connect attachments.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Filter.N**

One or more filters. The possible values are:

- `options.protocol` - The tunnel protocol (gre).
- `state` - The state of the attachment (initiating | initiatingRequest | pendingAcceptance | rollingBack | pending | available | modifying | deleting | deleted | failed | rejected | rejecting | failing).
- `transit-gateway-attachment-id` - The ID of the Connect attachment.
- `transit-gateway-id` - The ID of the transit gateway.
- `transport-transit-gateway-attachment-id` - The ID of the transit gateway attachment from which the Connect attachment was created.

Type: Array of [Filter](#) objects

Required: No

**MaxResults**

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned `nextToken` value.
Type: Integer


Required: No

**NextToken**

The token for the next page of results.

Type: String

Required: No

**TransitGatewayAttachmentIds.N**

The IDs of the attachments.

Type: Array of strings

Required: No

**Response Elements**

The following elements are returned by the service.

**nextToken**

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**transitGatewayConnectSet**

Information about the Connect attachments.

Type: Array of `TransitGatewayConnect` objects
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeTransitGatewayMulticastDomains

Describes one or more transit gateway multicast domains.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. The possible values are:

- state - The state of the transit gateway multicast domain. Valid values are pending | available | deleting | deleted.
- transit-gateway-id - The ID of the transit gateway.
- transit-gateway-multicast-domain-id - The ID of the transit gateway multicast domain.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer


Required: No
**NextToken**

The token for the next page of results.

Type: String

Required: No

**TransitGatewayMulticastDomainIds.N**

The ID of the transit gateway multicast domain.

Type: Array of strings

Required: No

### Response Elements

The following elements are returned by the service.

**nextToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**transitGatewayMulticastDomains**

Information about the transit gateway multicast domains.

Type: Array of `TransitGatewayMulticastDomain` objects

### Errors

For information about the errors that are common to all actions, see [Common client error codes](#).
Examples

Example 1

This example describes your multicast domains.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeTransitGatewayMulticastDomains
&AUTHPARAMS

Sample Response

    <requestId>e19ec53b-f3f5-4eae-97c3-a9605EXAMPLE</requestId>
    <transitGatewayMulticastDomains>
        <item>
            <creationTime>2019-11-19T22:05:50.000Z</creationTime>
            <state>available</state>
            <tagSet/>
            <transitGatewayId>tgw-06150e5ae0EXAMPLE</transitGatewayId>
            <transitGatewayMulticastDomainId>tgw-mcast-domain-0c4905cef7EXAMPLE</transitGatewayMulticastDomainId>
        </item>
    </transitGatewayMulticastDomains>
</DescribeTransitGatewayMulticastDomainsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
See Also

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeTransitGatewayPeeringAttachments

Describes your transit gateway peering attachments.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. The possible values are:

- transit-gateway-attachment-id - The ID of the transit gateway attachment.
- local-owner-id - The ID of your AWS account.
- remote-owner-id - The ID of the AWS account in the remote Region that owns the transit gateway.
- state - The state of the peering attachment. Valid values are available | deleted | deleting | failed | failing | initiatingRequest | modifying | pendingAcceptance | pending | rollingBack | rejected | rejecting).
- tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
- tag-key - The key of a tag assigned to the resource. Use this filter to find all resources that have a tag with a specific key, regardless of the tag value.
- transit-gateway-id - The ID of the transit gateway.

Type: Array of Filter objects
Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer


Required: No

NextToken

The token for the next page of results.

Type: String

Required: No

TransitGatewayAttachmentIds.N

One or more IDs of the transit gateway peering attachments.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String
transitGatewayPeeringAttachments

The transit gateway peering attachments.

Type: Array of TransitGatewayPeeringAttachment objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes your peering attachment.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeTransitGatewayPeeringAttachments
&AUTHPARAMS

Sample Response

  <requestId>f2ad2616-b1bc-42ab-8533-bd50example</requestId>
  <transitGatewayPeeringAttachments>
    <item>
      <accepterTgwInfo>
        <ownerId>111111111111</ownerId>
        <region>us-west-2</region>
        <transitGatewayId>tgw-123456789012abc12</transitGatewayId>
      </accepterTgwInfo>
      <creationTime>2019-11-11T11:25:31.000Z</creationTime>
      <requesterTgwInfo>
        <ownerId>123456789012</ownerId>
        <region>us-east-1</region>
        <transitGatewayId>tgw-abc123abc123abc12</transitGatewayId>
      </requesterTgwInfo>
      <state>pendingAcceptance</state>
      <tagSet/>
    </item>
  </transitGatewayPeeringAttachments>
</DescribeTransitGatewayPeeringAttachmentsResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeTransitGatewayPolicyTables

Describes one or more transit gateway route policy tables.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**Filter.N**

The filters associated with the transit gateway policy table.

Type: Array of [Filter](#) objects

Required: No

**MaxResults**

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned `nextToken` value.

Type: Integer


Required: No

**NextToken**

The token for the next page of results.

Type: String
Required: No

TransitGatewayPolicyTableIds.N

The IDs of the transit gateway policy tables.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token for the next page of results.

Type: String

requestId

The ID of the request.

Type: String

transitGatewayPolicyTables

Describes the transit gateway policy tables.

Type: Array of TransitGatewayPolicyTable objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeTransitGatewayRouteTableAnnouncements

Describes one or more transit gateway route table advertisements.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Filter.N**

The filters associated with the transit gateway policy table.

Type: Array of Filter objects

Required: No

**MaxResults**

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer


Required: No

**NextToken**

The token for the next page of results.

Type: String
Response Elements

The following elements are returned by the service.

**nextToken**

The token for the next page of results.

Type: String

**requestId**

The ID of the request.

Type: String

**transitGatewayRouteTableAnnouncements**

Describes the transit gateway route table announcement.

Type: Array of [TransitGatewayRouteTableAnnouncement](#) objects

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeTransitGatewayRouteTables

Describes one or more transit gateway route tables. By default, all transit gateway route tables are described. Alternatively, you can filter the results.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Filter.N**

One or more filters. The possible values are:

- **default-association-route-table** - Indicates whether this is the default association route table for the transit gateway (true | false).
- **default-propagation-route-table** - Indicates whether this is the default propagation route table for the transit gateway (true | false).
- **state** - The state of the route table (available | deleting | deleted | pending).
- **transit-gateway-id** - The ID of the transit gateway.
- **transit-gateway-route-table-id** - The ID of the transit gateway route table.

Type: Array of Filter objects

Required: No

**MaxResults**

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.
Type: Integer


Required: No

**NextToken**

The token for the next page of results.

Type: String

Required: No

**TransitGatewayRouteTableIds.N**

The IDs of the transit gateway route tables.

Type: Array of strings

Required: No

### Response Elements

The following elements are returned by the service.

**nextToken**

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**transitGatewayRouteTables**

Information about the transit gateway route tables.

Type: Array of [TransitGatewayRouteTable](#) objects
Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeTransitGateways

Describes one or more transit gateways. By default, all transit gateways are described. Alternatively, you can filter the results.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. The possible values are:

- options.propagation-default-route-table-id - The ID of the default propagation route table.
- options.amazon-side-asn - The private ASN for the Amazon side of a BGP session.
- options.association-default-route-table-id - The ID of the default association route table.
- options.auto-accept-shared-attachments - Indicates whether there is automatic acceptance of attachment requests (enable | disable).
- options.default-route-table-association - Indicates whether resource attachments are automatically associated with the default association route table (enable | disable).
- options.default-route-table-propagation - Indicates whether resource attachments automatically propagate routes to the default propagation route table (enable | disable).
- options.dns-support - Indicates whether DNS support is enabled (enable | disable).
- options.vpn-ecmp-support - Indicates whether Equal Cost Multipath Protocol support is enabled (enable | disable).
- owner-id - The ID of the AWS account that owns the transit gateway.
• **state** - The state of the transit gateway (available | deleted | deleting | modifying | pending).

• **transit-gateway-id** - The ID of the transit gateway.

  Type: Array of [Filter](#) objects

  Required: No

**MaxResults**

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned `nextToken` value.

  Type: Integer


  Required: No

**NextToken**

The token for the next page of results.

  Type: String

  Required: No

**TransitGatewayIds.N**

The IDs of the transit gateways.

  Type: Array of strings

  Required: No

### Response Elements

The following elements are returned by the service.

**nextToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.
Type: String

requestId

The ID of the request.

Type: String

transitGatewaySet

Information about the transit gateways.

Type: Array of TransitGateway objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes your transit gateways.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeTransitGateways
&AUTHPARAMS

Sample Response

  <requestId>151283df-f7dc-4317-89b4-01c9888b1d45</requestId>
  <transitGatewaySet>
    <item>
      <creationTime>2019-05-08T13:21:33.000Z</creationTime>
      <description>example tgw</description>
      <options>
        <amazonSideAsn>64512</amazonSideAsn>
        <associationDefaultRouteTableId>tgw-rtb-002573ed1eEXAMPLE</associationDefaultRouteTableId>
        <autoAcceptSharedAttachments>disable</autoAcceptSharedAttachments>
      </options>
    </item>
  </transitGatewaySet>
</DescribeTransitGatewaysResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeTransitGatewayVpcAttachments

Describes one or more VPC attachments. By default, all VPC attachments are described. Alternatively, you can filter the results.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

 Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is **DryRunOperation**. Otherwise, it is **UnauthorizedOperation**.

Type: Boolean

Required: No

**Filter.N**

One or more filters. The possible values are:

- **state** - The state of the attachment. Valid values are available | deleted | deleting | failed | failing | initiatingRequest | modifying | pendingAcceptance | pending | rollingBack | rejected | rejecting.
- **transit-gateway-attachment-id** - The ID of the attachment.
- **transit-gateway-id** - The ID of the transit gateway.
- **vpc-id** - The ID of the VPC.

Type: Array of [Filter](#) objects

Required: No

**MaxResults**

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer

Required: No

**NextToken**

The token for the next page of results.

Type: String

Required: No

**TransitGatewayAttachmentIds.N**

The IDs of the attachments.

Type: Array of strings

Required: No

**Response Elements**

The following elements are returned by the service.

**nextToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**transitGatewayVpcAttachments**

Information about the VPC attachments.

Type: Array of [TransitGatewayVpcAttachment](#) objects

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
Examples

Example

This example describes your transit gateway VPC attachments.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeTransitGatewayVpcAttachment
&AUTHPARAMS

Sample Response

    >
    <requestId>5eeb22d7-c1cf-4efd-9725-1e92e8f9a4e7</requestId>
    <transitGatewayVpcAttachments>
        <item>
            <creationTime>2019-07-17T16:04:27.000Z</creationTime>
            <options>
                <dnsSupport>enable</dnsSupport>
                <ipv6Support>disable</ipv6Support>
            </options>
            <state>available</state>
            <subnetIds>
                <item>subnet-0187aff814EXAMPLE</item>
            </subnetIds>
            <tagSet/>
            <transitGatewayAttachmentId>tgw-attach-0d2c54bdb3EXAMPLE</transitGatewayAttachmentId>
            <transitGatewayId>tgw-02f776b1a7EXAMPLE</transitGatewayId>
            <vpcId>vpc-0065acced4EXAMPLE</vpcId>
            <vpcOwnerId>111122223333</vpcOwnerId>
        </item>
    </transitGatewayVpcAttachments>
</DescribeTransitGatewayVpcAttachmentsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeTrunkInterfaceAssociations

Describes one or more network interface trunk associations.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AssociationId.N

The IDs of the associations.

Type: Array of strings

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters.

- gre-key - The ID of a trunk interface association.
- interface-protocol - The interface protocol. Valid values are VLAN and GRE.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer

Required: No

**NextToken**

The token for the next page of results.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**interfaceAssociationSet**

Information about the trunk associations.

Type: Array of TrunkInterfaceAssociation objects

**nextToken**

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see Common client error codes.

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeVerifiedAccessEndpoints

Describes the specified AWS Verified Access endpoints.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. Filter names and values are case-sensitive.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer


Required: No

NextToken

The token for the next page of results.

Type: String
**Required**: No

**VerifiedAccessEndpointId.N**

The ID of the Verified Access endpoint.

Type: Array of strings

Required: No

**VerifiedAccessGroupId**

The ID of the Verified Access group.

Type: String

Required: No

**VerifiedAccessInstanceId**

The ID of the Verified Access instance.

Type: String

Required: No

---

**Response Elements**

The following elements are returned by the service.

**nextToken**

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**verifiedAccessEndpointSet**

Details about the Verified Access endpoints.
Type: Array of VerifiedAccessEndpoint objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeVerifiedAccessGroups

Describes the specified Verified Access groups.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. Filter names and values are case-sensitive.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer


Required: No

NextToken

The token for the next page of results.

Type: String
Required: No

**VerifiedAccessGroupId.N**

The ID of the Verified Access groups.

Type: Array of strings

Required: No

**VerifiedAccessInstanceId**

The ID of the Verified Access instance.

Type: String

Required: No

## Response Elements

The following elements are returned by the service.

### nextToken

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

### requestId

The ID of the request.

Type: String

### verifiedAccessGroupSet

Details about the Verified Access groups.

Type: Array of **VerifiedAccessGroup** objects

## Errors

For information about the errors that are common to all actions, see [Common client error codes](#).
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeVerifiedAccessInstanceLoggingConfigurations

Describes the specified AWS Verified Access instances.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. Filter names and values are case-sensitive.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer


Required: No

NextToken

The token for the next page of results.

Type: String
Required: No

**VerifiedAccessInstanceId.N**

The IDs of the Verified Access instances.

Type: Array of strings

Required: No

### Response Elements

The following elements are returned by the service.

**loggingConfigurationSet**

The logging configuration for the Verified Access instances.

Type: Array of [VerifiedAccessInstanceLoggingConfiguration](#) objects

**nextToken**

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

### Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeVerifiedAccessInstances

Describes the specified AWS Verified Access instances.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. Filter names and values are case-sensitive.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer


Required: No

NextToken

The token for the next page of results.

Type: String
Required: No

**VerifiedAccessInstanceId.N**

The IDs of the Verified Access instances.

Type: Array of strings

Required: No

### Response Elements

The following elements are returned by the service.

**nextToken**

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**verifiedAccessInstanceSet**

Details about the Verified Access instances.

Type: Array of [VerifiedAccessInstance](#) objects

### Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

See Also
DescribeVerifiedAccessTrustProviders

Describes the specified AWS Verified Access trust providers.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. Filter names and values are case-sensitive.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer


Required: No

NextToken

The token for the next page of results.

Type: String
Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

verifiedAccessTrustProviderSet

Details about the Verified Access trust providers.

Type: Array of VerifiedAccessTrustProvider objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeVolumeAttribute

Describes the specified attribute of the specified volume. You can specify only one attribute at a time.

For more information about EBS volumes, see Amazon EBS volumes in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Attribute

The attribute of the volume. This parameter is required.

Type: String

Valid Values: autoEnableIO | productCodes

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VolumeId

The ID of the volume.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
autoEnableIO

The state of autoEnableIO attribute.

Type: `AttributeBooleanValue` object

productCodes

A list of product codes.

Type: Array of `ProductCode` objects

requestId

The ID of the request.

Type: String

volumeld

The ID of the volume.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example describes the autoEnableIO attribute of the volume vol-1234567890abcdef0.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVolumeAttribute
&Attribute=autoEnableIO
&VolumeId=vol-1234567890abcdef0
&AUTHPARAMS
```

Sample Response

```
```
Example

This example describes the productCodes attribute of the volume vol-1234567890abcdef0.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVolumeAttribute
&Attribute=productCodes
&VolumeId=vol-1234567890abcdef0
&AUTHPARAMS

Sample Response

  <requestId>5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
  <volumeId>vol-1234567890abcdef0</volumeId>
  <productCodes>
    <item>
      <productCode>a1b2c3d4e5f6g7h8i9j10k11</productCode>
      <type>marketplace</type>
    </item>
  </productCodes>
</DescribeVolumeAttributeResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeVolumes

Describes the specified EBS volumes or all of your EBS volumes.

If you are describing a long list of volumes, we recommend that you paginate the output to make the list more manageable. For more information, see Pagination.

For more information about EBS volumes, see Amazon EBS volumes in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- attachment.attach-time - The time stamp when the attachment initiated.
- attachment.delete-on-termination - Whether the volume is deleted on instance termination.
- attachment.device - The device name specified in the block device mapping (for example, /dev/sda1).
- attachment.instance-id - The ID of the instance the volume is attached to.
- attachment.status - The attachment state (attaching | attached | detaching).
- availability-zone - The Availability Zone in which the volume was created.
- create-time - The time stamp when the volume was created.
- encrypted - Indicates whether the volume is encrypted (true | false)
• multi-attach-enabled - Indicates whether the volume is enabled for Multi-Attach (true | false)
• fast-restored - Indicates whether the volume was created from a snapshot that is enabled for fast snapshot restore (true | false).
• size - The size of the volume, in GiB.
• snapshot-id - The snapshot from which the volume was created.
• status - The state of the volume (creating | available | in-use | deleting | deleted | error).
• tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
• tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.
• volume-id - The volume ID.
• volume-type - The Amazon EBS volume type (gp2 | gp3 | io1 | io2 | st1 | sc1 | standard)

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of volumes to return for this request. This value can be between 5 and 500; if you specify a value larger than 500, only 500 items are returned. If this parameter is not used, then all items are returned. You cannot specify this parameter and the volume IDs parameter in the same request. For more information, see Pagination.

Type: Integer

Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned from the previous request.

Type: String
Required: No

**Volumeld.N**

The volume IDs.

Type: Array of strings

Required: No

**Response Elements**

The following elements are returned by the service.

**nextToken**

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

**requestId**

The ID of the request.

Type: String

**volumeSet**

Information about the volumes.

Type: Array of **Volume** objects

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example describes all volumes associated with your account.
Sample Request

https://ec2.amazonaws.com/?Action=DescribeVolumes
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeSet>
    <item>
      <volumeId>vol-1234567890abcdef0</volumeId>
      <size>80</size>
      <snapshotId/>
      <availabilityZone>us-east-1a</availabilityZone>
      <status>in-use</status>
      <createTime>YYYY-MM-DDTHH:MM:SS.SSSZ</createTime>
      <attachmentSet>
        <item>
          <volumeId>vol-1234567890abcdef0</volumeId>
          <instanceId>i-1234567890abcdef0</instanceId>
          <device>/dev/sdh</device>
          <status>attached</status>
          <attachTime>YYYY-MM-DDTHH:MM:SS.SSSZ</attachTime>
          <deleteOnTermination>false</deleteOnTermination>
        </item>
      </attachmentSet>
      <volumeType>standard</volumeType>
      <encrypted>true</encrypted>
      <multiAttachEnabled>false</multiAttachEnabled>
    </item>
  </volumeSet>
</DescribeVolumesResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
DescribeVolumesModifications

Describes the most recent volume modification request for the specified EBS volumes.

If a volume has never been modified, some information in the output will be null. If a volume has been modified more than once, the output includes only the most recent modification request.

You can also use CloudWatch Events to check the status of a modification to an EBS volume. For information about CloudWatch Events, see the Amazon CloudWatch Events User Guide. For more information, see Monitor the progress of volume modifications in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- modification-state - The current modification state (modifying | optimizing | completed | failed).
- original-iops - The original IOPS rate of the volume.
- original-size - The original size of the volume, in GiB.
- original-volume-type - The original volume type of the volume (standard | io1 | io2 | gp2 | sc1 | st1).
- originalMultiAttachEnabled - Indicates whether Multi-Attach support was enabled (true | false).
- start-time - The modification start time.
- **target-iops** - The target IOPS rate of the volume.
- **target-size** - The target size of the volume, in GiB.
- **target-volume-type** - The target volume type of the volume (standard | io1 | io2 | gp2 | sc1 | st1).
- **targetMultiAttachEnabled** - Indicates whether Multi-Attach support is to be enabled (true | false).
- **volume-id** - The ID of the volume.

Type: Array of [Filter](#) objects

Required: No

**MaxResults**

The maximum number of results (up to a limit of 500) to be returned in a paginated request. For more information, see [Pagination](#).

Type: Integer

Required: No

**NextToken**

The token returned by a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

**Volumeld.N**

The IDs of the volumes.

Type: Array of strings

Required: No

**Response Elements**

The following elements are returned by the service.
**nextToken**

The token to include in another request to get the next page of items. This value is null if there are no more items to return.

Type: String

**requestId**

The ID of the request.

Type: String

**volumeModificationSet**

Information about the volume modifications.

Type: Array of VolumeModification objects

**Errors**

For information about the errors that are common to all actions, see Common client error codes.

**Examples**

**Example 1**

This example displays volume status after modifications to size, type, IOPS provisioning, and Multi-Attach support.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=DescribeVolumesModifications
&VolumeId.1=vol-0123456789EXAMPLE
&Version=2016-11-15
```

**Sample Response**

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeModificationSet>
    <item>
      ...
    </item>
  </volumeModificationSet>
</DescribeVolumesModificationsResponse>
```
Example 2

This example displays information about all volumes in a Region with a modification state of optimizing or completed.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVolumesModifications
&Filter.1.Value.2=completed
&Filter.1.Value.1=optimizing
&Version=2016-11-15
&Filter.1.Name=modification-state

Sample Response

:requestId>35fdf8d3-6ffa-46dc-8f8e-62fe70bc31a2</requestId>
<volumeModificationSet>
  <item>
    <targetIops>10000</targetIops>
    <originalIops>100</originalIops>
    <modificationState>optimizing</modificationState>
    <targetSize>2000</targetSize>
    <targetVolumeType>io1</targetVolumeType>
    <volumeId>vol-0123456789EXAMPLE</volumeId>
    <progress>40</progress>
    <startTime>2017-01-19T23:58:04.922Z</startTime>
  </item>
</volumeModificationSet>
<volumeId>vol-06397e7a0eEXAMPLE</volumeId>
<progress>3</progress>
<startTime>2017-02-10T23:40:57.612Z</startTime>
<originalSize>10</originalSize>
<originalVolumeType>gp2</originalVolumeType>
</item>

<item>
<targetIops>10000</targetIops>
<originalIops>100</originalIops>
<modificationState>completed</modificationState>
<targetSize>200</targetSize>
<targetVolumeType>io1</targetVolumeType>
<volumeId>vol-bEXAMPLE</volumeId>
<progress>100</progress>
<startTime>2017-02-10T22:50:52.207Z</startTime>
<endTime>2017-02-10T22:56:04.823Z</endTime>
<originalSize>8</originalSize>
<originalVolumeType>gp2</originalVolumeType>
</item>
</volumeModificationSet>
</DescribeVolumesModificationsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](https://aws.amazon.com/cli/)
- [AWS SDK for .NET](https://aws.amazon.com/sdk-for-dotnet/)
- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://aws.amazon.com/sdk-for-go/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for JavaScript V3](https://aws.amazon.com/sdk-for-javascript/)
- [AWS SDK for PHP V3](https://aws.amazon.com/sdk-for-php/)
- [AWS SDK for Python](https://aws.amazon.com/sdk-for-python/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)

See Also
DescribeVolumeStatus

Describes the status of the specified volumes. Volume status provides the result of the checks performed on your volumes to determine events that can impair the performance of your volumes. The performance of a volume can be affected if an issue occurs on the volume's underlying host. If the volume's underlying host experiences a power outage or system issue, after the system is restored, there could be data inconsistencies on the volume. Volume events notify you if this occurs. Volume actions notify you if any action needs to be taken in response to the event.

The DescribeVolumeStatus operation provides the following information about the specified volumes:

- **Status**: Reflects the current status of the volume. The possible values are ok, impaired, warning, or insufficient-data. If all checks pass, the overall status of the volume is ok. If the check fails, the overall status is impaired. If the status is insufficient-data, then the checks might still be taking place on your volume at the time. We recommend that you retry the request. For more information about volume status, see Monitor the status of your volumes in the Amazon Elastic Compute Cloud User Guide.

- **Events**: Reflect the cause of a volume status and might require you to take action. For example, if your volume returns an impaired status, then the volume event might be potential-data-inconsistency. This means that your volume has been affected by an issue with the underlying host, has all I/O operations disabled, and might have inconsistent data.

- **Actions**: Reflect the actions you might have to take in response to an event. For example, if the status of the volume is impaired and the volume event shows potential-data-inconsistency, then the action shows enable-volume-io. This means that you may want to enable the I/O operations for the volume by calling the EnableVolumeIO action and then check the volume for data consistency.

Volume status is based on the volume status checks, and does not reflect the volume state. Therefore, volume status does not indicate volumes in the error state (for example, when a volume is incapable of accepting I/O.)

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.
DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter

The filters.

- action.code - The action code for the event (for example, enable-volume-io).
- action.description - A description of the action.
- action.event-id - The event ID associated with the action.
- availability-zone - The Availability Zone of the instance.
- event.description - A description of the event.
- event.event-id - The event ID.
- event.not-after - The latest end time for the event.
- event.not-before - The earliest start time for the event.
- volume-status.status - The status of the volume (ok | impaired | warning | insufficient-data).

Type: Array of Filter objects

Required: No
MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. This value can be between 5 and 1,000; if the value is larger than 1,000, only 1,000 results are returned. If this parameter is not used, then all items are returned. You cannot specify this parameter and the volume IDs parameter in the same request. For more information, see Pagination.

Type: Integer

Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

VolumeId.N

The IDs of the volumes.

Default: Describes all your volumes.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.
Type: String

**volumeStatusSet**

Information about the status of the volumes.

Type: Array of **VolumeStatusItem** objects

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example describes the status of all the volumes associated with your account.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=DescribeVolumeStatus
&AUTHPARAMS
```

**Sample Response**

```
  <requestId>5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
  <volumeStatusSet>
    <item>
      <VolumeId>vol-1234567890abcdef0</VolumeId>
      <availabilityZone>us-east-1d</availabilityZone>
      <volumeStatus>
        <status>ok</status>
        <details>
          <item>
            <title>io-enabled</title>
            <status>passed</status>
          </item>
        </details>
      </volumeStatus>
    </item>
  </volumeStatusSet>
</DescribeVolumeStatus>
```
Example

This example describes all the volumes in the us-east-1d Availability Zone with failed io-enabled status.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVolumeStatus
&Filter.1.Name=availability-zone
&Filter.1.Value.1=us-east-1d
&Filter.2.Name=volume-status.details-name
&Filter.2.Value.1=io-enabled
&Filter.3.Name=volume-status.details-status
&Filter.3.Value.1=failed
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeVpcAttribute

Describes the specified attribute of the specified VPC. You can specify only one attribute at a time.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Attribute

The VPC attribute.

Type: String

Valid Values: enableDnsSupport | enableDnsHostnames | enableNetworkAddressUsageMetrics

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
enableDnsHostnames

Indicates whether the instances launched in the VPC get DNS hostnames. If this attribute is true, instances in the VPC get DNS hostnames; otherwise, they do not.

Type: AttributeBooleanValue object

enableDnsSupport

Indicates whether DNS resolution is enabled for the VPC. If this attribute is true, the Amazon DNS server resolves DNS hostnames for your instances to their corresponding IP addresses; otherwise, it does not.

Type: AttributeBooleanValue object

enableNetworkAddressUsageMetrics

Indicates whether Network Address Usage metrics are enabled for your VPC.

Type: AttributeBooleanValue object

requestId

The ID of the request.

Type: String

vpcId

The ID of the VPC.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example describes the enableDnsSupport attribute of the specified VPC. The sample response indicates that DNS resolution is supported.
Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpcAttribute
&VpcId=vpc-1a2b3c4d
&Attribute=enableDnsSupport

Sample Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpcId>vpc-1a2b3c4d</vpcId>
  <enableDnsSupport>
    <value>true</value>
  </enableDnsSupport>
</DescribeVpcAttributeResponse>

Example 2

This request describes the enableDnsHostnames attribute of the specified VPC. The sample response indicates that DNS hostnames are supported.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpcAttribute
&VpcId=vpc-1a2b3c4d
&Attribute=enableDnsHostnames

Sample Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpcId>vpc-1a2b3c4d</vpcId>
  <enableDnsHostnames>
    <value>true</value>
  </enableDnsHostnames>
</DescribeVpcAttributeResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeVpcClassicLink

Note
This action is deprecated.

Describes the ClassicLink status of the specified VPCs.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- **is-classic-link-enabled** - Whether the VPC is enabled for ClassicLink (true | false).
- **tag:<key>** - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
- **tag-key** - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

Type: Array of Filter objects

Required: No
VpcId.N

The VPCs for which you want to describe the ClassicLink status.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

vpcSet

The ClassicLink status of the VPCs.

Type: Array of VpcClassicLink objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeVpcClassicLinkDnsSupport

Note
This action is deprecated.

Describes the ClassicLink DNS support status of one or more VPCs. If enabled, the DNS hostname of a linked EC2-Classic instance resolves to its private IP address when addressed from an instance in the VPC to which it's linked. Similarly, the DNS hostname of an instance in a VPC resolves to its private IP address when addressed from a linked EC2-Classic instance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer


Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String


Required: No

VpcIds.N

The IDs of the VPCs.
Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String


requestId

The ID of the request.

Type: String

vpcs

Information about the ClassicLink DNS support status of the VPCs.

Type: Array of ClassicLinkDnsSupport objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeVpcEndpointConnectionNotifications

Describes the connection notifications for VPC endpoints and VPC endpoint services.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ConnectionNotificationId

The ID of the notification.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- connection-notification-arn - The ARN of the SNS topic for the notification.
- connection-notification-id - The ID of the notification.
- connection-notification-state - The state of the notification (Enabled | Disabled).
- connection-notification-type - The type of notification (Topic).
- service-id - The ID of the endpoint service.
- vpc-endpoint-id - The ID of the VPC endpoint.

Type: Array of Filter objects

Required: No
MaxResults

The maximum number of results to return in a single call. To retrieve the remaining results, make another request with the returned NextToken value.

Type: Integer

Required: No

NextToken

The token to request the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

collectionNotificationSet

The notifications.

Type: Array of ConnectionNotification objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.
Examples

Example

This example describes all of your connection notifications.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpcEndpointConnectionNotifications

Sample Response

```xml
  <requestId>48541e40-9b6f-488e-8da7-a52a7example</requestId>
  <connectionNotificationSet>
    <item>
      <connectionEvents>
        <item>Accept</item>
        <item>Connect</item>
        <item>Delete</item>
        <item>Reject</item>
      </connectionEvents>
      <connectionNotificationType>Topic</connectionNotificationType>
      <connectionNotificationState>Enabled</connectionNotificationState>
      <connectionNotificationId>vpce-nfn-123cb952bc8af7123</connectionNotificationId>
      <vpcEndpointId>vpce-1234151a02f327123</vpcEndpointId>
    </item>
  </connectionNotificationSet>
</DescribeVpcEndpointConnectionNotificationsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeVpcEndpointConnections

Describe the VPC endpoint connections to your VPC endpoint services, including any endpoints that are pending your acceptance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- ip-address-type - The IP address type (ipv4 | ipv6).
- service-id - The ID of the service.
- vpc-endpoint-owner - The ID of the AWS account ID that owns the endpoint.
- vpc-endpoint-state - The state of the endpoint (pendingAcceptance | pending | available | deleting | deleted | rejected | failed).
- vpc-endpoint-id - The ID of the endpoint.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results of the initial request can be seen by sending another request with the returned NextToken value. This value can be between 5 and 1,000; if MaxResults is given a value larger than 1,000, only 1,000 results are returned.
Type: Integer
Required: No

NextToken

The token to retrieve the next page of results.
Type: String
Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.
Type: String

requestId

The ID of the request.
Type: String

vpcEndpointConnectionSet

Information about the VPC endpoint connections.
Type: Array of VpcEndpointConnection objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes all of the VPC endpoint connections for all of your services.
Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpcEndpointConnections
&AUTHPARAMS

Sample Response

  <requestId>ed2d237f-426b-4927-981b-980example</requestId>
  <vpcEndpointConnectionSet>
    <item>
      <vpcEndpointOwner>123456789012</vpcEndpointOwner>
      <creationTimestamp>2017-10-19T12:36:10.939Z</creationTimestamp>
      <vpcEndpointState>available</vpcEndpointState>
      <serviceId>vpce-svc-0127881c0d25a3123</serviceId>
      <vpcEndpointId>vpce-09bce00dc3edcc329</vpcEndpointId>
    </item>
    <item>
      <vpcEndpointOwner>112233445566</vpcEndpointOwner>
      <creationTimestamp>2017-10-18T12:14:41.892Z</creationTimestamp>
      <vpcEndpointState>rejected</vpcEndpointState>
      <serviceId>vpce-svc-0435c4480f65e3abc</serviceId>
      <vpcEndpointId>vpce-051a4ba136c8a12d8</vpcEndpointId>
    </item>
    <item>
      <vpcEndpointOwner>123123123123</vpcEndpointOwner>
      <creationTimestamp>2017-10-18T13:25:07.739Z</creationTimestamp>
      <vpcEndpointState>pendingAcceptance</vpcEndpointState>
      <serviceId>vpce-svc-01f406f3e99f8a123</serviceId>
      <vpcEndpointId>vpce-09593ee8e85835659</vpcEndpointId>
    </item>
  </vpcEndpointConnectionSet>
</DescribeVpcEndpointConnectionsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeVpcEndpoints

Describes your VPC endpoints.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

Filter.N

The filters.

• ip-address-type - The IP address type (ipv4 | ipv6).
• service-name - The name of the service.
• tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
• tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.
• vpc-id - The ID of the VPC in which the endpoint resides.
• vpc-endpoint-id - The ID of the endpoint.
• vpc-endpoint-state - The state of the endpoint (pendingAcceptance | pending | available | deleting | deleted | rejected | failed).
• vpc-endpoint-type - The type of VPC endpoint (Interface | Gateway | GatewayLoadBalancer).

Type: Array of Filter objects
MaxResults

The maximum number of items to return for this request. The request returns a token that you can specify in a subsequent call to get the next set of results.

Constraint: If the value is greater than 1,000, we return only 1,000 items.

Type: Integer

Required: No

NextToken

The token for the next set of items to return. (You received this token from a prior call.)

Type: String

Required: No

VpcEndpointId.N

The IDs of the VPC endpoints.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use when requesting the next set of items. If there are no additional items to return, the string is empty.

Type: String

requestId

The ID of the request.

Type: String
**vpcEndpointSet**

Information about the endpoints.

Type: Array of [VpcEndpoint](#) objects

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example describes all of your endpoints.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=DescribeVpcEndpoints
&AUTHPARAMS
```

**Sample Response**

```xml
  <requestId>8d3e7656-3328-451d-8c86-7156example</requestId>
  <vpcEndpointSet>
    <item>
      <policyDocument>
        <Version>"2008-10-17",
        <Statement>
          ["Effect":"Allow",
          "Principal":"*",
          "Action":"*",
          "Resource":"*"]
        "Statement"
      </policyDocument>
      <routeTableIdSet>
        <item>rtb-3d560345</item>
      </routeTableIdSet>
      <dnsEntrySet/>
      <serviceName>com.amazonaws.us-east-1.dynamodb</serviceName>
      <privateDnsEnabled>true</privateDnsEnabled>
      <groupSet/>
      <vpcEndpointId>vpce-032a826a</vpcEndpointId>
      <subnetIdSet/>
      <networkInterfaceIdSet/>
      <vpcEndpointType>Gateway</vpcEndpointType>
      <vpcId>vpc-aabb1122</vpcId>
      <creationTimestamp>2017-09-05T20:41:28Z</creationTimestamp>
    </item>
  </vpcEndpointSet>
</DescribeVpcEndpointsResponse>
```
<state>available</state>
<tagSet>
  <item>
    <key>Name</key>
    <value>TeamA</value>
  </item>
</tagSet>
<policyDocument>[
  {
    "Action": "*",
    "Effect": "Allow",
    "Principal": "*",
    "Resource": "*"
  }
]</policyDocument>
<routeTableIdSet/>
<dnsEntrySet>
  <item>
    <hostedZoneId>Z7HUB22UULQXV</hostedZoneId>
    <dnsName>vpce-0f89a33420c1931d7-bluzidnv.elasticloadbalancing.us-east-1.vpce.amazonaws.com</dnsName>
  </item>
  <item>
    <hostedZoneId>Z7HUB22UULQXV</hostedZoneId>
    <dnsName>vpce-0f89a33420c1931d7-bluzidnv-us-east-1b.elasticloadbalancing.us-east-1.vpce.amazonaws.com</dnsName>
  </item>
  <item>
    <hostedZoneId>Z7HUB22UULQXV</hostedZoneId>
    <dnsName>vpce-0f89a33420c1931d7-bluzidnv-us-east-1a.elasticloadbalancing.us-east-1.vpce.amazonaws.com</dnsName>
  </item>
</dnsEntrySet>
<serviceName>com.amazonaws.us-east-1.elasticloadbalancing</serviceName>
<privateDnsEnabled>false</privateDnsEnabled>
<groupSet>
  <item>
    <groupName>default</groupName>
    <groupId>sg-54e8bf31</groupId>
  </item>
</groupSet>
<vpcEndpointId>vpce-0f89a33420c1931d7</vpcEndpointId>
<subnetIdSet>
  <item>subnet-d6fca8d</item>
  <item>subnet-7b16de0c</item>
</subnetIdSet>
<networkInterfaceIdSet>
  <item>eni-2ec2b084</item>
</networkInterfaceIdSet>
<item>eni-1b4a65cf</item>
</networkInterfaceIdSet>
<vpcEndpointType>Interface</vpcEndpointType>
<vpcId>vpc-1a2b3c4d</vpcId>
<creationTimestamp>2017-09-05T17:55:27.583Z</creationTimestamp>
<state>available</state>
<tagSet>
  <item>
    <key>Name</key>
    <value>TeamA</value>
  </item>
</tagSet>
</item>
</vpcEndPointSet>
</DescribeVpcEndpointsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
See Also

- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeVpcEndpointServiceConfigurations

Describes the VPC endpoint service configurations in your account (your services).

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- service-name - The name of the service.
- service-id - The ID of the service.
- service-state - The state of the service (Pending | Available | Deleting | Deleted | Failed).
- supported-ip-address-types - The IP address type (ipv4 | ipv6).
- tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.

Type: Array of Filter objects

Required: No
MaxResults

The maximum number of results to return for the request in a single page. The remaining results of the initial request can be seen by sending another request with the returned NextToken value. This value can be between 5 and 1,000; if MaxResults is given a value larger than 1,000, only 1,000 results are returned.

Type: Integer

Required: No

NextToken

The token to retrieve the next page of results.

Type: String

Required: No

ServiceId.N

The IDs of the endpoint services.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String
serviceConfigurationSet

Information about the services.

Type: Array of ServiceConfiguration objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes all of your VPC endpoint service configurations.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpcEndpointServiceConfigurations
&AUTHPARAMS

Sample Response

<DescribeVpcEndpointServiceConfigurationsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>d5bad480-0167-4a7f-a1c6-2651example</requestId>
  <serviceConfigurationSet>
    <item>
      <serviceState>Available</serviceState>
      <serviceType>
        <item>
          <serviceType>Interface</serviceType>
        </item>
      </serviceType>
      <baseEndpointDnsNameSet>
        <item>vpce-svc-0799b7d1c483b0123.us-east-1.vpce.amazonaws.com</item>
      </baseEndpointDnsNameSet>
      <acceptanceRequired>true</acceptanceRequired>
      <availabilityZoneSet>
        <item>us-east-1d</item>
      </availabilityZoneSet>
      <serviceId>vpce-svc-0799b7d1c483b0123</serviceId>
    </item>
  </serviceConfigurationSet>
</DescribeVpcEndpointServiceConfigurationsResponse>
<serviceConfigurationSet>
  <item>
    <serviceState>Available</serviceState>
    <serviceType>
      <item>
        <serviceType>GatewayLoadBalancer</serviceType>
      </item>
      <acceptanceRequired>false</acceptanceRequired>
    </serviceType>
  </item>
</serviceConfigurationSet>
</DescribeVpcEndpointServiceConfigurationsResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeVpcEndpointServicePermissions

Describes the principals (service consumers) that are permitted to discover your VPC endpoint service.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- principal - The ARN of the principal.
- principal-type - The principal type (All | Service | OrganizationUnit | Account | User | Role).

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results of the initial request can be seen by sending another request with the returned NextToken value. This value can be between 5 and 1,000; if MaxResults is given a value larger than 1,000, only 1,000 results are returned.

Type: Integer

Required: No
**NextToken**

The token to retrieve the next page of results.

Type: String

Required: No

**ServiceId**

The ID of the service.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**allowedPrincipals**

Information about the allowed principals.

Type: Array of [AllowedPrincipal objects](#)

**nextToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
Examples

Example

This example describes the permissions for service vpce-svc-03d5ebb7d9579a123.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpcEndpointServicePermissions
&ServiceId=vpce-svc-03d5ebb7d9579a123
&AUTHPARAMS

Sample Response

<DescribeVpcEndpointServicePermissionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>5359c8a3-9151-4964-abed-b4422example</requestId>
  <allowedPrincipals>
    <item>
      <principal>arn:aws:iam::123456789012:root</principal>
      <principalType>Account</principalType>
    </item>
  </allowedPrincipals>
</DescribeVpcEndpointServicePermissionsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
• **AWS SDK for Ruby V3**
DescribeVpcEndpointServices

Describes available services to which you can create a VPC endpoint.

When the service provider and the consumer have different accounts in multiple Availability Zones, and the consumer views the VPC endpoint service information, the response only includes the common Availability Zones. For example, when the service provider account uses `us-east-1a` and `us-east-1c` and the consumer uses `us-east-1a` and `us-east-1b`, the response includes the VPC endpoint services in the common Availability Zone, `us-east-1a`.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**Filter**

The filters.

- **owner** - The ID or alias of the AWS account that owns the service.
- **service-name** - The name of the service.
- **service-type** - The type of service (`Interface` | `Gateway` | `GatewayLoadBalancer`).
- **supported-ip-address-types** - The IP address type (`ipv4` | `ipv6`).
- **tag:<key>** - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key `Owner` and the value `TeamA`, specify `tag:Owner` for the filter name and `TeamA` for the filter value.
- **tag-key** - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.
Type: Array of Filter objects

Required: No

MaxResults

The maximum number of items to return for this request. The request returns a token that you can specify in a subsequent call to get the next set of results.

Constraint: If the value is greater than 1,000, we return only 1,000 items.

Type: Integer

Required: No

NextToken

The token for the next set of items to return. (You received this token from a prior call.)

Type: String

Required: No

ServiceName.N

The service names.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use when requesting the next set of items. If there are no additional items to return, the string is empty.

Type: String

requestId

The ID of the request.

Type: String
serviceDetailSet

Information about the service.

Type: Array of ServiceDetail objects

serviceNameSet

The supported services.

Type: Array of strings

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example describes all available endpoint services.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpcEndpointServices
&AUTHPARAMS

Sample Response

<DescribeVpcEndpointServicesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>19a9ff46-7df6-49b8-9726-3df27527089d</requestId>
  <serviceNameSet>
    <item>com.amazonaws.us-east-1.dynamodb</item>
    <item>com.amazonaws.us-east-1.ec2</item>
    <item>com.amazonaws.us-east-1.ec2messages</item>
    <item>com.amazonaws.us-east-1.elasticloadbalancing</item>
    <item>com.amazonaws.us-east-1.kinesis-streams</item>
    <item>com.amazonaws.us-east-1.s3</item>
    <item>com.amazonaws.us-east-1.ssm</item>
  </serviceNameSet>
  <serviceDetailSet>
    <item>
      <owner>amazon</owner>
    </item>
  </serviceDetailSet>
</DescribeVpcEndpointServicesResponse>
<serviceType>
   <item>
      <serviceType>Gateway</serviceType>
   </item>
</serviceType>
<baseEndpointDnsNameSet>
   <item>dynamodb.us-east-1.amazonaws.com</item>
</baseEndpointDnsNameSet>
<acceptanceRequired>false</acceptanceRequired>
<availabilityZoneSet>
   <item>us-east-1a</item>
   <item>us-east-1b</item>
   <item>us-east-1c</item>
   <item>us-east-1d</item>
   <item>us-east-1e</item>
   <item>us-east-1f</item>
</availabilityZoneSet>
<serviceName>com.amazonaws.us-east-1.dynamodb</serviceName>
<vpcEndpointPolicySupported>true</vpcEndpointPolicySupported>
<tagSet>
   <item>
      <key>Name</key>
      <value>TeamA</value>
   </item>
</tagSet>
</item>
<owner>amazon</owner>
<serviceType>
   <item>
      <serviceType>Interface</serviceType>
   </item>
</serviceType>
<baseEndpointDnsNameSet>
   <item>ec2.us-east-1.vpce.amazonaws.com</item>
</baseEndpointDnsNameSet>
<acceptanceRequired>false</acceptanceRequired>
<privateDnsName>ec2.us-east-1.amazonaws.com</privateDnsName>
<availabilityZoneSet>
   <item>us-east-1a</item>
   <item>us-east-1b</item>
   <item>us-east-1c</item>
   <item>us-east-1d</item>
   <item>us-east-1e</item>
</availabilityZoneSet>
<item>us-east-1f</item>
</availabilityZoneSet>
<serviceName>com.amazonaws.us-east-1.ec2</serviceName>
<vpcEndpointPolicySupported>false</vpcEndpointPolicySupported>
<tagSet>
  <item>
    <key>Name</key>
    <value>TeamA</value>
  </item>
</tagSet>
</item>
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  <owner>amazon</owner>
  <serviceType>
    <item>
      <serviceType>Interface</serviceType>
    </item>
  </serviceType>
  <baseEndpointDnsNameSet>
    <item>ec2messages.us-east-1.vpce.amazonaws.com</item>
  </baseEndpointDnsNameSet>
  <acceptanceRequired>false</acceptanceRequired>
  <privateDnsName>ec2messages.us-east-1.amazonaws.com</privateDnsName>
  <availabilityZoneSet>
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    <item>us-east-1b</item>
    <item>us-east-1c</item>
    <item>us-east-1d</item>
    <item>us-east-1e</item>
    <item>us-east-1f</item>
  </availabilityZoneSet>
  <serviceName>com.amazonaws.us-east-1.ec2messages</serviceName>
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      <value>TeamA</value>
    </item>
  </tagSet>
</item>
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  <owner>amazon</owner>
  <serviceType>
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      <serviceType>Interface</serviceType>
    </item>
  </serviceType>
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  </baseEndpointDnsNameSet>
  <acceptanceRequired>false</acceptanceRequired>
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    <item>us-east-1b</item>
    <item>us-east-1c</item>
    <item>us-east-1d</item>
    <item>us-east-1e</item>
    <item>us-east-1f</item>
  </availabilityZoneSet>
  <serviceName>com.amazonaws.us-east-1.ec2messages</serviceName>
  <vpcEndpointPolicySupported>false</vpcEndpointPolicySupported>
  <tagSet>
    <item>
      <key>Name</key>
      <value>TeamA</value>
    </item>
  </tagSet>
</item>
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</item>
</serviceType>
<baseEndpointDnsNameSet>
  <item>elasticloadbalancing.us-east-1.vpce.amazonaws.com</item>
</baseEndpointDnsNameSet>
<acceptanceRequired>false</acceptanceRequired>
<privateDnsName>elasticloadbalancing.us-east-1.amazonaws.com</privateDnsName>
<availabilityZoneSet>
  <item>us-east-1a</item>
  <item>us-east-1b</item>
  <item>us-east-1c</item>
  <item>us-east-1d</item>
  <item>us-east-1e</item>
  <item>us-east-1f</item>
</availabilityZoneSet>
</item>
<item>
  <owner>amazon</owner>
  <serviceType>
    <item>
      <serviceType>Interface</serviceType>
    </item>
  </serviceType>
  <baseEndpointDnsNameSet>
    <item>kinesis.us-east-1.vpce.amazonaws.com</item>
  </baseEndpointDnsNameSet>
  <acceptanceRequired>false</acceptanceRequired>
  <privateDnsName>kinesis.us-east-1.amazonaws.com</privateDnsName>
  <availabilityZoneSet>
    <item>us-east-1a</item>
    <item>us-east-1b</item>
    <item>us-east-1c</item>
    <item>us-east-1d</item>
    <item>us-east-1e</item>
  </availabilityZoneSet>
</item>
<item>
  <key>Name</key>
  <value>TeamA</value>
</item>
</tagSet>
</item>
<item>
  <owner>amazon</owner>
  <serviceType>
    <item>
      <serviceType>Interface</serviceType>
    </item>
  </serviceType>
  <baseEndpointDnsNameSet>
    <item>kinesis.us-east-1.vpce.amazonaws.com</item>
  </baseEndpointDnsNameSet>
  <acceptanceRequired>false</acceptanceRequired>
  <privateDnsName>kinesis.us-east-1.amazonaws.com</privateDnsName>
  <availabilityZoneSet>
    <item>us-east-1a</item>
    <item>us-east-1b</item>
    <item>us-east-1c</item>
    <item>us-east-1d</item>
    <item>us-east-1e</item>
  </availabilityZoneSet>
</item>
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  <owner>amazon</owner>
  <serviceType>
    <item>
      <serviceType>Gateway</serviceType>
    </item>
  </serviceType>
  <baseEndpointDnsNameSet>
    <item>s3.us-east-1.amazonaws.com</item>
  </baseEndpointDnsNameSet>
  <acceptanceRequired>false</acceptanceRequired>
  <availabilityZoneSet>
    <item>us-east-1a</item>
    <item>us-east-1b</item>
    <item>us-east-1c</item>
    <item>us-east-1d</item>
    <item>us-east-1e</item>
    <item>us-east-1f</item>
  </availabilityZoneSet>
</item>

<item>
  <owner>amazon</owner>
  <serviceType>
    <item>
      <serviceType>Interface</serviceType>
    </item>
  </serviceType>
  <serviceName>com.amazonaws.us-east-1.s3</serviceName>
  <vpcEndpointPolicySupported>true</vpcEndpointPolicySupported>
  <tagSet>
    <item>
      <key>Name</key>
      <value>TeamA</value>
    </item>
  </tagSet>
</item>

Examples

API Version 2016-11-15
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](https://aws.amazon.com/console)
- [AWS SDK for .NET](https://aws.amazon.com/sdkfor-net)
- [AWS SDK for C++](https://aws.amazon.com/sdkfor-cpp)
- [AWS SDK for Go](https://aws.amazon.com/go-sdk)
- [AWS SDK for Java V2](https://aws.amazon.com/sdkfor-java)
- [AWS SDK for JavaScript V3](https://aws.amazon.com/sdkfor-javascript)
- [AWS SDK for PHP V3](https://aws.amazon.com/sdkfor-php)
- [AWS SDK for Python](https://aws.amazon.com/sdkfor-python)
• **AWS SDK for Ruby V3**
DescribeVpcPeeringConnections

Describes one or more of your VPC peering connections.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters.

- accepter-vpc-info.cidr-block - The IPv4 CIDR block of the accepter VPC.
- accepter-vpc-info.owner-id - The ID of the AWS account that owns the accepter VPC.
- accepter-vpc-info.vpc-id - The ID of the accepter VPC.
- expiration-time - The expiration date and time for the VPC peering connection.
- requester-vpc-info.cidr-block - The IPv4 CIDR block of the requester's VPC.
- requester-vpc-info.owner-id - The ID of the AWS account that owns the requester VPC.
- requester-vpc-info.vpc-id - The ID of the requester VPC.
- status-code - The status of the VPC peering connection (pending-acceptance | failed | expired | provisioning | active | deleting | deleted | rejected).
- status-message - A message that provides more information about the status of the VPC peering connection, if applicable.
- tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that...
have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.

- **tag-key** - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

- **vpc-peering-connection-id** - The ID of the VPC peering connection.

Type: Array of Filter objects

**MaxResults**

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see [Pagination](#Pagination).

Type: Integer


Required: No

**NextToken**

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

**VpcPeeringConnectionId.N**

The IDs of the VPC peering connections.

Default: Describes all your VPC peering connections.

Type: Array of strings

Required: No

**Response Elements**

The following elements are returned by the service.
nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

vpcPeeringConnectionSet

Information about the VPC peering connections.

Type: Array of VpcPeeringConnection objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example describes all of your VPC peering connections.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpcPeeringConnections
&AUTHPARAMS

Sample Response

:requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
<vpcPeeringConnectionSet>
  <item>
    <vpcPeeringConnectionId>pcx-111aaa22</vpcPeeringConnectionId>
  </item>
</vpcPeeringConnectionSet>
Example 2

This example describes all of your VPC peering connections that are in the pending-acceptance state.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpcPeeringConnections
&Filter.1.Name=status-code
&Filter.1.Value=pending-acceptance
&AUTHPARAMS

Example 3

This example describes all of your VPC peering connections that have the tag Name=Finance or Name=Accounts.
Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpcPeeringConnections
&Filter.1.Name=tag:Name
&Filter.1.Value.1=Finance
&Filter.1.Value.2=Accounts
&AUTHPARAMS
```

Example 4

This example describes all of the VPC peering connections for your specified VPC, vpc-1a2b3c4d.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpcPeeringConnections
&Filter.1.Name=requester-vpc-info.vpc-id
&Filter.1.Value=vpc-1a2b3c4d
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DescribeVpcs

Describes one or more of your VPCs.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**Filter.N**

The filters.

- **cidr** - The primary IPv4 CIDR block of the VPC. The CIDR block you specify must exactly match the VPC's CIDR block for information to be returned for the VPC. Must contain the slash followed by one or two digits (for example, `/28`).
- **cidr-block-association.cidr-block** - An IPv4 CIDR block associated with the VPC.
- **cidr-block-association.association-id** - The association ID for an IPv4 CIDR block associated with the VPC.
- **cidr-block-association.state** - The state of an IPv4 CIDR block associated with the VPC.
- **dhcp-options-id** - The ID of a set of DHCP options.
- **ipv6-cidr-block-association.ipv6-cidr-block** - An IPv6 CIDR block associated with the VPC.
- **ipv6-cidr-block-association.ipv6-pool** - The ID of the IPv6 address pool from which the IPv6 CIDR block is allocated.
- **ipv6-cidr-block-association.association-id** - The association ID for an IPv6 CIDR block associated with the VPC.
• ipv6-cidr-block-association.state - The state of an IPv6 CIDR block associated with the VPC.
• is-default - Indicates whether the VPC is the default VPC.
• owner-id - The ID of the AWS account that owns the VPC.
• state - The state of the VPC (pending | available).
• tag:<key> - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
• tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.
• vpc-id - The ID of the VPC.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer


Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

VpcId.N

The IDs of the VPCs.

Default: Describes all your VPCs.
Response Elements

The following elements are returned by the service.

nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

vpcSet

Information about one or more VPCs.

Type: Array of Vpc objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example describes the specified VPC.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpcs
&VpcId.1=vpc-081ec835f3EXAMPLE
&VpcId.2=vpc-0ee975135dEXAMPLE
Sample Response

```xml
  <requestId>8b67ac77-886c-4027-8f0e-d351f7fc9971</requestId>
  <vpcSet>
    <item>
      <vpcId>vpc-081ec835f3EXAMPLE</vpcId>
      <ownerId>111122223333</ownerId>
      <state>available</state>
      <cidrBlock>10.0.1.0/24</cidrBlock>
      <cidrBlockAssociationSet>
        <item>
          <cidrBlock>10.0.1.0/24</cidrBlock>
          <associationId>vpc-cidr-assoc-043f572c17EXAMPLE</associationId>
          <cidrBlockState>
            <state>associated</state>
          </cidrBlockState>
        </item>
      </cidrBlockAssociationSet>
      <dhcpOptionsId>dopt-19edf471</dhcpOptionsId>
      <tagSet>
        <item>
          <key>Name</key>
          <value>MyVPC</value>
        </item>
      </tagSet>
      <instanceTenancy>default</instanceTenancy>
      <isDefault>false</isDefault>
    </item>
    <item>
      <vpcId>vpc-0ee975135dEXAMPLE</vpcId>
      <ownerId>111122223333</ownerId>
      <state>available</state>
      <cidrBlock>10.0.0.0/16</cidrBlock>
      <cidrBlockAssociationSet>
        <item>
          <cidrBlock>10.0.0.0/16</cidrBlock>
          <associationId>vpc-cidr-assoc-067c3a01fEXAMPLE</associationId>
          <cidrBlockState>
            <state>associated</state>
          </cidrBlockState>
        </item>
      </cidrBlockAssociationSet>
    </item>
  </vpcSet>
</DescribeVpcsResponse>
```
Example 2

This example uses filters to describe any VPC you own that uses the set of DHCP options with the ID dopt-7a8b9c2d or dopt-2b2a3d3c and whose state is available.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpcs
&Filter.1.Name=dhcp-options-id
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeVpnConnections

Describes one or more of your VPN connections.

For more information, see [AWS Site-to-Site VPN](https://docs.aws.amazon.com/sitetosite/latest/dg/) in the *AWS Site-to-Site VPN User Guide*.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](https://docs.aws.amazon.com/AWSEC2/latest/APIReference/.apiref.html#tagging).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**Filter.N**

One or more filters.

- `customer-gateway-configuration` - The configuration information for the customer gateway.
- `customer-gateway-id` - The ID of a customer gateway associated with the VPN connection.
- `state` - The state of the VPN connection (`pending` | `available` | `deleting` | `deleted`).
- `option.static-routes-only` - Indicates whether the connection has static routes only. Used for devices that do not support Border Gateway Protocol (BGP).
- `route.destination-cidr-block` - The destination CIDR block. This corresponds to the subnet used in a customer data center.
- `bgp-asn` - The BGP Autonomous System Number (ASN) associated with a BGP device.
- `tag:<key>` - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key `Owner` and the value `TeamA`, specify `tag:Owner` for the filter name and `TeamA` for the filter value.
tag-key - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

type - The type of VPN connection. Currently the only supported type is ipsec.1.

vpn-connection-id - The ID of the VPN connection.

vpn-gateway-id - The ID of a virtual private gateway associated with the VPN connection.

transit-gateway-id - The ID of a transit gateway associated with the VPN connection.

Type: Array of Filter objects

Required: No

VpnConnectionId.N

One or more VPN connection IDs.

Default: Describes your VPN connections.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

vpnConnectionSet

Information about one or more VPN connections.

Type: Array of VpnConnection objects

Errors

For information about the errors that are common to all actions, see Common client error codes.
Examples

Example 1

This example describes the specified VPN connection. The response includes the customer gateway device configuration information. Because it’s a long set of information, we haven’t displayed it here. To see an example of the configuration information, see the Your customer gateway device.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpnConnections
&VpnConnectionId.1=vpn-1122334455aabbcc&AUTHPARAMS

Sample Response

<DescribeVpnConnectionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>6791f4b8-5717-4272-aed2-faa18example</requestId>
    <vpnConnectionSet>
        <item>
            <vpnConnectionId>vpn-1122334455aabbcc</vpnConnectionId>
            <state>available</state>
            <customerGatewayConfiguration>..Customer gateway configuration data in escaped XML format...</customerGatewayConfiguration>
            <type>ipsec.1</type>
            <customerGatewayId>cgw-01234567abcde1234</customerGatewayId>
            <tagSet>
                <item>
                    <key>Name</key>
                    <value>CanadaVPN</value>
                </item>
            </tagSet>
            <vgwTelemetry>
                <item>
                    <outsideIpAddress>203.0.113.3</outsideIpAddress>
                    <status>DOWN</status>
                    <lastStatusChange>2020-07-29T10:35:11.000Z</lastStatusChange>
                    <statusMessage></statusMessage>
                    <acceptedRouteCount>0</acceptedRouteCount>
                </item>
                <item>
                    <outsideIpAddress>203.0.113.5</outsideIpAddress>
                </item>
            </vgwTelemetry>
        </item>
    </vpnConnectionSet>
</DescribeVpnConnectionsResponse>
Example 2

This example describes any VPN connection you own that is associated with the customer gateway with ID cgw-b4dc3961, and whose state is either pending or available.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpnConnections
&Filter.1.Name=customer-gateway-id
&Filter.1.Value.1= cgw-b4dc3961
&Filter.2.Name=state
&Filter.2.Value.1= pending
&Filter.2.Value.2= available
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeVpnGateways

Describes one or more of your virtual private gateways.

For more information, see AWS Site-to-Site VPN in the AWS Site-to-Site VPN User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters.

- **amazon-side-asn** - The Autonomous System Number (ASN) for the Amazon side of the gateway.
- **attachment.state** - The current state of the attachment between the gateway and the VPC (attaching | attached | detaching | detached).
- **attachment.vpc-id** - The ID of an attached VPC.
- **availability-zone** - The Availability Zone for the virtual private gateway (if applicable).
- **state** - The state of the virtual private gateway (pending | available | deleting | deleted).
- **tag:<key>** - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
- **tag-key** - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.
• type - The type of virtual private gateway. Currently the only supported type is ipsec.1.
• vpn-gateway-id - The ID of the virtual private gateway.

Type: Array of Filter objects

Required: No

VpnGatewayId.N

One or more virtual private gateway IDs.

Default: Describes all your virtual private gateways.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

vpnGatewaySet

Information about one or more virtual private gateways.

Type: Array of VpnGateway objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example describes the specified virtual private gateway.
Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpnGateways
&VpnGatewayId.1=vgw-8db04f81
&AUTHPARAMS

Sample Response

<DescribeVpnGatewaysResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpnGatewaySet>
    <item>
      <vpnGatewayId>vgw-8db04f81</vpnGatewayId>
      <state>available</state>
      <type>ipsec.1</type>
      <attachments>
        <item>
          <vpcId>vpc-4c090c2a</vpcId>
          <state>attached</state>
        </item>
      </attachments>
      <amazonSideAsn>65001</amazonSideAsn>
      <tagSet>
        <item>
          <key>Name</key>
          <value>NYOffice</value>
        </item>
      </tagSet>
    </item>
  </vpnGatewaySet>
</DescribeVpnGatewaysResponse>

Example 2

This example uses filters to describe any virtual private gateway you own whose state is either pending or available.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpnGateways
&Filter.1.Name=state
&Filter.1.Value.1=pending
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DetachClassicLinkVpc

Note
This action is deprecated.

Unlinks (detaches) a linked EC2-Classic instance from a VPC. After the instance has been unlinked, the VPC security groups are no longer associated with it. An instance is automatically unlinked from a VPC when it's stopped.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

InstanceId

The ID of the instance to unlink from the VPC.

Type: String
Required: Yes

VpcId

The ID of the VPC to which the instance is linked.

Type: String
Required: Yes
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DetachInternetGateway

Detaches an internet gateway from a VPC, disabling connectivity between the internet and the VPC. The VPC must not contain any running instances with Elastic IP addresses or public IPv4 addresses.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InternetGatewayId

The ID of the internet gateway.

Type: String

Required: Yes

VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
**requestId**

The ID of the request.

Type: String

**return**

Is true if the request succeeds, and an error otherwise.

Type: Boolean

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

The example detaches the specified internet gateway from the specified VPC.

**Sample Request**

```plaintext
https://ec2.amazonaws.com/?Action=DetachInternetGateway
&InternetGatewayId=igw-eaad4883
&VpcId=vpc-11ad4878
&AUTHPARAMS
```

**Sample Response**

```xml
<DetachInternetGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DetachInternetGatewayResponse>
```

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• **AWS Command Line Interface**
• **AWS SDK for .NET**
• **AWS SDK for C++**
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for JavaScript V3**
• **AWS SDK for PHP V3**
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
DetachNetworkInterface

Detaches a network interface from an instance.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**AttachmentId**

The ID of the attachment.

Type: String

Required: Yes

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Force**

Specifies whether to force a detachment.

### Note

- Use the **Force** parameter only as a last resort to detach a network interface from a failed instance.

- If you use the **Force** parameter to detach a network interface, you might not be able to attach a different network interface to the same index on the instance without first stopping and starting the instance.

- If you force the detachment of a network interface, the [instance metadata](#) might not get updated. This means that the attributes associated with the detached network interface might not be reflected in the instance metadata.
Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example detaches the specified elastic network interface (ENI).

Sample Request

https://ec2.amazonaws.com/?Action=DetachNetworkInterface
&AttachmentId=eni-attach-d94b09b0
&AUTHPARAMS
Sample Response

```xml
  <requestId>ce540707-0635-46bc-97da-33a8a362a0e8</requestId>
  <return>true</return>
</DetachNetworkInterfaceResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DetachVerifiedAccessTrustProvider

Detaches the specified AWS Verified Access trust provider from the specified AWS Verified Access instance.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**ClientToken**

A unique, case-sensitive token that you provide to ensure idempotency of your modification request. For more information, see [Ensuring Idempotency](#).

Type: String

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**VerifiedAccessInstanceId**

The ID of the Verified Access instance.

Type: String

Required: Yes

**VerifiedAccessTrustProviderId**

The ID of the Verified Access trust provider.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

verifiedAccessInstance

Details about the Verified Access instance.

Type: VerifiedAccessInstance object

verifiedAccessTrustProvider

Details about the Verified Access trust provider.

Type: VerifiedAccessTrustProvider object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DetachVolume

Detaches an EBS volume from an instance. Make sure to unmount any file systems on the device within your operating system before detaching the volume. Failure to do so can result in the volume becoming stuck in the busy state while detaching. If this happens, detachment can be delayed indefinitely until you unmount the volume, force detachment, reboot the instance, or all three. If an EBS volume is the root device of an instance, it can't be detached while the instance is running. To detach the root volume, stop the instance first.

When a volume with an AWS Marketplace product code is detached from an instance, the product code is no longer associated with the instance.

For more information, see Detach an Amazon EBS volume in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Device

The device name.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Force

Forces detachment if the previous detachment attempt did not occur cleanly (for example, logging into an instance, unmounting the volume, and detaching normally). This option can
lead to data loss or a corrupted file system. Use this option only as a last resort to detach a volume from a failed instance. The instance won't have an opportunity to flush file system caches or file system metadata. If you use this option, you must perform file system check and repair procedures.

Type: Boolean

Required: No

**InstanceId**

The ID of the instance. If you are detaching a Multi-Attach enabled volume, you must specify an instance ID.

Type: String

Required: No

**VolumeId**

The ID of the volume.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**attachTime**

The time stamp when the attachment initiated.

Type: Timestamp

**deleteOnTermination**

Indicates whether the EBS volume is deleted on instance termination.

Type: Boolean

**device**

The device name.
Tipo: String

**instanceId**

El ID de la instancia.

Tipo: String

**requestId**

El ID de la solicitud.

Tipo: String

**status**

El estado de la conexión del volumen.

Tipo: String

Valores válidos: attaching | attached | detaching | detached | busy

**volumeId**

El ID del volumen.

Tipo: String

**Errors**

Para obtener información sobre los errores comunes a todas las acciones, consulte [Common client error codes](#).

**Examples**

**Example**

Este ejemplo detiene el volumen `vol-1234567890abcdef0`.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=DetachVolume
&VolumeId=vol-1234567890abcdef0
&AUTHPARAMS
```
Sample Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeId>vol-1234567890abcdef0</volumeId>
  <instanceId>i-1234567890abcdef0</instanceId>
  <device>/dev/sdh</device>
  <status>detaching</status>
  <attachTime>YYYY-MM-DDTHH:MM:SS.000Z</attachTime>
</DetachVolumeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DetachVpnGateway

Detaches a virtual private gateway from a VPC. You do this if you're planning to turn off the VPC and not use it anymore. You can confirm a virtual private gateway has been completely detached from a VPC by describing the virtual private gateway (any attachments to the virtual private gateway are also described).

You must wait for the attachment's state to switch to detached before you can delete the VPC or attach a different VPC to the virtual private gateway.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VpcId

The ID of the VPC.

Type: String

Required: Yes

VpnGatewayId

The ID of the virtual private gateway.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example detaches the specified virtual private gateway from the specified VPC.

Sample Request

https://ec2.amazonaws.com/?Action=DetachVpnGateway
&VpnGatewayId=vgw-8db04f81
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS

Sample Response

<DetachVpnGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DetachVpnGatewayResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DisableAddressTransfer

Disables Elastic IP address transfer. For more information, see Transfer Elastic IP addresses in the Amazon Virtual Private Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AllocationId

The allocation ID of an Elastic IP address.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

addressTransfer

An Elastic IP address transfer.

Type: AddressTransfer object

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DisableAwsNetworkPerformanceMetricSubscription

Disables Infrastructure Performance metric subscriptions.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Destination

The target Region or Availability Zone that the metric subscription is disabled for. For example, eu-north-1.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Metric

The metric used for the disabled subscription.

Type: String

Valid Values: aggregate-latency

Required: No

Source

The source Region or Availability Zone that the metric subscription is disabled for. For example, us-east-1.

Type: String
**Statistic**

The statistic used for the disabled subscription.

Type: String

Valid Values: p50

**Response Elements**

The following elements are returned by the service.

**output**

Indicates whether the unsubscribe action was successful.

Type: Boolean

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
See Also

- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DisableEbsEncryptionByDefault

Disables EBS encryption by default for your account in the current Region.

After you disable encryption by default, you can still create encrypted volumes by enabling encryption when you create each volume.

Disabling encryption by default does not change the encryption status of your existing volumes.

For more information, see Amazon EBS encryption in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

ebsEncryptionByDefault

The updated status of encryption by default.

Type: Boolean

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DisableFastLaunch

Discontinue Windows fast launch for a Windows AMI, and clean up existing pre-provisioned snapshots. After you disable Windows fast launch, the AMI uses the standard launch process for each new instance. Amazon EC2 must remove all pre-provisioned snapshots before you can enable Windows fast launch again.

Note
You can only change these settings for Windows AMIs that you own or that have been shared with you.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Force

Forces the image settings to turn off Windows fast launch for your Windows AMI. This parameter overrides any errors that are encountered while cleaning up resources in your account.

Type: Boolean

Required: No

ImageId

Specify the ID of the image for which to disable Windows fast launch.
Response Elements

The following elements are returned by the service.

**imageId**

The ID of the image for which Windows fast launch was disabled.

Type: String

**launchTemplate**

The launch template that was used to launch Windows instances from pre-provisioned snapshots.

Type: FastLaunchLaunchTemplateSpecificationResponse object

**maxParallelLaunches**

The maximum number of instances that Amazon EC2 can launch at the same time to create pre-provisioned snapshots for Windows fast launch.

Type: Integer

**ownerId**

The owner of the Windows AMI for which Windows fast launch was disabled.

Type: String

**requestId**

The ID of the request.

Type: String

**resourceType**

The pre-provisioning resource type that must be cleaned after turning off Windows fast launch for the Windows AMI. Supported values include: snapshot.

Type: String
Valid Values: snapshot

**snapshotConfiguration**

Parameters that were used for Windows fast launch for the Windows AMI before Windows fast launch was disabled. This informs the clean-up process.

Type: [FastLaunchSnapshotConfigurationResponse](#) object

**state**

The current state of Windows fast launch for the specified Windows AMI.

Type: String

Valid Values: enabling | enabling-failed | enabled | enabled-failed | disabling | disabling-failed

**stateTransitionReason**

The reason that the state changed for Windows fast launch for the Windows AMI.

Type: String

**stateTransitionTime**

The time that the state changed for Windows fast launch for the Windows AMI.

Type: Timestamp

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DisableFastSnapshotRestores

Disables fast snapshot restores for the specified snapshots in the specified Availability Zones.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AvailabilityZone.N

One or more Availability Zones. For example, us-east-2a.

Type: Array of strings

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

SourceSnapshotId.N

The IDs of one or more snapshots. For example, snap-1234567890abcdef0.

Type: Array of strings

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.
Type: String

**successful**

Information about the snapshots for which fast snapshot restores were successfully disabled.

Type: Array of [DisableFastSnapshotRestoreSuccessItem](#) objects

**unsuccessful**

Information about the snapshots for which fast snapshot restores could not be disabled.

Type: Array of [DisableFastSnapshotRestoreErrorItem](#) objects

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DisableImage

Sets the AMI state to disabled and removes all launch permissions from the AMI. A disabled AMI can't be used for instance launches.

A disabled AMI can't be shared. If an AMI was public or previously shared, it is made private. If an AMI was shared with an AWS account, organization, or Organizational Unit, they lose access to the disabled AMI.

A disabled AMI does not appear in DescribeImages API calls by default.

Only the AMI owner can disable an AMI.

You can re-enable a disabled AMI using EnableImage.

For more information, see Disable an AMI in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ImageId

The ID of the AMI.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
**requestId**

The ID of the request.

Type: String

**return**

Returns `true` if the request succeeds; otherwise, it returns an error.

Type: Boolean

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example disables the specified AMI.

**Sample Request**

```url
https://ec2.amazonaws.com/?Action=DisableImage
&ImageId=ami-0123456789EXAMPLE
&AUTHPARAMS
```

**Sample Response**

```
  <requestId>11aabb229-4eac-35bd-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DisableImageResponse>
```

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
See Also

- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DisableImageBlockPublicAccess

Disables block public access for AMIs at the account level in the specified AWS Region. This removes the block public access restriction from your account. With the restriction removed, you can publicly share your AMIs in the specified AWS Region.

The API can take up to 10 minutes to configure this setting. During this time, if you run GetImageBlockPublicAccessState, the response will be block-new-sharing. When the API has completed the configuration, the response will be unblocked.

For more information, see Block public access to your AMIs in the Amazon EC2 User Guide.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

Response Elements

The following elements are returned by the service.

imageBlockPublicAccessState

Returns unblocked if the request succeeds; otherwise, it returns an error.

Type: String
Valid Values: unblocked

requestId

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example disables block public access for AMIs at the account level in the specified Region to allow users in your account to publicly share your AMIs in the specified Region.

Sample Request

https://ec2.amazonaws.com/?Action=DisableImageBlockPublicAccess
&Region=us-east-1
&AUTHPARAMS

Sample Response

  <requestId>11aabb229-4eac-35bd-99ed-be587EXAMPLE</requestId>
  <return>unblocked</return>
</DisableImageBlockPublicAccessResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DisableImageDeprecation

Cancels the deprecation of the specified AMI.

For more information, see Deprecate an AMI in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ImageId

The ID of the AMI.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns true if the request succeeds; otherwise, it returns an error.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example cancels the planned deprecation of the specified AMI.

Sample Request

https://ec2.amazonaws.com/?Action=DisableImageDeprecation
&ImageId=ami-0123456789EXAMPLE
&AUTHPARAMS

Sample Response

  <requestId>11aabb229-4eac-35bd-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DisableImageDeprecationResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
DisableIpamOrganizationAdminAccount

Disable the IPAM account. For more information, see Enable integration with AWS Organizations in the Amazon VPC IPAM User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DelegatedAdminAccountId

The AWS Organizations member account ID that you want to disable as IPAM account.

Type: String

Required: Yes

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

success

The result of disabling the IPAM account.

Type: Boolean
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DisableSerialConsoleAccess

Disables access to the EC2 serial console of all instances for your account. By default, access to the EC2 serial console is disabled for your account. For more information, see Manage account access to the EC2 serial console in the Amazon EC2 User Guide.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

serialConsoleAccessEnabled

If true, access to the EC2 serial console of all instances is enabled for your account. If false, access to the EC2 serial console of all instances is disabled for your account.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DisableSnapshotBlockPublicAccess

Disables the block public access for snapshots setting at the account level for the specified AWS Region. After you disable block public access for snapshots in a Region, users can publicly share snapshots in that Region.

If block public access is enabled in block-all-sharing mode, and you disable block public access, all snapshots that were previously publicly shared are no longer treated as private and they become publicly accessible again.

For more information, see Block public access for snapshots in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

state

Returns unblocked if the request succeeds.
Type: String

Valid Values: block-all-sharing | block-new-sharing | unblocked

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DisableTransitGatewayRouteTablePropagation

Disables the specified resource attachment from propagating routes to the specified propagation route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

TransitGatewayAttachmentId

The ID of the attachment.

Type: String
Required: No

TransitGatewayRouteTableAnnouncementId

The ID of the route table announcement.

Type: String
Required: No

TransitGatewayRouteTableId

The ID of the propagation route table.

Type: String
Required: Yes
Response Elements

The following elements are returned by the service.

**propagation**

Information about route propagation.

Type: `TransitGatewayPropagation` object

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DisableVgwRoutePropagation

Disables a virtual private gateway (VGW) from propagating routes to a specified route table of a VPC.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

GatewayId

The ID of the virtual private gateway.

Type: String

Required: Yes

RouteTableId

The ID of the route table.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.
Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example disables the virtual private gateway vgw-d8e09e8a from automatically propagating routes to the route table with ID rtb-c98a35a0.

Sample Request

```
https://ec2.amazonaws.com/?Action=DisableVgwRoutePropagationResponse
&RouteTableId=rtb-c98a35a0
&GatewayId=vgw-d8e09e8a
&AUTHPARAMS
```

Sample Response

```
  <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId>
  <return>true</return>
</DisableVgwRoutePropagationResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DisableVpcClassicLink

Note

This action is deprecated.

Disables ClassicLink for a VPC. You cannot disable ClassicLink for a VPC that has EC2-Classic instances linked to it.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.
Type: String

return

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DisableVpcClassicLinkDnsSupport

Note

This action is deprecated.

Disables ClassicLink DNS support for a VPC. If disabled, DNS hostnames resolve to public IP addresses when addressed between a linked EC2-Classic instance and instances in the VPC to which it's linked.

You must specify a VPC ID in the request.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

VpcId

The ID of the VPC.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example disables ClassicLink DNS support for vpc-8888888.

Sample Request

https://ec2.amazonaws.com/?Action=DisableVpcClassicLinkDnsSupport
&VpcId=vpc-8888888
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DisableVpcClassicLinkDnsSupportResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DisassociateAddress

Disassociates an Elastic IP address from the instance or network interface it's associated with.

This is an idempotent operation. If you perform the operation more than once, Amazon EC2 doesn't return an error.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AssociationId

The association ID. This parameter is required.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

PublicIp

Deprecated.

Type: String

Required: No

Response Elements

The following elements are returned by the service.
**requestId**

The ID of the request.

Type: String

**return**

Is true if the request succeeds, and an error otherwise.

Type: Boolean

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example disassociates the specified Elastic IP address from the instance to which it is associated.

**Sample Request**

```plaintext
https://ec2.amazonaws.com/?Action=DisassociateAddress
&AssociationId=eipassoc-aa7486c3

See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DisassociateClientVpnTargetNetwork

Disassociates a target network from the specified Client VPN endpoint. When you disassociate the last target network from a Client VPN, the following happens:

- The route that was automatically added for the VPC is deleted
- All active client connections are terminated
- New client connections are disallowed
- The Client VPN endpoint's status changes to pending-associate

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AssociationId

The ID of the target network association.

Type: String

Required: Yes

ClientVpnEndpointId

The ID of the Client VPN endpoint from which to disassociate the target network.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
Response Elements

The following elements are returned by the service.

**associationId**

The ID of the target network association.

Type: String

**requestId**

The ID of the request.

Type: String

**status**

The current state of the target network association.

Type: [AssociationStatus](#) object

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

**Example**

This example disassociates a target network from a Client VPN endpoint.

**Sample Request**

```plaintext
https://ec2.amazonaws.com/?Action=DisassociateClientVpnTargetNetwork
&ClientVpnEndpointId=cvpn-endpoint-00c5d11fc4EXAMPLE
&AssociationId=cvpn-assoc-0bc4bd8cecEXAMPLE
&AUTHPARAMS
```

**Sample Response**

```xml
<DisassociateClientVpnTargetNetworkResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">"
<requestId>61312648-93ec-4a86-a1d1-098c9EXAMPLE</requestId>
<status>
  <code>disassociating</code>
</status>
<associationId>cvpn-assoc-0bc4bd8cecEXAMPLE</associationId>
</DisassociateClientVpnTargetNetworkResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DisassociateEnclaveCertificateIamRole

Disassociates an IAM role from an AWS Certificate Manager (ACM) certificate. Disassociating an IAM role from an ACM certificate removes the Amazon S3 object that contains the certificate, certificate chain, and encrypted private key from the Amazon S3 bucket. It also revokes the IAM role's permission to use the KMS key used to encrypt the private key. This effectively revokes the role's permission to use the certificate.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CertificateArn

The ARN of the ACM certificate from which to disassociate the IAM role.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

RoleArn

The ARN of the IAM role to disassociate.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
**requestId**

The ID of the request.

Type: String

**return**

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DisassociateIamInstanceProfile

Disassociates an IAM instance profile from a running or stopped instance.

Use [DescribeIamInstanceProfileAssociations](#) to get the association ID.

**Request Parameters**

For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**AssociationId**

The ID of the IAM instance profile association.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**iamInstanceProfileAssociation**

Information about the IAM instance profile association.

Type: [iamInstanceProfileAssociation](#) object

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
Examples

Example

This example disassociates the specified IAM instance profile association.

Sample Request

https://ec2.amazonaws.com/?Action=DisassociateIamInstanceProfile
&AssociationId=iip-assoc-08049da59357d598c
&AUTHPARAMS

Sample Response

<DisassociateIamInstanceProfileResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>4840f938-fc84-4791-8ae5-example</requestId>
  <iamInstanceProfileAssociation>
    <associationId>iip-assoc-08049da59357d598c</associationId>
    <arn>arn:aws:iam::123456789012:instance-profile/AdminProfile</arn>
    <id>AIPAISIVHMFFY2DKV5Y</id>
  </iamInstanceProfile>
  <instanceId>i-1234567890abcdef0</instanceId>
  <state>disassociating</state>
</iamInstanceProfileAssociation>
</DisassociateIamInstanceProfileResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DisassociateInstanceEventWindow

Disassociates one or more targets from an event window.

For more information, see Define event windows for scheduled events in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AssociationTarget

One or more targets to disassociate from the specified event window.

Type: InstanceEventWindowDisassociationRequest object

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceEventWindowId

The ID of the event window.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
instanceEventWindow

Information about the event window.

Type: InstanceEventWindow object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DisassociateIpamByoasn

Remove the association between your Autonomous System Number (ASN) and your BYOIP CIDR. You may want to use this action to disassociate an ASN from a CIDR or if you want to swap ASNs. For more information, see Tutorial: Bring your ASN to IPAM in the Amazon VPC IPAM guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Asn

A public 2-byte or 4-byte ASN.

Type: String

Required: Yes

Cidr

A BYOIP CIDR.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.
asnAssociation

An ASN and BYOIP CIDR association.

Type: AsnAssociation object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DisassociateIpamResourceDiscovery

Disassociates a resource discovery from an Amazon VPC IPAM. A resource discovery is an IPAM component that enables IPAM to manage and monitor resources that belong to the owning account.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**IpamResourceDiscoveryAssociationId**

A resource discovery association ID.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**ipamResourceDiscoveryAssociation**

A resource discovery association.

Type: `IpamResourceDiscoveryAssociation` object

**requestId**

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DisassociateNatGatewayAddress

Disassociates secondary Elastic IP addresses (EIPs) from a public NAT gateway. You cannot disassociate your primary EIP. For more information, see Edit secondary IP address associations in the Amazon VPC User Guide.

While disassociating is in progress, you cannot associate/disassociate additional EIPs while the connections are being drained. You are, however, allowed to delete the NAT gateway.

An EIP is released only at the end of MaxDrainDurationSeconds. It stays associated and supports the existing connections but does not support any new connections (new connections are distributed across the remaining associated EIPs). As the existing connections drain out, the EIPs (and the corresponding private IP addresses mapped to them) are released.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**AssociationId.N**

The association IDs of EIPs that have been associated with the NAT gateway.

Type: Array of strings

Required: Yes

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**MaxDrainDurationSeconds**

The maximum amount of time to wait (in seconds) before forcibly releasing the IP addresses if connections are still in progress. Default value is 350 seconds.

Type: Integer
Valid Range: Minimum value of 1. Maximum value of 4000.

Required: No

NatGatewayId

The ID of the NAT gateway.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

natGatewayAddressSet

Information about the NAT gateway IP addresses.

Type: Array of NatGatewayAddress objects

natGatewayId

The ID of the NAT gateway.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DisassociateRouteTable

Disassociates a subnet or gateway from a route table.

After you perform this action, the subnet no longer uses the routes in the route table. Instead, it uses the routes in the VPC's main route table. For more information about route tables, see Route tables in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AssociationId

The association ID representing the current association between the route table and subnet or gateway.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String
Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example disassociates the specified route table from the subnet it's associated to.

Sample Request

https://ec2.amazonaws.com/?Action=DisassociateRouteTable
&AssociationId=rtbassoc-0531ae3257956bdfe
&AUTHPARAMS

Sample Response

<DisassociateRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DisassociateRouteTableResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DisassociateSubnetCidrBlock

Disassociates a CIDR block from a subnet. Currently, you can disassociate an IPv6 CIDR block only. You must detach or delete all gateways and resources that are associated with the CIDR block before you can disassociate it.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AssociationId

The association ID for the CIDR block.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

ipv6CidrBlockAssociation

Information about the IPv6 CIDR block association.

Type: SubnetIpv6CidrBlockAssociation object

requestId

The ID of the request.

Type: String

subnetId

The ID of the subnet.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example disassociates the IPv6 CIDR block from the subnet.

Sample Request

https://ec2.amazonaws.com/?Action=DisassociateSubnetCidrBlock
&AssociationId=subnet-cidr-assoc-3aa54053
&AUTHPARAMS

Sample Response

<DisassociateSubnetCidrBlockResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <subnetId>subnet-5f46ec3b</subnetId>
  <ipv6CidrBlockAssociation>
    <ipv6CidrBlock>2001:db8:1234:1a00::/64</ipv6CidrBlock>
    <ipv6CidrBlockState>
      <state>disassociating</state>
    </ipv6CidrBlockState>
  </ipv6CidrBlockAssociation>
</DisassociateSubnetCidrBlockResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DisassociateTransitGatewayMulticastDomain

Disassociates the specified subnets from the transit gateway multicast domain.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

SubnetIds.N

The IDs of the subnets;

Type: Array of strings

Required: Yes

TransitGatewayAttachmentId

The ID of the attachment.

Type: String

Required: Yes

TransitGatewayMulticastDomainId

The ID of the transit gateway multicast domain.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

associations

Information about the association.

Type: TransitGatewayMulticastDomainAssociations object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example disassociates the subnet subnet-000de86e3bEXAMPLE from the multicast domain tgw-mcast-domain-0c4905cef7EXAMPLE.

Sample Request

https://ec2.amazonaws.com/?Action=DisassociateTransitGatewayMulticastDomain
&TransitGatewayAttachmentId=tgw-attach-070e571cd1EXAMPLE
&SubnetId=subnet-000de86e3bEXAMPLE
&TransitGatewayMulticastDomainId=tgw-mcast-domain-0c4905cef7EXAMPLE
&AUTHPARAMS

Sample Response

  <requestId>0008db4a-b98a-46f7-b047-e262aEXAMPLE</requestId>
  <associations>
<resourceId>vpc-7EXAMPLE</resourceId>
<resourceType>vpc</resourceType>
<subnets>
  <item>
    <state>disassociating</state>
    <subnetId>subnet-000de86e3bEXAMPLE</subnetId>
  </item>
</subnets>
<transitGatewayAttachmentId>tgw-attach-070e571cd1EXAMPLE</transitGatewayAttachmentId>
<transitGatewayMulticastDomainId>tgw-mcast-domain-0c4905cef7EXAMPLE</transitGatewayMulticastDomainId>
</associations>
</DisassociateTransitGatewayMulticastDomainResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DisassociateTransitGatewayPolicyTable

Removes the association between an an attachment and a policy table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TransitGatewayAttachmentId

The ID of the transit gateway attachment to disassociate from the policy table.

Type: String

Required: Yes

TransitGatewayPolicyTableId

The ID of the disassociated policy table.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

association

Returns details about the transit gateway policy table disassociation.
Type: TransitGatewayPolicyTableAssociation object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DisassociateTransitGatewayRouteTable

Disassociates a resource attachment from a transit gateway route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

*Type:* Boolean

*Required:* No

**TransitGatewayAttachmentId**

The ID of the attachment.

*Type:* String

*Required:* Yes

**TransitGatewayRouteTableId**

The ID of the transit gateway route table.

*Type:* String

*Required:* Yes

Response Elements

The following elements are returned by the service.

**association**

Information about the association.
Type: `TransitGatewayAssociation` object

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
DisassociateTrunkInterface

Removes an association between a branch network interface with a trunk network interface.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AssociationId

The ID of the association

Type: String

Required: Yes

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to Ensure Idempotency.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

clientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to Ensure Idempotency.
Type: String

requestId

The ID of the request.

Type: String

return

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DisassociateVpcCidrBlock

Disassociates a CIDR block from a VPC. To disassociate the CIDR block, you must specify its association ID. You can get the association ID by using `DescribeVpcs`. You must detach or delete all gateways and resources that are associated with the CIDR block before you can disassociate it.

You cannot disassociate the CIDR block with which you originally created the VPC (the primary CIDR block).

**Request Parameters**

For more information about required and optional parameters that are common to all actions, see `Common Query Parameters`.

**AssociationId**

The association ID for the CIDR block.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**cidrBlockAssociation**

Information about the IPv4 CIDR block association.

Type: `VpcCidrBlockAssociation` object

**ipv6CidrBlockAssociation**

Information about the IPv6 CIDR block association.

Type: `VpcIpv6CidrBlockAssociation` object

**requestId**

The ID of the request.

Type: String
vpCId

The ID of the VPC.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example disassociates the IPv6 CIDR block from the VPC.

Sample Request

https://ec2.amazonaws.com/?Action=DisassociateVpcCidrBlock
&AssociationId=vpc-cidr-assoc-e2a5408b
&AUTHPARAMS

Sample Response

<DisassociateVpcCidrBlockResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <ipv6CidrBlockAssociation>
    <ipv6CidrBlock>2001:db8:1234:1a00::/56</ipv6CidrBlock>
    <ipv6CidrBlockState>
      <state>disassociating</state>
    </ipv6CidrBlockState>
    <associationId>vpc-cidr-assoc-e2a5408b</associationId>
  </ipv6CidrBlockAssociation>
  <vpcId>vpc-a034d6c4</vpcId>
</DisassociateVpcCidrBlockResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
EnableAddressTransfer

Enables Elastic IP address transfer. For more information, see Transfer Elastic IP addresses in the Amazon Virtual Private Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AllocationId

The allocation ID of an Elastic IP address.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TransferAccountId

The ID of the account that you want to transfer the Elastic IP address to.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

addressTransfer

An Elastic IP address transfer.
Type: `AddressTransfer` object

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
EnableAwsNetworkPerformanceMetricSubscription

Enables Infrastructure Performance subscriptions.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Destination

The target Region (like us-east-2) or Availability Zone ID (like use2-az2) that the metric subscription is enabled for. If you use Availability Zone IDs, the Source and Destination Availability Zones must be in the same Region.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Metric

The metric used for the enabled subscription.

Type: String

Valid Values: aggregate-latency

Required: No

Source

The source Region (like us-east-1) or Availability Zone ID (like use1-az1) that the metric subscription is enabled for. If you use Availability Zone IDs, the Source and Destination Availability Zones must be in the same Region.
Type: String
Required: No

**Statistic**

The statistic used for the enabled subscription.

Type: String
Valid Values: p50
Required: No

**Response Elements**

The following elements are returned by the service.

**output**

Indicates whether the subscribe action was successful.

Type: Boolean

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
See Also

- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
EnableEbsEncryptionByDefault

Enables EBS encryption by default for your account in the current Region.

After you enable encryption by default, the EBS volumes that you create are always encrypted, either using the default KMS key or the KMS key that you specified when you created each volume. For more information, see Amazon EBS encryption in the Amazon Elastic Compute Cloud User Guide.

You can specify the default KMS key for encryption by default using ModifyEbsDefaultKmsKeyId or ResetEbsDefaultKmsKeyId.

Enabling encryption by default has no effect on the encryption status of your existing volumes.

After you enable encryption by default, you can no longer launch instances using instance types that do not support encryption. For more information, see Supported instance types.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

ebsEncryptionByDefault

The updated status of encryption by default.

Type: Boolean
requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
EnableFastLaunch

When you enable Windows fast launch for a Windows AMI, images are pre-provisioned, using snapshots to launch instances up to 65% faster. To create the optimized Windows image, Amazon EC2 launches an instance and runs through Sysprep steps, rebooting as required. Then it creates a set of reserved snapshots that are used for subsequent launches. The reserved snapshots are automatically replenished as they are used, depending on your settings for launch frequency.

Note

You can only change these settings for Windows AMIs that you own or that have been shared with you.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ImageId

Specify the ID of the image for which to enable Windows fast launch.

Type: String

Required: Yes

LaunchTemplate

The launch template to use when launching Windows instances from pre-provisioned snapshots. Launch template parameters can include either the name or ID of the launch template, but not both.
Type: FastLaunchLaunchTemplateSpecificationRequest object

Required: No

MaxParallelLaunches

The maximum number of instances that Amazon EC2 can launch at the same time to create pre-provisioned snapshots for Windows fast launch. Value must be 6 or greater.

Type: Integer

Required: No

ResourceType

The type of resource to use for pre-provisioning the AMI for Windows fast launch. Supported values include: snapshot, which is the default value.

Type: String

Required: No

SnapshotConfiguration

Configuration settings for creating and managing the snapshots that are used for pre-provisioning the AMI for Windows fast launch. The associated ResourceType must be snapshot.

Type: FastLaunchSnapshotConfigurationRequest object

Required: No

Response Elements

The following elements are returned by the service.

imageId

The image ID that identifies the AMI for which Windows fast launch was enabled.

Type: String

launchTemplate

The launch template that is used when launching Windows instances from pre-provisioned snapshots.
Type: FastLaunchLaunchTemplateSpecificationResponse object

**maxParallelLaunches**

The maximum number of instances that Amazon EC2 can launch at the same time to create pre-provisioned snapshots for Windows fast launch.

Type: Integer

**ownerId**

The owner ID for the AMI for which Windows fast launch was enabled.

Type: String

**requestId**

The ID of the request.

Type: String

**resourceType**

The type of resource that was defined for pre-provisioning the AMI for Windows fast launch.

Type: String

Valid Values: snapshot

**snapshotConfiguration**

Settings to create and manage the pre-provisioned snapshots that Amazon EC2 uses for faster launches from the Windows AMI. This property is returned when the associated resourceType is snapshot.

Type: FastLaunchSnapshotConfigurationResponse object

**state**

The current state of Windows fast launch for the specified AMI.

Type: String

Valid Values: enabling | enabling-failed | enabled | enabled-failed | disabling | disabling-failed
**stateTransitionReason**

The reason that the state changed for Windows fast launch for the AMI.

Type: String

**stateTransitionTime**

The time that the state changed for Windows fast launch for the AMI.

Type: Timestamp

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
EnableFastSnapshotRestores

Enables fast snapshot restores for the specified snapshots in the specified Availability Zones.

You get the full benefit of fast snapshot restores after they enter the enabled state. To get the current state of fast snapshot restores, use DescribeFastSnapshotRestores. To disable fast snapshot restores, use DisableFastSnapshotRestores.

For more information, see Amazon EBS fast snapshot restore in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AvailabilityZone.N

One or more Availability Zones. For example, us-east-2a.

Type: Array of strings

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

SourceSnapshotId.N

The IDs of one or more snapshots. For example, snap-1234567890abcdef0. You can specify a snapshot that was shared with you from another AWS account.

Type: Array of strings

Required: Yes
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

successful

Information about the snapshots for which fast snapshot restores were successfully enabled.

Type: Array of EnableFastSnapshotRestoreSuccessItem objects

unsuccessful

Information about the snapshots for which fast snapshot restores could not be enabled.

Type: Array of EnableFastSnapshotRestoreErrorItem objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
EnableImage

Re-enables a disabled AMI. The re-enabled AMI is marked as available and can be used for instance launches, appears in describe operations, and can be shared. AWS accounts, organizations, and Organizational Units that lost access to the AMI when it was disabled do not regain access automatically. Once the AMI is available, it can be shared with them again.

Only the AMI owner can re-enable a disabled AMI.

For more information, see Disable an AMI in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ImageId

The ID of the AMI.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.
Type: String

return

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example enables the specified AMI.

Sample Request

https://ec2.amazonaws.com/?Action=EnableImage
&ImageId=ami-0123456789EXAMPLE
&AUTHPARAMS

Sample Response

  <requestId>11aabb229-4eac-35bd-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</EnableImageResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
EnableImageBlockPublicAccess

Enables *block public access for AMIs* at the account level in the specified AWS Region. This prevents the public sharing of your AMIs. However, if you already have public AMIs, they will remain publicly available.

The API can take up to 10 minutes to configure this setting. During this time, if you run `GetImageBlockPublicAccessState`, the response will be unblocked. When the API has completed the configuration, the response will be *block-new-sharing*.

For more information, see [Block public access to your AMIs](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/block-public-access.html) in the *Amazon EC2 User Guide*.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](https).

**DryRun**

- Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is *DryRunOperation*. Otherwise, it is *UnauthorizedOperation*.

  Type: Boolean

  Required: No

**ImageBlockPublicAccessState**

- Specify *block-new-sharing* to enable block public access for AMIs at the account level in the specified Region. This will block any attempt to publicly share your AMIs in the specified Region.

  Type: String

  Valid Values: *block-new-sharing*

  Required: Yes

**Response Elements**

The following elements are returned by the service.
imageBlockPublicAccessState

Returns block-new-sharing if the request succeeds; otherwise, it returns an error.

Type: String

Valid Values: block-new-sharing

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example enables block public access for AMIs at the account level in the specified Region to prevent users in your account from publicly sharing your AMIs in the specified Region. If you already have public AMIs, they will remain publicly available.

Sample Request

```
```

Sample Response

```
  <requestId>11aabb229-4eac-35bd-99ed-be587EXAMPLE</requestId>
  <return>block-new-sharing</return>
</EnableImageBlockPublicAccessResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
EnableImageDeprecation

Enables deprecation of the specified AMI at the specified date and time.

For more information, see Deprecate an AMI in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DeprecateAt

The date and time to deprecate the AMI, in UTC, in the following format: YYYY-MM-DDTHH:MM:SSZ. If you specify a value for seconds, Amazon EC2 rounds the seconds to the nearest minute.

You can’t specify a date in the past. The upper limit for DeprecateAt is 10 years from now, except for public AMIs, where the upper limit is 2 years from the creation date.

Type: Timestamp

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ImageId

The ID of the AMI.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example deprecates the specified AMI at the specified date and time. If you specify a value for seconds, Amazon EC2 rounds the seconds to the nearest minute.

Sample Request

https://ec2.amazonaws.com/?Action=EnableImageDeprecation
&ImageId=ami-0123456789EXAMPLE
&DeprecateAt="2022-06-15T13:17:00.000Z"
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</EnableImageDeprecationResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
EnableIpamOrganizationAdminAccount

Enable an AWS Organizations member account as the IPAM admin account. You cannot select the AWS Organizations management account as the IPAM admin account. For more information, see Enable integration with AWS Organizations in the Amazon VPC IPAM User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DelegatedAdminAccountId

The AWS Organizations member account ID that you want to enable as the IPAM account.

Type: String

Required: Yes

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

success

The result of enabling the IPAM account.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
EnableReachabilityAnalyzerOrganizationSharing

Establishes a trust relationship between Reachability Analyzer and AWS Organizations. This operation must be performed by the management account for the organization.

After you establish a trust relationship, a user in the management account or a delegated administrator account can run a cross-account analysis using resources from the member accounts.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

returnValue

Returns true if the request succeeds; otherwise, returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
EnableSerialConsoleAccess

Enables access to the EC2 serial console of all instances for your account. By default, access to the EC2 serial console is disabled for your account. For more information, see Manage account access to the EC2 serial console in the Amazon EC2 User Guide.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

serialConsoleAccessEnabled

If true, access to the EC2 serial console of all instances is enabled for your account. If false, access to the EC2 serial console of all instances is disabled for your account.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
EnableSnapshotBlockPublicAccess

Enables or modifies the *block public access for snapshots* setting at the account level for the specified AWS Region. After you enable block public access for snapshots in a Region, users can no longer request public sharing for snapshots in that Region. Snapshots that are already publicly shared are either treated as private or they remain publicly shared, depending on the **State** that you specify.

If block public access is enabled in block-all-sharing mode, and you change the mode to block-new-sharing, all snapshots that were previously publicly shared are no longer treated as private and they become publicly accessible again.

For more information, see [Block public access for snapshots](#) in the *Amazon Elastic Compute Cloud User Guide*.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

- **Type**: Boolean
- **Required**: No

**State**

The mode in which to enable block public access for snapshots for the Region. Specify one of the following values:

- block-all-sharing - Prevents all public sharing of snapshots in the Region. Users in the account will no longer be able to request new public sharing. Additionally, snapshots that are already publicly shared are treated as private and they are no longer publicly available.
Note

If you enable block public access for snapshots in block-all-sharing mode, it does not change the permissions for snapshots that are already publicly shared. Instead, it prevents these snapshots from being publicly visible and publicly accessible. Therefore, the attributes for these snapshots still indicate that they are publicly shared, even though they are not publicly available.

- block-new-sharing - Prevents only new public sharing of snapshots in the Region. Users in the account will no longer be able to request new public sharing. However, snapshots that are already publicly shared, remain publicly available.

unblocked is not a valid value for EnableSnapshotBlockPublicAccess.

Type: String

Valid Values: block-all-sharing | block-new-sharing | unblocked

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

state

The state of block public access for snapshots for the account and Region. Returns either block-all-sharing or block-new-sharing if the request succeeds.

Type: String

Valid Values: block-all-sharing | block-new-sharing | unblocked
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
EnableTransitGatewayRouteTablePropagation

Enables the specified attachment to propagate routes to the specified propagation route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TransitGatewayAttachmentId

The ID of the attachment.

Type: String

Required: No

TransitGatewayRouteTableAnnouncementId

The ID of the transit gateway route table announcement.

Type: String

Required: No

TransitGatewayRouteTableId

The ID of the propagation route table.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

**propagation**

Information about route propagation.

Type: TransitGatewayPropagation object

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](https://aws.amazon.com/cli/)
- [AWS SDK for .NET](https://aws.amazon.com/tools/sdk/net/
- [AWS SDK for C++](https://aws.amazon.com/tools/sdk/cpp/)
- [AWS SDK for Go](https://aws.amazon.com/tools/sdk/golang/)
- [AWS SDK for Java V2](https://aws.amazon.com/tools/sdk/java/)
- [AWS SDK for JavaScript V3](https://aws.amazon.com/tools/sdk/javascript/)
- [AWS SDK for PHP V3](https://aws.amazon.com/tools/sdk/php/)
- [AWS SDK for Python](https://aws.amazon.com/tools/sdk/python/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/tools/sdk/ruby/)
EnableVgwRoutePropagation

Enables a virtual private gateway (VGW) to propagate routes to the specified route table of a VPC.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**GatewayId**

The ID of the virtual private gateway that is attached to a VPC. The virtual private gateway must be attached to the same VPC that the routing tables are associated with.

Type: String

Required: Yes

**RouteTableId**

The ID of the route table. The routing table must be associated with the same VPC that the virtual private gateway is attached to.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example enables the specified virtual private gateway to propagate routes automatically to the route table with the ID rtb-c98a35a0.

Sample Request

```xml
https://ec2.amazonaws.com/?Action=EnableVgwRoutePropagation
&RouteTableID=rtb-c98a35a0
&GatewayId=vgw-d8e09e8a
&AUTHPARAMS
```

Sample Response

```xml
<EnableVgwRoutePropagation xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId>
  <return>true</return>
</EnableVgwRoutePropagation>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
See Also

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
EnableVolumeIO

Enables I/O operations for a volume that had I/O operations disabled because the data on the volume was potentially inconsistent.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VolumeId

The ID of the volume.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example enables the I/O operations of the volume vol-8888888.

Sample Request

https://ec2.amazonaws.com/?Action=EnableVolumeIO
&VolumeId= vol-8888888
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</EnableVolumeIOResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
EnableVpcClassicLink

Note
This action is deprecated.

Enables a VPC for ClassicLink. You can then link EC2-Classic instances to your ClassicLink-enabled VPC to allow communication over private IP addresses. You cannot enable your VPC for ClassicLink if any of your VPC route tables have existing routes for address ranges within the 10.0.0.0/8 IP address range, excluding local routes for VPCs in the 10.0.0.0/16 and 10.1.0.0/16 IP address ranges.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

VpcId

The ID of the VPC.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

return

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
EnableVpcClassicLinkDnsSupport

Note
This action is deprecated.

Enables a VPC to support DNS hostname resolution for ClassicLink. If enabled, the DNS hostname of a linked EC2-Classic instance resolves to its private IP address when addressed from an instance in the VPC to which it's linked. Similarly, the DNS hostname of an instance in a VPC resolves to its private IP address when addressed from a linked EC2-Classic instance.

You must specify a VPC ID in the request.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

VpcId

The ID of the VPC.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns true if the request succeeds; otherwise, it returns an error.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ExportClientVpnClientCertificateRevocationList

Downloads the client certificate revocation list for the specified Client VPN endpoint.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientVpnEndpointId

The ID of the Client VPN endpoint.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

certificateRevocationList

Information about the client certificate revocation list.

Type: String

requestId

The ID of the request.

Type: String
status

The current state of the client certificate revocation list.

Type: ClientCertificateRevocationListStatus object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ExportClientVpnClientConfiguration

Downloads the contents of the Client VPN endpoint configuration file for the specified Client
VPN endpoint. The Client VPN endpoint configuration file includes the Client VPN endpoint and
certificate information clients need to establish a connection with the Client VPN endpoint.

Request Parameters

The following parameters are for this specific action. For more information about required and
optional parameters that are common to all actions, see Common Query Parameters.

ClientVpnEndpointId

The ID of the Client VPN endpoint.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making
the request, and provides an error response. If you have the required permissions, the error
response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

clientConfiguration

The contents of the Client VPN endpoint configuration file.

Type: String

requestId

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example downloads a Client VPN endpoint configuration file.

Sample Request

```
https://ec2.amazonaws.com/?Action=ExportClientVpnClientConfiguration
&ClientVpnEndpointId=cvpn-endpoint-00c5d11fc4EXAMPLE
&AUTHPARAMS
```

Sample Response

```
    <requestId>44e88bf8-d460-4c43-80b8-a27e4EXAMPLE</requestId>
    <clientConfiguration>client
dev tun
proto udp
remote cvpn-endpoint-00c5d11fc4EXAMPLE.clientvpn.us-east-1.amazonaws.com 443
remote-random-hostname
resolv-retry infinite
nobind
persist-key
persist-tun
remote-cert-tls server
cipher AES-256-CBC
verb 3
<ca>
    -----BEGIN CERTIFICATE-----
EXAMPLECAgmgAwIBAgIJAjAojW3hL6o+7MA0GCSqGSIb3DQEBCwUAMBAAx
-----END CERTIFICATE-----
</ca></clientConfiguration>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ExportImage

Exports an Amazon Machine Image (AMI) to a VM file. For more information, see Exporting a VM directly from an Amazon Machine Image (AMI) in the VM Import/Export User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Token to enable idempotency for export image requests.

Type: String

Required: No

Description

A description of the image being exported. The maximum length is 255 characters.

Type: String

Required: No

DiskImageFormat

The disk image format.

Type: String

Valid Values: VMDK | RAW | VHD

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
**ImageId**

The ID of the image.

Type: String

Required: Yes

**RoleName**

The name of the role that grants VM Import/Export permission to export images to your Amazon S3 bucket. If this parameter is not specified, the default role is named 'vmimport'.

Type: String

Required: No

**S3ExportLocation**

The Amazon S3 bucket for the destination image. The destination bucket must exist.

Type: ExportTaskS3LocationRequest object

Required: Yes

**TagSpecification.N**

The tags to apply to the export image task during creation.

Type: Array of TagSpecification objects

Required: No

**Response Elements**

The following elements are returned by the service.

**description**

A description of the image being exported.

Type: String

**diskImageFormat**

The disk image format for the exported image.
exportImageTaskId

The ID of the export image task.

Type: String

imageId

The ID of the image.

Type: String

progress

The percent complete of the export image task.

Type: String

requestId

The ID of the request.

Type: String

roleName

The name of the role that grants VM Import/Export permission to export images to your Amazon S3 bucket.

Type: String

s3ExportLocation

Information about the destination Amazon S3 bucket.

Type: ExportTaskS3Location object

status

The status of the export image task. The possible values are active, completed, deleting, and deleted.

Type: String
statusMessage

The status message for the export image task.

Type: String

tagSet

Any tags assigned to the export image task.

Type: Array of Tag objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ExportTransitGatewayRoutes

Exports routes from the specified transit gateway route table to the specified S3 bucket. By default, all routes are exported. Alternatively, you can filter by CIDR range.

The routes are saved to the specified bucket in a JSON file. For more information, see Export Route Tables to Amazon S3 in Transit Gateways.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. The possible values are:

- attachment.transit-gateway-attachment-id - The id of the transit gateway attachment.
- attachment.resource-id - The resource id of the transit gateway attachment.
- route-search.exact-match - The exact match of the specified filter.
- route-search.longest-prefix-match - The longest prefix that matches the route.
- route-search.subnet-of-match - The routes with a subnet that match the specified CIDR filter.
- route-search.supernet-of-match - The routes with a CIDR that encompass the CIDR filter. For example, if you have 10.0.1.0/29 and 10.0.1.0/31 routes in your route table and you specify supernet-of-match as 10.0.1.0/30, then the result returns 10.0.1.0/29.
- state - The state of the route (active | blacklist).
- transit-gateway-route-destination-cidr-block - The CIDR range.
• **type** - The type of route (propagated | static).

  Type: Array of Filter objects

  Required: No

**S3Bucket**

  The name of the S3 bucket.

  Type: String

  Required: Yes

**TransitGatewayRouteTableId**

  The ID of the route table.

  Type: String

  Required: Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

  The ID of the request.

  Type: String

**s3Location**

  The URL of the exported file in Amazon S3. For example, s3://bucket_name/
  VPCTransitGateway/TransitGatewayRouteTables/file_name.

  Type: String

**Errors**

For information about the errors that are common to all actions, see Common client error codes.
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetAssociatedEnclaveCertificateIamRoles

Returns the IAM roles that are associated with the specified ACM (ACM) certificate. It also returns the name of the Amazon S3 bucket and the Amazon S3 object key where the certificate, certificate chain, and encrypted private key bundle are stored, and the ARN of the KMS key that's used to encrypt the private key.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CertificateArn

The ARN of the ACM certificate for which to view the associated IAM roles, encryption keys, and Amazon S3 object information.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

associatedRoleSet

Information about the associated IAM roles.

Type: Array of AssociatedRole objects
**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
GetAssociatedIpv6PoolCidrs

Gets information about the IPv6 CIDR block associations for a specified IPv6 address pool.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**MaxResults**

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.

Required: No

**NextToken**

The token for the next page of results.

Type: String

Required: No

**PoolId**

The ID of the IPv6 address pool.

Type: String
Response Elements

The following elements are returned by the service.

ipv6CidrAssociationSet

Information about the IPv6 CIDR block associations.

Type: Array of IPv6CidrAssociation objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
See Also

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetAwsNetworkPerformanceData

Gets network performance data.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DataQuery.N

A list of network performance data queries.

Type: Array of DataQuery objects

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

EndTime

The ending time for the performance data request. The end time must be formatted as yyyy-mm-ddThh:mm:ss. For example, 2022-06-12T12:00:00.000Z.

Type: Timestamp

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer

Required: No
NextToken

The token for the next page of results.

Type: String
Required: No

StartTime

The starting time for the performance data request. The starting time must be formatted as yyyy-mm-ddThh:mm:ss. For example, 2022-06-10T12:00:00.000Z.

Type: Timestamp
Required: No

Response Elements

The following elements are returned by the service.

dataResponseSet

The list of data responses.

Type: Array of DataResponse objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
GetCapacityReservationUsage

Gets usage information about a Capacity Reservation. If the Capacity Reservation is shared, it shows usage information for the Capacity Reservation owner and each AWS account that is currently using the shared capacity. If the Capacity Reservation is not shared, it shows only the Capacity Reservation owner's usage.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**CapacityReservationId**

The ID of the Capacity Reservation.

Type: String

Required: Yes

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**MaxResults**

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.

Required: No

**NextToken**

The token to use to retrieve the next page of results.
Response Elements

The following elements are returned by the service.

availableInstanceCount

The remaining capacity. Indicates the number of instances that can be launched in the Capacity Reservation.

Type: Integer

capacityReservationId

The ID of the Capacity Reservation.

Type: String

instanceType

The type of instance for which the Capacity Reservation reserves capacity.

Type: String

instanceUsageSet

Information about the Capacity Reservation usage.

Type: Array of InstanceUsage objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String
state

The current state of the Capacity Reservation. A Capacity Reservation can be in one of the following states:

- **active** - The Capacity Reservation is active and the capacity is available for your use.
- **expired** - The Capacity Reservation expired automatically at the date and time specified in your request. The reserved capacity is no longer available for your use.
- **cancelled** - The Capacity Reservation was cancelled. The reserved capacity is no longer available for your use.
- **pending** - The Capacity Reservation request was successful but the capacity provisioning is still pending.
- **failed** - The Capacity Reservation request has failed. A request might fail due to invalid request parameters, capacity constraints, or instance limit constraints. Failed requests are retained for 60 minutes.

Type: String

Valid Values: active | expired | cancelled | pending | failed | scheduled | payment-pending | payment-failed

totalInstanceCount

The number of instances for which the Capacity Reservation reserves capacity.

Type: Integer

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
GetCoipPoolUsage

Describes the allocations from the specified customer-owned address pool.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters.

- coip-address-usage.allocation-id - The allocation ID of the address.
- coip-address-usage.aws-account-id - The ID of the AWS account that is using the customer-owned IP address.
- coip-address-usage.aws-service - The AWS service that is using the customer-owned IP address.
- coip-address-usage.co-ip - The customer-owned IP address.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer

Required: No

**NextToken**

The token for the next page of results.

Type: String

Required: No

**PoolId**

The ID of the address pool.

Type: String

Required: Yes

### Response Elements

The following elements are returned by the service.

**coipAddressUsageSet**

Information about the address usage.

Type: Array of [CoipAddressUsage](#) objects

**coipPoolId**

The ID of the customer-owned address pool.

Type: String

**localGatewayRouteTableId**

The ID of the local gateway route table.

Type: String

**nextToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String
requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetConsoleOutput

Gets the console output for the specified instance. For Linux instances, the instance console output displays the exact console output that would normally be displayed on a physical monitor attached to a computer. For Windows instances, the instance console output includes the last three system event log errors.

By default, the console output returns buffered information that was posted shortly after an instance transition state (start, stop, reboot, or terminate). This information is available for at least one hour after the most recent post. Only the most recent 64 KB of console output is available.

You can optionally retrieve the latest serial console output at any time during the instance lifecycle. This option is supported on instance types that use the Nitro hypervisor.

For more information, see Instance console output in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceId

The ID of the instance.

Type: String

Required: Yes

Latest

When enabled, retrieves the latest console output for the instance.
Default: disabled (false)
Type: Boolean
Required: No

Response Elements

The following elements are returned by the service.

**instanceld**

The ID of the instance.
Type: String

**output**

The console output, base64-encoded. If you are using a command line tool, the tool decodes the output for you.
Type: String

**requestld**

The ID of the request.
Type: String

**timestamp**

The time at which the output was last updated.
Type: Timestamp

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

**Example 1**

This example retrieves the console output for the specified instance.
Sample Request

https://ec2.amazonaws.com/?Action=GetConsoleOutput
&InstanceId=i-1234567890abcdef0
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-1234567890abcdef0</instanceId>
  <timestamp>2022-10-14T01:12:41.000Z</timestamp>
  <output>TGludXggdmVyc2lvbiAylYuMTVteGVuVSAoYnpbGR1ckBwYXRjaGJhdC5hbWF6b25zYSkgKGdjYYb2ZXJzaW9uIDQuMC4xIDIwMDUwNzI3IChSZWQgSGF0IDQuMC4xLTUpKSAjMSBTTVAgVGh1IE9j
  dCayNlAwODo0MToyNiBTQVWNUIDtwcm92aWRlZCBwaWQgCBcKSBhY3RpdmUKSVJRIGxvY2t1cCBkZXRlY3Rpb24gZGlzYWJsZWQg</output>
</GetConsoleOutputResponse>

Example 2

This example retrieves the latest console output for the specified instance.

Sample Request

https://ec2.amazonaws.com/?Action=GetConsoleOutput
&InstanceId=i-1234567890abcdef0
&Latest=true
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
See Also

AWS SDK for C++
AWS SDK for Go
AWS SDK for Java V2
AWS SDK for JavaScript V3
AWS SDK for PHP V3
AWS SDK for Python
AWS SDK for Ruby V3
GetConsoleScreenshot

Retrieve a JPG-format screenshot of a running instance to help with troubleshooting.

The returned content is Base64-encoded.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceId

The ID of the instance.

Type: String

Required: Yes

WakeUp

When set to true, acts as keystroke input and wakes up an instance that's in standby or "sleep" mode.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.
imageData

The data that comprises the image.

Type: String

instanceId

The ID of the instance.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example returns the image data of a successful request.

Sample Request

https://ec2.amazonaws.com/?Action=GetConsoleScreenshot
&InstanceId=i-0598c7d356eba48d7
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imageData>997987/8kgj49ikjhewkwe0008084EXAMPLE</imageData>
  <instanceId>i-765950</instanceId>
</GetConsoleScreenshotResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
GetDefaultCreditSpecification

Describes the default credit option for CPU usage of a burstable performance instance family.

For more information, see Burstable performance instances in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceFamily

The instance family.

Type: String

Valid Values: t2 | t3 | t3a | t4g

Required: Yes

Response Elements

The following elements are returned by the service.

instanceFamilyCreditSpecification

The default credit option for CPU usage of the instance family.

Type: InstanceFamilyCreditSpecification object

requestId

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example gets the default credit option for CPU usage of instances in the T2 instance family in the specified Region.

Sample Request

https://ec2.amazonaws.com/?Action=GetDefaultCreditSpecification
&Region=us-east-1
&InstanceFamily=t2
&AUTHPARAMS

Sample Response

  <requestId>11111111-2222-3333-4444-5555EXAMPLE</requestId>
  <instanceFamilyCreditSpecification>
    <cpuCredits>unlimited</cpuCredits>
    <instanceFamily>t2</instanceFamily>
  </instanceFamilyCreditSpecification>
</GetDefaultCreditSpecificationResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
See Also

- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetEbsDefaultKmsKeyId

Describes the default AWS KMS key for EBS encryption by default for your account in this Region. You can change the default KMS key for encryption by default using ModifyEbsDefaultKmsKeyId or ResetEbsDefaultKmsKeyId.

For more information, see Amazon EBS encryption in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

kmsKeyId

The Amazon Resource Name (ARN) of the default KMS key for encryption by default.

Type: String

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetEbsEncryptionByDefault

Describes whether EBS encryption by default is enabled for your account in the current Region.

For more information, see Amazon EBS encryption in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

ebsEncryptionByDefault

Indicates whether encryption by default is enabled.

Type: Boolean

requestId

The ID of the request.

Type: String

sseType

Reserved for future use.

Type: String
Valid Values: sse-ebs | sse-kms | none

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetFlowLogsIntegrationTemplate

Generates a CloudFormation template that streamlines and automates the integration of VPC flow logs with Amazon Athena. This makes it easier for you to query and gain insights from VPC flow logs data. Based on the information that you provide, we configure resources in the template to do the following:

- Create a table in Athena that maps fields to a custom log format
- Create a Lambda function that updates the table with new partitions on a daily, weekly, or monthly basis
- Create a table partitioned between two timestamps in the past
- Create a set of named queries in Athena that you can use to get started quickly

Note

GetFlowLogsIntegrationTemplate does not support integration between AWS Transit Gateway Flow Logs and Amazon Athena.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**ConfigDeliveryS3DestinationArn**

To store the CloudFormation template in Amazon S3, specify the location in Amazon S3.

Type: String

Required: Yes

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
FlowLogId

The ID of the flow log.

Type: String

Required: Yes

IntegrateService

Information about the service integration.

Type: \texttt{IntegrateServices} object

Required: Yes

Response Elements

The following elements are returned by the service.

\textbf{requestId}

The ID of the request.

Type: String

\textbf{result}

The generated CloudFormation template.

Type: String

Errors

For information about the errors that are common to all actions, see \texttt{Common client error codes}.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
GetGroupsForCapacityReservation

Lists the resource groups to which a Capacity Reservation has been added.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CapacityReservationId

The ID of the Capacity Reservation. If you specify a Capacity Reservation that is shared with you, the operation returns only Capacity Reservation groups that you own.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.

Required: No

NextToken

The token to use to retrieve the next page of results.

Type: String
Response Elements

The following elements are returned by the service.

**capacityReservationGroupSet**

Information about the resource groups to which the Capacity Reservation has been added.

Type: Array of `CapacityReservationGroup` objects

**nextToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
GetHostReservationPurchasePreview

Preview a reservation purchase with configurations that match those of your Dedicated Host. You must have active Dedicated Hosts in your account before you purchase a reservation.

This is a preview of the PurchaseHostReservation action and does not result in the offering being purchased.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

HostIdSet.N

The IDs of the Dedicated Hosts with which the reservation is associated.

Type: Array of strings

Required: Yes

OfferingId

The offering ID of the reservation.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

currencyCode

The currency in which the totalUpfrontPrice and totalHourlyPrice amounts are specified. At this time, the only supported currency is USD.

Type: String

Valid Values: USD
purchase

The purchase information of the Dedicated Host reservation and the Dedicated Hosts associated with it.

Type: Array of Purchase objects

requestId

The ID of the request.

Type: String

totalHourlyPrice

The potential total hourly price of the reservation per hour.

Type: String

totalUpfrontPrice

The potential total upfront price. This is billed immediately.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example is a preview of the reservation to be purchased.

Sample Request

https://ec2.amazonaws.com/?Action=GetHostReservationPurchasePreview
&OfferingId=hro-0eb3541dght849c2d
&HostIdSet=h-0fgr9ddb0ecd0a1cd
&AUTHPARAMS
Sample Response

```xml
<GetHostReservationPurchasePreviewResult xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>d4904fd9-84c3-4967-gtyk-a9983EXAMPLE</requestId>
    <purchase>
        <item>
            <duration>31536000</duration>
            <upfrontPrice>7453.000</upfrontPrice>
            <paymentOption>PartialUpfront</paymentOption>
            <instanceFamily>m4</instanceFamily>
            <hourlyPrice>0.850</hourlyPrice>
            <hostIdSet>
                <item>h-0fgr9ddb0ecd0a1cd</item>
            </hostIdSet>
        </item>
    </purchase>
    <totalHourlyPrice>0.850</totalHourlyPrice>
    <totalUpfrontPrice>7453.000</totalUpfrontPrice>
</GetHostReservationPurchasePreviewResult>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetImageBlockPublicAccessState

Gets the current state of block public access for AMIs at the account level in the specified AWS Region.

For more information, see Block public access to your AMIs in the Amazon EC2 User Guide.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

imageBlockPublicAccessState

The current state of block public access for AMIs at the account level in the specified AWS Region.

Possible values:
- block-new-sharing - Any attempt to publicly share your AMIs in the specified Region is blocked.
- unblocked - Your AMIs in the specified Region can be publicly shared.

Type: String

requestId

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example gets the state of block public access for AMIs at the account level in the specified Region to see whether the public sharing of your AMIs is blocked in your account. The value for the response is either block-new-sharing or unblocked.

Sample Request

```
&Region=us-east-1
&AUTHPARAMS
```

Sample Response

```
  <requestId>11aabb229-4eac-35bd-99ed-be587EXAMPLE</requestId>
  <return>block-new-sharing</return>
</GetImageBlockPublicAccessStateResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetInstanceTypesFromInstanceRequirements

Returns a list of instance types with the specified instance attributes. You can use the response to preview the instance types without launching instances. Note that the response does not consider capacity.

When you specify multiple parameters, you get instance types that satisfy all of the specified parameters. If you specify multiple values for a parameter, you get instance types that satisfy any of the specified values.

For more information, see Preview instance types with specified attributes, Attribute-based instance type selection for EC2 Fleet, Attribute-based instance type selection for Spot Fleet, and Spot placement score in the Amazon EC2 User Guide, and Creating an Auto Scaling group using attribute-based instance type selection in the Amazon EC2 Auto Scaling User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ArchitectureType.N

The processor architecture type.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 3 items.

Valid Values: i386 | x86_64 | arm64 | x86_64_mac | arm64_mac

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
**InstanceRequirements**

The attributes required for the instance types.

Type: `InstanceRequirementsRequest` object

Required: Yes

**MaxResults**

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see [Pagination](#).

Type: Integer

Required: No

**NextToken**

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

**VirtualizationType.N**

The virtualization type.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 2 items.

Valid Values: hvm | paravirtual

Required: Yes

**Response Elements**

The following elements are returned by the service.

**instanceTypeSet**

The instance types with the specified instance attributes.
Type: Array of `InstanceTypeInfoFromInstanceRequirements` objects

nextToken

The token to include in another request to get the next page of items. This value is `null` when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
GetInstanceUefiData

A binary representation of the UEFI variable store. Only non-volatile variables are stored. This is a base64 encoded and zlib compressed binary value that must be properly encoded.

When you use register-image to create an AMI, you can create an exact copy of your variable store by passing the UEFI data in the UefiData parameter. You can modify the UEFI data by using the python-uefivars tool on GitHub. You can use the tool to convert the UEFI data into a human-readable format (JSON), which you can inspect and modify, and then convert back into the binary format to use with register-image.

For more information, see UEFI Secure Boot in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceId

The ID of the instance from which to retrieve the UEFI data.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
instanceId

The ID of the instance from which to retrieve the UEFI data.

Type: String

requestId

The ID of the request.

Type: String

uefiData

Base64 representation of the non-volatile UEFI variable store.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
GetIpamAddressHistory

Retrieve historical information about a CIDR within an IPAM scope. For more information, see View the history of IP addresses in the Amazon VPC IPAM User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**Cidr**

The CIDR you want the history of. The CIDR can be an IPv4 or IPv6 IP address range. If you enter a /16 IPv4 CIDR, you will get records that match it exactly. You will not get records for any subnets within the /16 CIDR.

- Type: String
- Required: Yes

**DryRun**

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

- Type: Boolean
- Required: No

**EndTime**

The end of the time period for which you are looking for history. If you omit this option, it will default to the current time.

- Type: Timestamp
- Required: No

**IpamScopeId**

The ID of the IPAM scope that the CIDR is in.

- Type: String
Required: Yes

MaxResults

The maximum number of historical results you would like returned per page. Defaults to 100.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.

Required: No

NextToken

The token for the next page of results.

Type: String

Required: No

StartTime

The start of the time period for which you are looking for history. If you omit this option, it will default to the value of EndTime.

Type: Timestamp

Required: No

VpcId

The ID of the VPC you want your history records filtered by.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

historyRecordSet

A historical record for a CIDR within an IPAM scope. If the CIDR is associated with an EC2 instance, you will see an object in the response for the instance and one for the network interface.
Type: Array of `IpamAddressHistoryRecord` objects

**nextToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
GetIpamDiscoveredAccounts

Gets IPAM discovered accounts. A discovered account is an AWS account that is monitored under a resource discovery. If you have integrated IPAM with AWS Organizations, all accounts in the organization are discovered accounts. Only the IPAM account can get all discovered accounts in the organization.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DiscoveryRegion

The AWS Region that the account information is returned from.

Type: String

Required: Yes

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

Discovered account filters.

Type: Array of Filter objects

Required: No

IpamResourceDiscoveryId

A resource discovery ID.

Type: String
Required: Yes

MaxResults

The maximum number of discovered accounts to return in one page of results.

Type: Integer


Required: No

NextToken

Specify the pagination token from a previous request to retrieve the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

ipamDiscoveredAccountSet

Discovered accounts.

Type: Array of IpamDiscoveredAccount objects

nextToken

Specify the pagination token from a previous request to retrieve the next page of results.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetIpamDiscoveredPublicAddresses

Gets the public IP addresses that have been discovered by IPAM.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**AddressRegion**

The AWS Region for the IP address.

Type: String

Required: Yes

**DryRun**

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Filter.N**

Filters.

Type: Array of Filter objects

Required: No

**IpamResourceDiscoveryId**

An IPAM resource discovery ID.

Type: String

Required: Yes
MaxResults

The maximum number of IPAM discovered public addresses to return in one page of results.

Type: Integer


Required: No

NextToken

The token for the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

ipamDiscoveredPublicAddressSet

IPAM discovered public addresses.

Type: Array of IpamDiscoveredPublicAddress objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

oldestSampleTime

The oldest successful resource discovery time.

Type: Timestamp

requestId

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
GetIpamDiscoveredResourceCidrs

Returns the resource CIDRs that are monitored as part of a resource discovery. A discovered resource is a resource CIDR monitored under a resource discovery. The following resources can be discovered: VPCs, Public IPv4 pools, VPC subnets, and Elastic IP addresses.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
 Required: No

Filter.N

Filters.

Type: Array of Filter objects
 Required: No

IpamResourceDiscoveryId

A resource discovery ID.

Type: String
 Required: Yes

MaxResults

The maximum number of discovered resource CIDRs to return in one page of results.

Type: Integer

Required: No

NextToken

Specify the pagination token from a previous request to retrieve the next page of results.
Type: String
Required: No

ResourceRegion

A resource Region.
Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

ipamDiscoveredResourceCidrSet

Discovered resource CIDRs.
Type: Array of IpamDiscoveredResourceCidr objects

nextToken

Specify the pagination token from a previous request to retrieve the next page of results.
Type: String

requestId

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetIpamPoolAllocations

Get a list of all the CIDR allocations in an IPAM pool. The Region you use should be the IPAM pool locale. The locale is the AWS Region where this IPAM pool is available for allocations.

⚠️ Note

If you use this action after AllocateIpamPoolCidr or ReleaseIpamPoolAllocation, note that all EC2 API actions follow an eventual consistency model.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters for the request. For more information about filtering, see Filtering CLI output.

Type: Array of Filter objects

Required: No

IpamPoolAllocationId

The ID of the allocation.

Type: String

Required: No
IpamPoolId

The ID of the IPAM pool you want to see the allocations for.

Type: String

Required: Yes

MaxResults

The maximum number of results you would like returned per page.

Type: Integer

Valid Range: Minimum value of 1000. Maximum value of 100000.

Required: No

NextToken

The token for the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

ipamPoolAllocationSet

The IPAM pool allocations you want information on.

Type: Array of IpamPoolAllocation objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetIpamPoolCidrs

Get the CIDRs provisioned to an IPAM pool.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Filter.N**

One or more filters for the request. For more information about filtering, see Filtering CLI output.

Type: Array of Filter objects

Required: No

**IpamPoolId**

The ID of the IPAM pool you want the CIDR for.

Type: String

Required: Yes

**MaxResults**

The maximum number of results to return in the request.

Type: Integer

Required: No

**NextToken**

The token for the next page of results.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**ipamPoolCidrSet**

Information about the CIDRs provisioned to an IPAM pool.

Type: Array of [IpamPoolCidr](#) objects

**nextToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
GetIpamResourceCidrs

Returns resource CIDRs managed by IPAM in a given scope. If an IPAM is associated with more than one resource discovery, the resource CIDRs across all of the resource discoveries is returned. A resource discovery is an IPAM component that enables IPAM to manage and monitor resources that belong to the owning account.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters for the request. For more information about filtering, see Filtering CLI output.

Type: Array of Filter objects

Required: No

IpamPoolId

The ID of the IPAM pool that the resource is in.

Type: String

Required: No

IpamScopeId

The ID of the scope that the resource is in.

Type: String
Required: Yes

MaxResults

The maximum number of results to return in the request.

Type: Integer


Required: No

NextToken

The token for the next page of results.

Type: String

Required: No

ResourceId

The ID of the resource.

Type: String

Required: No

ResourceOwner

The ID of the AWS account that owns the resource.

Type: String

Required: No

ResourceTag

The resource tag.

Type: RequestIpamResourceTag object

Required: No

ResourceType

The resource type.
Type: String

Valid Values: vpc | subnet | eip | public-ipv4-pool | ipv6-pool | eni

Required: No

Response Elements

The following elements are returned by the service.

ipamResourceCidrSet

- The resource CIDRs.

Type: Array of IpamResourceCidr objects

nextToken

- The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

- The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for JavaScript V3**
• **AWS SDK for PHP V3**
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
GetLaunchTemplateData

Retrieves the configuration data of the specified instance. You can use this data to create a launch template.

This action calls on other describe actions to get instance information. Depending on your instance configuration, you may need to allow the following actions in your IAM policy: DescribeSpotInstanceRequests, DescribeInstanceCreditSpecifications, DescribeVolumes, DescribeInstanceAttribute, and DescribeElasticGpus. Or, you can allow describe* depending on your instance requirements.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

InstanceId

The ID of the instance.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

launchTemplateData

The instance data.
ResponseLaunchTemplateData object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example gets the data for instance i-123456abcabc123ab.

Sample Request

https://ec2.amazonaws.com/?Action=GetLaunchTemplateData
&InstanceId=i-123456abcabc123ab
&AUTHPARAMS

Sample Response

<GetLaunchTemplateDataResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>57372b95-c320-409e-b268-1e4example</requestId>
  <launchTemplateData>
    <blockDeviceMappingSet>
      <item>
        <deviceName>/dev/xvda</deviceName>
        <ebs>
          <deleteOnTermination>true</deleteOnTermination>
        </ebs>
      </item>
    </blockDeviceMappingSet>
    <ebsOptimized>false</ebsOptimized>
    <iamInstanceProfile>
      <arn>arn:aws:iam::123456789012:instance-profile/AdminRole</arn>
    </iamInstanceProfile>
    <imageId>ami-1a2b3c4d</imageId>
    <instanceType>t2.micro</instanceType>
  </launchTemplateData>
</GetLaunchTemplateDataResponse>
<keyName>kp-us-east</keyName>
<monitoring/>

<networkInterfaceSet>
  <item>
    <description>Primary network interface</description>
    <groupSet>
      <groupId>sg-7c227abc</groupId>
    </groupSet>
    <ipv6AddressesSet/>
    <networkInterfaceId>eni-d26c8f36</networkInterfaceId>
    <privateIpAddress>10.0.0.197</privateIpAddress>
    <privateIpAddressesSet>
      <item>
        <primary>true</primary>
        <privateIpAddress>10.0.0.197</privateIpAddress>
      </item>
    </privateIpAddressesSet>
    <subnetId>subnet-7b16dabc</subnetId>
  </item>
  <item>
    <description>My network interface</description>
    <groupSet>
      <groupId>sg-54e8b123</groupId>
    </groupSet>
    <ipv6AddressesSet/>
    <networkInterfaceId>eni-714bc4a5</networkInterfaceId>
    <privateIpAddress>10.0.0.190</privateIpAddress>
    <privateIpAddressesSet>
      <item>
        <primary>true</primary>
        <privateIpAddress>10.0.0.190</privateIpAddress>
      </item>
    </privateIpAddressesSet>
    <subnetId>subnet-7b16de0c</subnetId>
  </item>
</networkInterfaceSet>

<placement>
  <availabilityZone>us-east-1a</availabilityZone>
  <groupName/>
  <tenancy>default</tenancy>
</placement>

</GetLaunchTemplateDataResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetManagedPrefixListAssociations

Gets information about the resources that are associated with the specified managed prefix list.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**MaxResults**

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer


Required: No

**NextToken**

The token for the next page of results.

Type: String

Required: No

**PrefixListId**

The ID of the prefix list.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

prefixListAssociationSet

Information about the associations.

Type: Array of PrefixListAssociation objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example gets the associations for the specified managed prefix list.

Sample Request

https://ec2.amazonaws.com/?Action=GetManagedPrefixListAssociations
&PrefixListId=pl-01231231231231aabb
&AUTHPARAMS

Sample Response

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
GetManagedPrefixListEntries

Gets information about the entries for a specified managed prefix list.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer
Valid Range: Minimum value of 1. Maximum value of 100.
Required: No

NextToken

The token for the next page of results.

Type: String
Required: No

PrefixListId

The ID of the prefix list.

Type: String
Required: Yes

**TargetVersion**

The version of the prefix list for which to return the entries. The default is the current version.

Type: Long

Required: No

**Response Elements**

The following elements are returned by the service.

**entrySet**

Information about the prefix list entries.

Type: Array of **PrefixListEntry** objects

**nextToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example gets the entries for the specified managed prefix list.
Sample Request

https://ec2.amazonaws.com/?Action=GetManagedPrefixListEntries
&PrefixListId=pl-0123123123123aabb
&AUTHPARAMS

Sample Response

  <requestId>39a3c79f-846f-4382-a592-example</requestId>
  <entrySet>
    <item>
      <cidr>10.0.0.0/16</cidr>
      <description>vpc-a</description>
    </item>
    <item>
      <cidr>10.2.0.0/16</cidr>
      <description>NY office</description>
    </item>
  </entrySet>
</GetManagedPrefixListEntriesResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetNetworkInsightsAccessScopeAnalysisFindings

Gets the findings for the specified Network Access Scope analysis.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

NetworkInsightsAccessScopeAnalysisId

The ID of the Network Access Scope analysis.

Type: String

Required: Yes

NextToken

The token for the next page of results.

Type: String

Required: No
Response Elements

The following elements are returned by the service.

**analysisFindingSet**

The findings associated with Network Access Scope Analysis.

Type: Array of [AccessScopeAnalysisFinding](#) objects

**analysisStatus**

The status of Network Access Scope Analysis.

Type: String

Valid Values: running | succeeded | failed

**networkInsightsAccessScopeAnalysisId**

The ID of the Network Access Scope analysis.

Type: String

**nextToken**

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

---

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
GetNetworkInsightsAccessScopeContent

 Gets the content for the specified Network Access Scope.

 Request Parameters

 The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

 **DryRun**

 Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

 Type: Boolean

 Required: No

 **NetworkInsightsAccessScopeId**

 The ID of the Network Access Scope.

 Type: String

 Required: Yes

 Response Elements

 The following elements are returned by the service.

 **networkInsightsAccessScopeContent**

 The Network Access Scope content.

 Type: NetworkInsightsAccessScopeContent object

 **requestId**

 The ID of the request.

 Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetPasswordData

Retrieves the encrypted administrator password for a running Windows instance.

The Windows password is generated at boot by the EC2Config service or EC2Launch scripts (Windows Server 2016 and later). This usually only happens the first time an instance is launched. For more information, see EC2Config and EC2Launch in the Amazon EC2 User Guide.

For the EC2Config service, the password is not generated for rebundled AMIs unless Ec2SetPassword is enabled before bundling.

The password is encrypted using the key pair that you specified when you launched the instance. You must provide the corresponding key pair file.

When you launch an instance, password generation and encryption may take a few minutes. If you try to retrieve the password before it's available, the output returns an empty string. We recommend that you wait up to 15 minutes after launching an instance before trying to retrieve the generated password.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceId

The ID of the Windows instance.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

**instanceId**

The ID of the Windows instance.

Type: String

**passwordData**

The password of the instance. Returns an empty string if the password is not available.

Type: String

**requestId**

The ID of the request.

Type: String

**timestamp**

The time the data was last updated.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

**Example**

This example returns the encrypted version of the administrator password for the specified instance.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=GetPasswordData
&InstanceId=i-1234567890abcdef0
```
Sample Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-1234567890abcdef0</instanceId>
  <timestamp>2009-10-24 15:00:00</timestamp>

  <passwordData>TGludXggdmVyc2lvbiAyLjYuMTYteGVuVSAoYnVpbGRlckBwYXRjaGJhdC5hbWF6b25zYSkgKgdj</passwordData>
</GetPasswordDataResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
GetReservedInstancesExchangeQuote

Returns a quote and exchange information for exchanging one or more specified Convertible Reserved Instances for a new Convertible Reserved Instance. If the exchange cannot be performed, the reason is returned in the response. Use AcceptReservedInstancesExchangeQuote to perform the exchange.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ReservedInstanceId.N

The IDs of the Convertible Reserved Instances to exchange.

Type: Array of strings

Required: Yes

TargetConfiguration.N

The configuration of the target Convertible Reserved Instance to exchange for your current Convertible Reserved Instances.

Type: Array of TargetConfigurationRequest objects

Required: No

Response Elements

The following elements are returned by the service.
**currencyCode**

The currency of the transaction.

Type: String

**isValidExchange**

If true, the exchange is valid. If false, the exchange cannot be completed.

Type: Boolean

**outputReservedInstancesWillExpireAt**

The new end date of the reservation term.

Type: Timestamp

**paymentDue**

The total true upfront charge for the exchange.

Type: String

**requestId**

The ID of the request.

Type: String

**reservedInstanceValueRollup**

The cost associated with the Reserved Instance.

Type: ReservationValue object

**reservedInstanceValueSet**

The configuration of your Convertible Reserved Instances.

Type: Array of ReservedInstanceReservationValue objects

**targetConfigurationValueRollup**

The cost associated with the Reserved Instance.

Type: ReservationValue object
targetConfigurationValueSet

The values of the target Convertible Reserved Instances.

Type: Array of TargetReservationValue objects

validationFailureReason

Describes the reason why the exchange cannot be completed.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example describes the output of requesting whether a potential exchange is valid.

Sample Request

https://ec2.amazonaws.com/?Action=GetReservedInstancesExchangeQuote
&ReservedInstanceId.1=649fd0c8-7768-46b8-8f84-a6400EXAMPLE
&TargetConfiguration.1.OfferingId=24167194-6541-4041-9e31-bc7c5984aa53
&AUTHPARAMS

Sample Response

<GetReservedInstancesExchangeQuoteResponse>
  <requestId>d072f652-cc57-458c-89e0-e6c02EXAMPLE</requestId>
  <outputReservedInstancesWillExpireAt>2019-05-17T12:32:53Z</outputReservedInstancesWillExpireAt>
  <reservedInstanceValueSet>
    <item>
      <reservedInstanceId>649fd0c8-7768-46b8-8f84-a6400EXAMPLE</reservedInstanceId>
      <reservationValue>
        <remainingTotalValue>98.048402</remainingTotalValue>
        <hourlyPrice>0.018000</hourlyPrice>
    </item>
  </reservedInstanceValueSet>
</GetReservedInstancesExchangeQuoteResponse>
<remainingUpfrontValue>631.0</remainingUpfrontValue>
</reservationValue>
</item>
</reservedInstanceValueSet>
<targetConfigurationValueSet>
<isValidExchange>false</isValidExchange>
<paymentDue>-448.416438</paymentDue>
<targetConfigurationValueRollup>
  <remainingTotalValue>0</remainingTotalValue>
  <hourlyPrice>0</hourlyPrice>
  <remainingUpfrontValue>0</remainingUpfrontValue>
</targetConfigurationValueRollup>
<reservedInstanceValueRollup>
  <remainingTotalValue>873.504438</remainingTotalValue>
  <hourlyPrice>0.018000</hourlyPrice>
  <remainingUpfrontValue>448.416438</remainingUpfrontValue>
</reservedInstanceValueRollup>
<currencyCode>USD</currencyCode>
<validationFailureReason>The target configuration value is less than the input</validationFailureReason>
</GetReservedInstancesExchangeQuoteResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
**GetSecurityGroupsForVpc**

Gets security groups that can be associated by the AWS account making the request with network interfaces in the specified VPC.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Filter.N**

The filters. If using multiple filters, the results include security groups which match all filters.

- **group-id**: The security group ID.
- **description**: The security group's description.
- **group-name**: The security group name.
- **owner-id**: The security group owner ID.
- **primary-vpc-id**: The VPC ID in which the security group was created.

Type: Array of [Filter](#) objects

Required: No

**MaxResults**

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see [Pagination](#).

Type: Integer

Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

VpcId

The VPC ID where the security group can be used.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

securityGroupForVpcSet

The security group that can be used by interfaces in the VPC.

Type: Array of SecurityGroupForVpc objects

Errors

For information about the errors that are common to all actions, see Common client error codes.
For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetSerialConsoleAccessStatus

Retrieves the access status of your account to the EC2 serial console of all instances. By default, access to the EC2 serial console is disabled for your account. For more information, see Manage account access to the EC2 serial console in the Amazon EC2 User Guide.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

serialConsoleAccessEnabled

If true, access to the EC2 serial console of all instances is enabled for your account. If false, access to the EC2 serial console of all instances is disabled for your account.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetSnapshotBlockPublicAccessState

Gets the current state of block public access for snapshots setting for the account and Region.

For more information, see Block public access for snapshots in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

state

The current state of block public access for snapshots. Possible values include:

• block-all-sharing - All public sharing of snapshots is blocked. Users in the account can't request new public sharing. Additionally, snapshots that were already publicly shared are treated as private and are not publicly available.

• block-new-sharing - Only new public sharing of snapshots is blocked. Users in the account can't request new public sharing. However, snapshots that were already publicly shared, remain publicly available.
• unblocked - Public sharing is not blocked. Users can publicly share snapshots.

Type: String

Valid Values: block-all-sharing | block-new-sharing | unblocked

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
GetSpotPlacementScores

Calculates the Spot placement score for a Region or Availability Zone based on the specified target capacity and compute requirements.

You can specify your compute requirements either by using InstanceRequirementsWithMetadata and letting Amazon EC2 choose the optimal instance types to fulfill your Spot request, or you can specify the instance types by using InstanceTypes.

For more information, see Spot placement score in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceRequirementsWithMetadata

The attributes for the instance types. When you specify instance attributes, Amazon EC2 will identify instance types with those attributes.

If you specify InstanceRequirementsWithMetadata, you can't specify InstanceTypes.

Type: InstanceRequirementsWithMetadataRequest object

Required: No

InstanceType.N

The instance types. We recommend that you specify at least three instance types. If you specify one or two instance types, or specify variations of a single instance type (for example, an m3.xlarge with and without instance storage), the returned placement score will always be low.
If you specify InstanceTypes, you can't specify InstanceRequirementsWithMetadata.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 1000 items.

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer


Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

RegionName.N

The Regions used to narrow down the list of Regions to be scored. Enter the Region code, for example, us-east-1.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 10 items.

Required: No

SingleAvailabilityZone

Specify true so that the response returns a list of scored Availability Zones. Otherwise, the response returns a list of scored Regions.

A list of scored Availability Zones is useful if you want to launch all of your Spot capacity into a single Availability Zone.
Type: Boolean
Required: No

**TargetCapacity**

The target capacity.

Type: Integer


Required: Yes

**TargetCapacityUnitType**

The unit for the target capacity.

Type: String

Valid Values: vcpu | memory-mib | units

Required: No

**Response Elements**

The following elements are returned by the service.

**nextToken**

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

**requestId**

The ID of the request.

Type: String

**spotPlacementScoreSet**

The Spot placement score for the top 10 Regions or Availability Zones, scored on a scale from 1 to 10. Each score
reflects how likely it is that each Region or Availability Zone will succeed at fulfilling the specified target capacity at the time of the Spot placement score request. A score of 10 means that your Spot capacity request is highly likely to succeed in that Region or Availability Zone.

If you request a Spot placement score for Regions, a high score assumes that your fleet request will be configured to use all Availability Zones and the capacity-optimized allocation strategy. If you request a Spot placement score for Availability Zones, a high score assumes that your fleet request will be configured to use a single Availability Zone and the capacity-optimized allocation strategy.

Different Regions or Availability Zones might return the same score.

**Note**
The Spot placement score serves as a recommendation only. No score guarantees that your Spot request will be fully or partially fulfilled.

Type: Array of `SpotPlacementScore` objects

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
GetSubnetCidrReservations

Gets information about the subnet CIDR reservations.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Filter.N**

One or more filters.

- **reservationType** - The type of reservation (prefix | explicit).
- **subnet-id** - The ID of the subnet.
- **tag:<key>** - The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key `Owner` and the value `TeamA`, specify `tag:Owner` for the filter name and `TeamA` for the filter value.
- **tag-key** - The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

Type: Array of Filter objects

Required: No

**MaxResults**

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer

Required: No

**NextToken**

The token for the next page of results.

Type: String

Required: No

**SubnetId**

The ID of the subnet.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**nextToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**subnetIpv4CidrReservationSet**

Information about the IPv4 subnet CIDR reservations.

Type: Array of `SubnetCidrReservation` objects

**subnetIpv6CidrReservationSet**

Information about the IPv6 subnet CIDR reservations.
Type: Array of SubnetCidrReservation objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetTransitGatewayAttachmentPropagations

Lists the route tables to which the specified resource attachment propagates routes.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

Filter.N

One or more filters. The possible values are:

- transit-gateway-route-table-id - The ID of the transit gateway route table.

Type: Array of Filter objects
Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer
Required: No

NextToken

The token for the next page of results.

Type: String
Required: No

TransitGatewayAttachmentId

The ID of the attachment.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

transitGatewayAttachmentPropagations

Information about the propagation route tables.

Type: Array of TransitGatewayAttachmentPropagation objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
GetTransitGatewayMulticastDomainAssociations

Gets information about the associations for the transit gateway multicast domain.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. The possible values are:

- resource-id - The ID of the resource.
- resource-type - The type of resource. The valid value is vpc.
- state - The state of the subnet association. Valid values are associated | associating | disassociated | disassociating.
- subnet-id - The ID of the subnet.
- transit-gateway-attachment-id - The id of the transit gateway attachment.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer

Required: No

NextToken

The token for the next page of results.

Type: String

Required: No

TransitGatewayMulticastDomainId

The ID of the transit gateway multicast domain.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

multicastDomainAssociations

Information about the multicast domain associations.

Type: Array of TransitGatewayMulticastDomainAssociation objects

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.
Examples

Example 1

This example gets the multicast domain tgw-attach-028c1dd0f8EXAMPLE associations.

Sample Request

https://ec2.amazonaws.com/?Action=GetTransitGatewayMulticastDomainAssociations
&TransitGatewayMulticastDomainId=tgw-attach-028c1dd0f8EXAMPLE
&AUTHPARAMS

Sample Response

<?xml version="1.0" encoding="UTF-8"?><GetTransitGatewayMulticastDomainAssociationsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>ca392437-3f6c-4193-92cd-24404EXAMPLE</requestId>
  <multicastDomainAssociations>
    <item>
      <resourceId>vpc-01128d2c24EXAMPLE</resourceId>
      <resourceType>vpc</resourceType>
      <subnet>
        <state>associated</state>
        <subnetId>subnet-000de86e3bEXAMPLE</subnetId>
      </subnet>
      <transitGatewayAttachmentId>tgw-attach-028c1dd0f8EXAMPLE</transitGatewayAttachmentId>
    </item>
    <item>
      <resourceId>vpc-7EXAMPLE</resourceId>
      <resourceType>vpc</resourceType>
      <subnet>
        <state>associated</state>
        <subnetId>subnet-4EXAMPLE</subnetId>
      </subnet>
      <transitGatewayAttachmentId>tgw-attach-070e571cd1EXAMPLE</transitGatewayAttachmentId>
    </item>
    <item>
      <resourceId>vpc-7f67ec07</resourceId>
      <resourceType>vpc</resourceType>
      <subnet>
        <state>associated</state>
        <subnetId>subnet-4EXAMPLE</subnetId>
      </subnet>
      <transitGatewayAttachmentId>tgw-attach-070e571cd1EXAMPLE</transitGatewayAttachmentId>
    </item>
  </multicastDomainAssociations>
</GetTransitGatewayMulticastDomainAssociationsResponse>
<state>associated</state>
 <subnetId>subnet-5EXAMPLE</subnetId>
</subnet>
<transitGatewayAttachmentId>tgw-attach-070e571cd1EXAMPLE</transitGatewayAttachmentId>
</item>
<item>
 <resourceId>vpc-7EXAMPLE</resourceId>
 <resourceType>vpc</resourceType>
 <subnet>
  <state>associated</state>
  <subnetId>subnet-aEXAMPLE</subnetId>
 </subnet>
 <transitGatewayAttachmentId>tgw-attach-070e571cd1d3ee8e6</transitGatewayAttachmentId>
</item>
<item>
 <resourceId>vpc-7f67ec07</resourceId>
 <resourceType>vpc</resourceType>
 <subnet>
  <state>associated</state>
  <subnetId>subnet-fEXAMPLE</subnetId>
 </subnet>
 <transitGatewayAttachmentId>tgw-attach-070e571cd1EXAMPLE</transitGatewayAttachmentId>
</item>
</multicastDomainAssociations>
</GetTransitGatewayMulticastDomainAssociationsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetTransitGatewayPolicyTableAssociations

Gets a list of the transit gateway policy table associations.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is *DryRunOperation*. Otherwise, it is *UnauthorizedOperation*.

Type: Boolean

Required: No

**Filter.N**

The filters associated with the transit gateway policy table.

Type: Array of [Filter](#) objects

Required: No

**MaxResults**

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned *nextToken* value.

Type: Integer


Required: No

**NextToken**

The token for the next page of results.

Type: String
TransitGatewayPolicyTableId

The ID of the transit gateway policy table.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

associations

Returns details about the transit gateway policy table association.

Type: Array of TransitGatewayPolicyTableAssociation objects

nextToken

The token for the next page of results.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
See Also

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetTransitGatewayPolicyTableEntries

Returns a list of transit gateway policy table entries.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

The filters associated with the transit gateway policy table.

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer


Required: No

NextToken

The token for the next page of results.

Type: String
TransitGatewayPolicyTableId

The ID of the transit gateway policy table.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

transitGatewayPolicyTableEntries

The entries for the transit gateway policy table.

Type: Array of TransitGatewayPolicyTableEntry objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
GetTransitGatewayPrefixListReferences

Gets information about the prefix list references in a specified transit gateway route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. The possible values are:

- attachment.resource-id - The ID of the resource for the attachment.
- attachment.resource-type - The type of resource for the attachment. Valid values are vpc | vpn | direct-connect-gateway | peering.
- attachment.transit-gateway-attachment-id - The ID of the attachment.
- is-blackhole - Whether traffic matching the route is blocked (true | false).
- prefix-list-id - The ID of the prefix list.
- prefix-list-owner-id - The ID of the owner of the prefix list.
- state - The state of the prefix list reference (pending | available | modifying | deleting).

Type: Array of Filter objects

Required: No

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.
Type: Integer


Required: No

**NextToken**

The token for the next page of results.

Type: String

Required: No

**TransitGatewayRouteTableId**

The ID of the transit gateway route table.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**nextToken**

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**transitGatewayPrefixListReferenceSet**

Information about the prefix list references.

Type: Array of [TransitGatewayPrefixListReference](#) objects
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example gets the prefix list references for the specified transit gateway route table.

Sample Request

https://ec2.amazonaws.com/?Action=GetTransitGatewayPrefixListReferences&TransitGatewayRouteTableId=tgw-rtb-0f98a0a5d09abcabc

Sample Response

<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>
  <requestId>b194523f-807a-4a41-920a-example</requestId>
  <transitGatewayPrefixListReferenceSet>
    <item>
      <blackhole>false</blackhole>
      <prefixListId>pl-001122334455aabbc</prefixListId>
      <prefixListOwnerId>123456789012</prefixListOwnerId>
      <state>available</state>
      <transitGatewayAttachment>
        <resourceId>vpn-12312312312312312</resourceId>
        <resourceType>vpn</resourceType>
        <transitGatewayAttachmentId>tgw-attach-01234567abcabcabc</transitGatewayAttachmentId>
      </transitGatewayAttachment>
    </item>
  </transitGatewayPrefixListReferenceSet>
</GetTransitGatewayPrefixListReferencesResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetTransitGatewayRouteTableAssociations

Get information about the associations for the specified transit gateway route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Filter.N**

One or more filters. The possible values are:

- `resource-id` - The ID of the resource.
- `resource-type` - The resource type. Valid values are `vpc` | `vpn` | `direct-connect-gateway` | `peering` | `connect`.
- `transit-gateway-attachment-id` - The ID of the attachment.

Type: Array of Filter objects

Required: No

**MaxResults**

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer


Required: No
**NextToken**

The token for the next page of results.

Type: String

Required: No

**TransitGatewayRouteTableId**

The ID of the transit gateway route table.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**associations**

Information about the associations.

Type: Array of `TransitGatewayRouteTableAssociation` objects

**nextToken**

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
GetTransitGatewayRouteTablePropagations

Gets information about the route table propagations for the specified transit gateway route table.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Filter.N**

One or more filters. The possible values are:

- **resource-id** - The ID of the resource.
- **resource-type** - The resource type. Valid values are vpc | vpn | direct-connect-gateway | peering | connect.
- **transit-gateway-attachment-id** - The ID of the attachment.

Type: Array of Filter objects

Required: No

**MaxResults**

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer


Required: No
NextToken

The token for the next page of results.

Type: String

Required: No

TransitGatewayRouteTableId

The ID of the transit gateway route table.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

transitGatewayRouteTablePropagations

Information about the route table propagations.

Type: Array of TransitGatewayRouteTablePropagation objects

Errors

For information about the errors that are common to all actions, see Common client error codes.
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
GetVerifiedAccessEndpointPolicy

Get the Verified Access policy associated with the endpoint.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**VerifiedAccessEndpointId**

The ID of the Verified Access endpoint.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

**policyDocument**

The Verified Access policy document.

Type: String

**policyEnabled**

The status of the Verified Access policy.

Type: Boolean
**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
GetVerifiedAccessGroupPolicy

Shows the contents of the Verified Access policy associated with the group.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VerifiedAccessGroupId

The ID of the Verified Access group.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

policyDocument

The Verified Access policy document.

Type: String

policyEnabled

The status of the Verified Access policy.

Type: Boolean
requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetVpnConnectionDeviceSampleConfiguration

Download an AWS-provided sample configuration file to be used with the customer gateway device specified for your Site-to-Site VPN connection.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

InternetKeyExchangeVersion

The IKE version to be used in the sample configuration file for your customer gateway device. You can specify one of the following versions: ikev1 or ikev2.

Type: String
Required: No

VpnConnectionDeviceTypeId

Device identifier provided by the GetVpnConnectionDeviceTypes API.

Type: String
Required: Yes

VpnConnectionId

The VpnConnectionId specifies the Site-to-Site VPN connection used for the sample configuration.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

vpnConnectionDeviceSampleConfiguration

Sample configuration file for the specified customer gateway device.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
GetVpnConnectionDeviceTypes

Obtain a list of customer gateway devices for which sample configuration files can be provided. The request has no additional parameters. You can also see the list of device types with sample configuration files available under Your customer gateway device in the AWS Site-to-Site VPN User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**MaxResults**

The maximum number of results returned by GetVpnConnectionDeviceTypes in paginated output. When this parameter is used, GetVpnConnectionDeviceTypes only returns MaxResults results in a single page along with a NextToken response element. The remaining results of the initial request can be seen by sending another GetVpnConnectionDeviceTypes request with the returned NextToken value. This value can be between 200 and 1000. If this parameter is not used, then GetVpnConnectionDeviceTypes returns all results.

Type: Integer


Required: No

**NextToken**

The NextToken value returned from a previous paginated GetVpnConnectionDeviceTypes request where MaxResults was used and the results exceeded the value of that parameter.
Pagination continues from the end of the previous results that returned the `NextToken` value. This value is null when there are no more results to return.

Type: String
Required: No

**Response Elements**

The following elements are returned by the service.

**nextToken**

The `NextToken` value to include in a future `GetVpnConnectionDeviceTypes` request. When the results of a `GetVpnConnectionDeviceTypes` request exceed `MaxResults`, this value can be used to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**vpnConnectionDeviceTypeSet**

List of customer gateway devices that have a sample configuration file available for use.

Type: Array of `VpnConnectionDeviceType` objects

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
GetVpnTunnelReplacementStatus

Get details of available tunnel endpoint maintenance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**VpnConnectionId**

The ID of the Site-to-Site VPN connection.

Type: String

Required: Yes

**VpnTunnelOutsideIpAddress**

The external IP address of the VPN tunnel.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

**customerGatewayId**

The ID of the customer gateway.
Type: String

maintenanceDetails

Get details of pending tunnel endpoint maintenance.

Type: MaintenanceDetails object

requestId

The ID of the request.

Type: String

transitGatewayId

The ID of the transit gateway associated with the VPN connection.

Type: String

vpnConnectionId

The ID of the Site-to-Site VPN connection.

Type: String

vpnGatewayId

The ID of the virtual private gateway.

Type: String

vpnTunnelOutsideIpAddress

The external IP address of the VPN tunnel.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
See Also

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ImportClientVpnClientCertificateRevocationList

Uploads a client certificate revocation list to the specified Client VPN endpoint. Uploading a client certificate revocation list overwrites the existing client certificate revocation list.

Uploading a client certificate revocation list resets existing client connections.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CertificateRevocationList

The client certificate revocation list file. For more information, see Generate a Client Certificate Revocation List in the AWS Client VPN Administrator Guide.

Type: String

Required: Yes

ClientVpnEndpointId

The ID of the Client VPN endpoint to which the client certificate revocation list applies.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

return

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ImportImage

To import your virtual machines (VMs) with a console-based experience, you can use the Import virtual machine images to AWS template in the Migration Hub Orchestrator console. For more information, see the AWS Migration Hub Orchestrator User Guide.

Import single or multi-volume disk images or EBS snapshots into an Amazon Machine Image (AMI).

AWS VM Import/Export strongly recommends specifying a value for either the --license-type or --usage-operation parameter when you create a new VM Import task. This ensures your operating system is licensed appropriately and your billing is optimized.

For more information, see Importing a VM as an image using VM Import/Export in the VM Import/Export User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Architecture

The architecture of the virtual machine.

Valid values: i386 | x86_64

Type: String

Required: No

BootMode

The boot mode of the virtual machine.
Note

The uefi-preferred boot mode isn't supported for importing images. For more information, see Boot modes in the VM Import/Export User Guide.

Type: String

Valid Values: legacy-bios | uefi | uefi-preferred

Required: No

ClientData

The client-specific data.

Type: ClientData object

Required: No

ClientToken

The token to enable idempotency for VM import requests.

Type: String

Required: No

Description

A description string for the import image task.

Type: String

Required: No

DiskContainer.N

Information about the disk containers.

Type: Array of ImageDiskContainer objects

Required: No
DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Encrypted

Specifies whether the destination AMI of the imported image should be encrypted. The default KMS key for EBS is used unless you specify a non-default KMS key using KmsKeyId. For more information, see Amazon EBS Encryption in the Amazon Elastic Compute Cloud User Guide.

Type: Boolean

Required: No

Hypervisor

The target hypervisor platform.

Valid values: xen

Type: String

Required: No

KmsKeyId

An identifier for the symmetric KMS key to use when creating the encrypted AMI. This parameter is only required if you want to use a non-default KMS key; if this parameter is not specified, the default KMS key for EBS is used. If a KmsKeyId is specified, the Encrypted flag must also be set.

The KMS key identifier may be provided in any of the following formats:

- Key ID
- Key alias
- ARN using key ID. The ID ARN contains the arn:aws:kms namespace, followed by the Region of the key, the AWS account ID of the key owner, the key namespace, and then the key
For example, arn:aws:kms:us-east-1:012345678910:key/abcd1234-a123-456a-a12b-a123b4cd56ef.

• ARN using key alias. The alias ARN contains the arn:aws:kms namespace, followed by the Region of the key, the AWS account ID of the key owner, the alias namespace, and then the key alias. For example, arn:aws:kms:us-east-1:012345678910:alias/ExampleAlias.

AWS parses KmsKeyId asynchronously, meaning that the action you call may appear to complete even though you provided an invalid identifier. This action will eventually report failure.

The specified KMS key must exist in the Region that the AMI is being copied to.

Amazon EBS does not support asymmetric KMS keys.

Type: String

Required: No

LicenseSpecifications.N

The ARNs of the license configurations.

Type: Array of ImportImageLicenseConfigurationRequest objects

Required: No

LicenseType

The license type to be used for the Amazon Machine Image (AMI) after importing.

Specify AWS to replace the source-system license with an AWS license or BYOL to retain the source-system license. Leaving this parameter undefined is the same as choosing AWS when importing a Windows Server operating system, and the same as choosing BYOL when importing a Windows client operating system (such as Windows 10) or a Linux operating system.

To use BYOL, you must have existing licenses with rights to use these licenses in a third party cloud, such as AWS. For more information, see Prerequisites in the VM Import/Export User Guide.

Type: String

Required: No
Platform

The operating system of the virtual machine. If you import a VM that is compatible with Unified Extensible Firmware Interface (UEFI) using an EBS snapshot, you must specify a value for the platform.

Valid values: Windows | Linux

Type: String

Required: No

RoleName

The name of the role to use when not using the default role, 'vmimport'.

Type: String

Required: No

TagSpecification.N

The tags to apply to the import image task during creation.

Type: Array of TagSpecification objects

Required: No

UsageOperation

The usage operation value. For more information, see Licensing options in the VM Import/Export User Guide.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

architecture

The architecture of the virtual machine.
Type: String
description
A description of the import task.
Type: String
encrypted
Indicates whether the AMI is encrypted.
Type: Boolean
hypervisor
The target hypervisor of the import task.
Type: String
imageId
The ID of the Amazon Machine Image (AMI) created by the import task.
Type: String
importTaskId
The task ID of the import image task.
Type: String
kmsKeyId
The identifier for the symmetric KMS key that was used to create the encrypted AMI.
Type: String
licenseSpecifications
The ARNs of the license configurations.
Type: Array of ImportImageLicenseConfigurationResponse objects
licenseType
The license type of the virtual machine.
Type: String
platform

The operating system of the virtual machine.

Type: String

progress

The progress of the task.

Type: String

requestId

The ID of the request.

Type: String

snapshotDetailSet

Information about the snapshots.

Type: Array of SnapshotDetail objects

status

A brief status of the task.

Type: String

statusMessage

A detailed status message of the import task.

Type: String

tagSet

Any tags assigned to the import image task.

Type: Array of Tag objects

usageOperation

The usage operation value.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ImportInstance

Note

We recommend that you use the ImportImage API. For more information, see Importing a VM as an image using VM Import/Export in the VM Import/Export User Guide.

Creates an import instance task using metadata from the specified disk image.

This API action is not supported by the AWS Command Line Interface (AWS CLI). For information about using the Amazon EC2 CLI, which is deprecated, see Importing a VM to Amazon EC2 in the Amazon EC2 CLI Reference PDF file.

This API action supports only single-volume VMs. To import multi-volume VMs, use ImportImage instead.

For information about the import manifest referenced by this API action, see VM Import Manifest.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Description

A description for the instance being imported.

Type: String

Required: No

DiskImage.N

The disk image.

Type: Array of DiskImage objects

Required: No
DryRun

Checks whether you have the required permissions for the action, without actually making
the request, and provides an error response. If you have the required permissions, the error
response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

LaunchSpecification

The launch specification.

Type: ImportInstanceLaunchSpecification object

Required: No

Platform

The instance operating system.

Type: String

Valid Values: Windows

Required: Yes

Response Elements

The following elements are returned by the service.

collectionTask

Information about the conversion task.

Type: ConversionTask object

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example creates an import instance task that migrates a Windows Server 2008 SP2 (32-bit) VM into the `us-east-1` Region.

Sample Request

```
https://ec2.amazonaws.com/?Action=ImportInstance
&LaunchSpecification.Architecture=x86_64
&LaunchSpecification.InstanceType=m1.xlarge
&DiskImage.1.Image.Format=VMDK
&DiskImage.1.Image.Bytes=1179593728
&DiskImage.1.Image.ImportManifestUrl=https://s3.amazonaws.com/myawsbucket/a3a5e1b6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmanifest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&Signature=5snej01TtTtL0uR7KExtEXAMPLE%3D
&DiskImage.1.Volume.Size=12
&Platform=Windows
&AUTHPARAMS
```

Sample Response

```
<ImportInstanceResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <conversionTask>
    <conversionTaskId>import-i-ffvko9js</conversionTaskId>
    <expirationTime>2010-12-22T12:01Z</expirationTime>
  </conversionTask>
  <importInstance>
    <volumes>
      <item>
        <bytesConverted>0</bytesConverted>
        <availabilityZone>us-east-1a</availabilityZone>
        <image>
          <format>VMDK</format>
          <size>1179593728</size>
          <importManifestUrl>
```

Errors
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
### ImportKeyPair

Imports the public key from an RSA or ED25519 key pair that you created with a third-party tool. Compare this with CreateKeyPair, in which AWS creates the key pair and gives the keys to you (AWS keeps a copy of the public key). With ImportKeyPair, you create the key pair and give AWS just the public key. The private key is never transferred between you and AWS.

For more information about key pairs, see Amazon EC2 key pairs in the Amazon Elastic Compute Cloud User Guide.

### Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**KeyName**

A unique name for the key pair.

Type: String

Required: Yes

**PublicKeyMaterial**

The public key. For API calls, the text must be base64-encoded. For command line tools, base64 encoding is performed for you.

Type: Base64-encoded binary data object

Required: Yes
**TagSpecification.N**

The tags to apply to the imported key pair.

Type: Array of TagSpecification objects

Required: No

**Response Elements**

The following elements are returned by the service.

**keyFingerprint**

- For RSA key pairs, the key fingerprint is the MD5 public key fingerprint as specified in section 4 of RFC 4716.
- For ED25519 key pairs, the key fingerprint is the base64-encoded SHA-256 digest, which is the default for OpenSSH, starting with OpenSSH 6.8.

Type: String

**keyName**

The key pair name that you provided.

Type: String

**keyPairId**

The ID of the resulting key pair.

Type: String

**requestId**

The ID of the request.

Type: String

**tagSet**

The tags applied to the imported key pair.

Type: Array of Tag objects
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example imports the public key named my-key-pair, and applies a tag with a key of purpose and a value of production.

Sample Request

```xml
https://ec2.amazonaws.com/?Action=ImportKeyPair
&KeyName=my-key-pair
&PublicKeyMaterial=MIIcITCAAfICCQD6m7oRw0uX0jANBgkqhkiG9w0BAQUFADCBiDELMAkGA1UEBhcMCVVaMBAGA1UdDwEB/wQEAwIBAgI...Wm51ev/Vv2yRa1c9p3iF7Smcaq72Km7LskrY..QmzZw6W1jOul1w...EXAMPLE
&TagSpecification.1.ResourceType=key-pair
&TagSpecification.1.Tag.1.Key=purpose
&TagSpecification.1.Tag.1.Value=production
&AUTHPARAMS
```

Sample Response

```xml
<ImportKeyPairResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <keyName>my-key-pair</keyName>
  <keyPairId>key-abced1234EXAMPLE</keyPairId>
</ImportKeyPairResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
ImportSnapshot

Imports a disk into an EBS snapshot.

For more information, see Importing a disk as a snapshot using VM Import/Export in the VM Import/Export User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientData

The client-specific data.

Type: ClientData object

Required: No

ClientToken

Token to enable idempotency for VM import requests.

Type: String

Required: No

Description

The description string for the import snapshot task.

Type: String

Required: No

DiskContainer

Information about the disk container.

Type: SnapshotDiskContainer object

Required: No
DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Encrypted

Specifies whether the destination snapshot of the imported image should be encrypted. The default KMS key for EBS is used unless you specify a non-default KMS key using KmsKeyId. For more information, see Amazon EBS Encryption in the Amazon Elastic Compute Cloud User Guide.

Type: Boolean

Required: No

KmsKeyId

An identifier for the symmetric KMS key to use when creating the encrypted snapshot. This parameter is only required if you want to use a non-default KMS key; if this parameter is not specified, the default KMS key for EBS is used. If a KmsKeyId is specified, the Encrypted flag must also be set.

The KMS key identifier may be provided in any of the following formats:

- Key ID
- Key alias
- ARN using key ID. The ID ARN contains the arn:aws:kms namespace, followed by the Region of the key, the AWS account ID of the key owner, the key namespace, and then the key ID. For example, arn:aws:kms:us-east-1:012345678910:key/abcd1234-a123-456a-a12b-a123b4cd56ef.
- ARN using key alias. The alias ARN contains the arn:aws:kms namespace, followed by the Region of the key, the AWS account ID of the key owner, the alias namespace, and then the key alias. For example, arn:aws:kms:us-east-1:012345678910:alias/ExampleAlias.

AWS parses KmsKeyId asynchronously, meaning that the action you call may appear to complete even though you provided an invalid identifier. This action will eventually report failure.
The specified KMS key must exist in the Region that the snapshot is being copied to.

Amazon EBS does not support asymmetric KMS keys.

Type: String
Required: No

**RoleName**

The name of the role to use when not using the default role, 'vmimport'.

Type: String
Required: No

**TagSpecification.N**

The tags to apply to the import snapshot task during creation.

Type: Array of [TagSpecification](#) objects
Required: No

### Response Elements

The following elements are returned by the service.

**description**

A description of the import snapshot task.

Type: String

**importTaskId**

The ID of the import snapshot task.

Type: String

**requestId**

The ID of the request.

Type: String
snapshotTaskDetail

Information about the import snapshot task.

Type: SnapshotTaskDetail object

tagSet

Any tags assigned to the import snapshot task.

Type: Array of Tag objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ImportVolume

Creates an import volume task using metadata from the specified disk image.

This API action supports only single-volume VMs. To import multi-volume VMs, use ImportImage instead. To import a disk to a snapshot, use ImportSnapshot instead.

This API action is not supported by the AWS Command Line Interface (AWS CLI). For information about using the Amazon EC2 CLI, which is deprecated, see Importing Disks to Amazon EBS in the Amazon EC2 CLI Reference PDF file.

For information about the import manifest referenced by this API action, see VM Import Manifest.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AvailabilityZone

The Availability Zone for the resulting EBS volume.

Type: String

Required: Yes

Description

A description of the volume.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
Image

The disk image.

Type: DiskImageDetail object

Required: Yes

Volume

The volume size.

Type: VolumeDetail object

Required: Yes

Response Elements

The following elements are returned by the service.

colorationTask

Information about the conversion task.

Type: ConversionTask object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example creates an import volume task that migrates a Windows Server 2008 SP2 (32-bit) volume into the us-east-1 Region.
Sample Request

https://ec2.amazonaws.com/?Action=ImportVolume
&AvailabilityZone=us-east-1c
&Image.Format=VMDK
&Image.Bytes=128696320
&Image.ImportManifestUrl=https://s3.amazonaws.com/myawsbucket/a3a5e1b6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmanifest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&Signature=5snej01T7tl0uR7KExtEXAMPLE%3D
&Volume.Size=8
&AUTHPARAMS>

Sample Response

<?xml version="1.0" encoding="UTF-8"?>
  <conversionTask>
    <conversionTaskId>import-i-fh95npoc</conversionTaskId>
    <expirationTime>2010-12-22T12:01Z</expirationTime>
    <importVolume>
      <bytesConverted>0</bytesConverted>
      <availabilityZone>us-east-1c</availabilityZone>
      <description/>
      <image>
        <format>VDMK</format>
        <size>128696320</size>
        <importManifestUrl>
          https://s3.amazonaws.com/myawsbucket/a3a5e1b6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmanifest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&Signature=5snej01T7tl0uR7KExtEXAMPLE%3D
        </importManifestUrl>
        <checksum>ccb1b0536a4a70e86016b85229b5c6b10b14a4eb</checksum>
      </image>
      <volume>
        <size>8</size>
        <id>vol-1234567890abcdef0</id>
      </volume>
    </importVolume>
    <state>active</state>
    <statusMessage/>
  </conversionTask>
</ImportVolumeResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ListImagesInRecycleBin

Lists one or more AMIs that are currently in the Recycle Bin. For more information, see Recycle Bin in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ImageId.N

The IDs of the AMIs to list. Omit this parameter to list all of the AMIs that are in the Recycle Bin. You can specify up to 20 IDs in a single request.

Type: Array of strings

Required: No

MaxResults

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.

Required: No

NextToken

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.
Type: String
Required: No

Response Elements

The following elements are returned by the service.

**imageSet**

Information about the AMIs.

Type: Array of [ImageRecycleBinInfo](#) objects

**nextToken**

The token to include in another request to get the next page of items. This value is `null` when there are no more items to return.

Type: String

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
See Also

- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ListSnapshotsInRecycleBin

Lists one or more snapshots that are currently in the Recycle Bin.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**MaxResults**

The maximum number of items to return for this request. To get the next page of items, make another request with the token returned in the output. For more information, see Pagination.

Type: Integer


Required: No

**NextToken**

The token returned from a previous paginated request. Pagination continues from the end of the items returned by the previous request.

Type: String

Required: No

**SnapshotId.N**

The IDs of the snapshots to list. Omit this parameter to list all of the snapshots that are in the Recycle Bin.
Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to include in another request to get the next page of items. This value is null when there are no more items to return.

Type: String

requestId

The ID of the request.

Type: String

snapshotSet

Information about the snapshots.

Type: Array of SnapshotRecycleBinInfo objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
See Also

- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
LockSnapshot

Locks an Amazon EBS snapshot in either *governance* or *compliance* mode to protect it against accidental or malicious deletions for a specific duration. A locked snapshot can't be deleted.

You can also use this action to modify the lock settings for a snapshot that is already locked. The allowed modifications depend on the lock mode and lock state:

- If the snapshot is locked in governance mode, you can modify the lock mode and the lock duration or lock expiration date.
- If the snapshot is locked in compliance mode and it is in the cooling-off period, you can modify the lock mode and the lock duration or lock expiration date.
- If the snapshot is locked in compliance mode and the cooling-off period has lapsed, you can only increase the lock duration or extend the lock expiration date.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**CoolOffPeriod**

The cooling-off period during which you can unlock the snapshot or modify the lock settings after locking the snapshot in compliance mode, in hours. After the cooling-off period expires, you can't unlock or delete the snapshot, decrease the lock duration, or change the lock mode. You can increase the lock duration after the cooling-off period expires.

The cooling-off period is optional when locking a snapshot in compliance mode. If you are locking the snapshot in governance mode, omit this parameter.

To lock the snapshot in compliance mode immediately without a cooling-off period, omit this parameter.

If you are extending the lock duration for a snapshot that is locked in compliance mode after the cooling-off period has expired, omit this parameter. If you specify a cooling-period in a such a request, the request fails.

Allowed values: Min 1, max 72.

Type: Integer

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is **DryRunOperation**. Otherwise, it is **UnauthorizedOperation**.

Type: Boolean

Required: No

**ExpirationDate**

The date and time at which the snapshot lock is to automatically expire, in the UTC time zone (YYYY-MM-DDThh:mm:ss.sssZ).

You must specify either this parameter or **ExpirationDate**, but not both.

Type: Timestamp

Required: No

**LockDuration**

The period of time for which to lock the snapshot, in days. The snapshot lock will automatically expire after this period lapses.

You must specify either this parameter or **ExpirationDate**, but not both.

Allowed values: Min: 1, max 36500

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 36500.

Required: No

**LockMode**

The mode in which to lock the snapshot. Specify one of the following:

- **governance** - Locks the snapshot in governance mode. Snapshots locked in governance mode can't be deleted until one of the following conditions are met:
- The lock duration expires.
- The snapshot is unlocked by a user with the appropriate permissions.

Users with the appropriate IAM permissions can unlock the snapshot, increase or decrease the lock duration, and change the lock mode to compliance at any time.

If you lock a snapshot in governance mode, omit `CoolOffPeriod`.

- compliance - Locks the snapshot in compliance mode. Snapshots locked in compliance mode can't be unlocked by any user. They can be deleted only after the lock duration expires. Users can't decrease the lock duration or change the lock mode to governance. However, users with appropriate IAM permissions can increase the lock duration at any time.

If you lock a snapshot in compliance mode, you can optionally specify `CoolOffPeriod`.

  Type: String
  Valid Values: compliance | governance
  Required: Yes

**SnapshotId**

The ID of the snapshot to lock.

  Type: String
  Required: Yes

**Response Elements**

The following elements are returned by the service.

**coolOffPeriod**

The compliance mode cooling-off period, in hours.

  Type: Integer

**coolOffPeriodExpiresOn**

The date and time at which the compliance mode cooling-off period expires, in the UTC time zone (YYYY-MM-DDThh:mm:ss.sssZ).
Type: Timestamp

lockCreatedOn

The date and time at which the snapshot was locked, in the UTC time zone (YYYY-MM-DDThh:mm:ss.sssZ).

Type: Timestamp

lockDuration

The period of time for which the snapshot is locked, in days.

Type: Integer

lockDurationStartTime

The date and time at which the lock duration started, in the UTC time zone (YYYY-MM-DDThh:mm:ss.sssZ).

Type: Timestamp

lockExpiresOn

The date and time at which the lock will expire, in the UTC time zone (YYYY-MM-DDThh:mm:ss.sssZ).

Type: Timestamp

lockState

The state of the snapshot lock. Valid states include:

- compliance-cooloff - The snapshot has been locked in compliance mode but it is still within the cooling-off period. The snapshot can't be deleted, but it can be unlocked and the lock settings can be modified by users with appropriate permissions.
- governance - The snapshot is locked in governance mode. The snapshot can't be deleted, but it can be unlocked and the lock settings can be modified by users with appropriate permissions.
- compliance - The snapshot is locked in compliance mode and the cooling-off period has expired. The snapshot can't be unlocked or deleted. The lock duration can only be increased by users with appropriate permissions.
- expired - The snapshot was locked in compliance or governance mode but the lock duration has expired. The snapshot is not locked and can be deleted.
Type: String

Valid Values: compliance | governance | compliance-cooloff | expired

requestId

The ID of the request.

Type: String

snapshotId

The ID of the snapshot.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyAddressAttribute

Modifies an attribute of the specified Elastic IP address. For requirements, see Using reverse DNS for email applications.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AllocationId

[EC2-VPC] The allocation ID.

Type: String

Required: Yes

DomainName

The domain name to modify for the IP address.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

address

Information about the Elastic IP address.
Type: AddressAttribute object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyAvailabilityZoneGroup

Changes the opt-in status of the Local Zone and Wavelength Zone group for your account.

Use [DescribeAvailabilityZones](#) to view the value for GroupName.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**GroupName**

The name of the Availability Zone group, Local Zone group, or Wavelength Zone group.

Type: String

Required: Yes

**OptInStatus**

Indicates whether you are opted in to the Local Zone group or Wavelength Zone group. The only valid value is opted-in. You must contact [AWS Support](#) to opt out of a Local Zone or Wavelength Zone group.

Type: String

Valid Values: opted-in | not-opted-in

Required: Yes

**Response Elements**

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyCapacityReservation

Modifies a Capacity Reservation's capacity and the conditions under which it is to be released. You cannot change a Capacity Reservation's instance type, EBS optimization, instance store settings, platform, Availability Zone, or instance eligibility. If you need to modify any of these attributes, we recommend that you cancel the Capacity Reservation, and then create a new one with the required attributes.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Accept

Reserved. Capacity Reservations you have created are accepted by default.

Type: Boolean

Required: No

AdditionalInfo

Reserved for future use.

Type: String

Required: No

CapacityReservationId

The ID of the Capacity Reservation.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

**EndDate**

The date and time at which the Capacity Reservation expires. When a Capacity Reservation expires, the reserved capacity is released and you can no longer launch instances into it. The Capacity Reservation's state changes to expired when it reaches its end date and time.

The Capacity Reservation is cancelled within an hour from the specified time. For example, if you specify 5/31/2019, 13:30:55, the Capacity Reservation is guaranteed to end between 13:30:55 and 14:30:55 on 5/31/2019.

You must provide an EndDate value if EndDateType is limited. Omit EndDate if EndDateType is unlimited.

Type: Timestamp

Required: No

**EndDateType**

Indicates the way in which the Capacity Reservation ends. A Capacity Reservation can have one of the following end types:

- unlimited - The Capacity Reservation remains active until you explicitly cancel it. Do not provide an EndDate value if EndDateType is unlimited.

- limited - The Capacity Reservation expires automatically at a specified date and time. You must provide an EndDate value if EndDateType is limited.

Type: String

Valid Values: unlimited | limited

Required: No

**InstanceCount**

The number of instances for which to reserve capacity. The number of instances can't be increased or decreased by more than 1000 in a single request.

Type: Integer

Required: No
Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**return**

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
ModifyCapacityReservationFleet

Modifies a Capacity Reservation Fleet.

When you modify the total target capacity of a Capacity Reservation Fleet, the Fleet automatically creates new Capacity Reservations, or modifies or cancels existing Capacity Reservations in the Fleet to meet the new total target capacity. When you modify the end date for the Fleet, the end dates for all of the individual Capacity Reservations in the Fleet are updated accordingly.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CapacityReservationFleetId

  The ID of the Capacity Reservation Fleet to modify.

  Type: String

  Required: Yes

DryRun

  Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

  Type: Boolean

  Required: No

EndDate

  The date and time at which the Capacity Reservation Fleet expires. When the Capacity Reservation Fleet expires, its state changes to expired and all of the Capacity Reservations in the Fleet expire.

  The Capacity Reservation Fleet expires within an hour after the specified time. For example, if you specify 5/31/2019, 13:30:55, the Capacity Reservation Fleet is guaranteed to expire between 13:30:55 and 14:30:55 on 5/31/2019.

  You can't specify EndDate and RemoveEndDate in the same request.
Type: Timestamp

Required: No

**RemoveEndDate**

Indicates whether to remove the end date from the Capacity Reservation Fleet. If you remove the end date, the Capacity Reservation Fleet does not expire and it remains active until you explicitly cancel it using the `CancelCapacityReservationFleet` action.

You can't specify **RemoveEndDate** and **EndDate** in the same request.

Type: Boolean

Required: No

**TotalTargetCapacity**

The total number of capacity units to be reserved by the Capacity Reservation Fleet. This value, together with the instance type weights that you assign to each instance type used by the Fleet determine the number of instances for which the Fleet reserves capacity. Both values are based on units that make sense for your workload. For more information, see [Total target capacity](#) in the Amazon EC2 User Guide.

Type: Integer

Required: No

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**return**

Returns `true` if the request succeeds; otherwise, it returns an error.

Type: Boolean
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyClientVpnEndpoint

Modifies the specified Client VPN endpoint. Modifying the DNS server resets existing client connections.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientConnectOptions

The options for managing connection authorization for new client connections.

Type: ClientConnectOptions object

Required: No

ClientLoginBannerOptions

Options for enabling a customizable text banner that will be displayed on AWS provided clients when a VPN session is established.

Type: ClientLoginBannerOptions object

Required: No

ClientVpnEndpointId

The ID of the Client VPN endpoint to modify.

Type: String

Required: Yes

ConnectionLogOptions

Information about the client connection logging options.

If you enable client connection logging, data about client connections is sent to a Cloudwatch Logs log stream. The following information is logged:

- Client connection requests
- Client connection results (successful and unsuccessful)
• Reasons for unsuccessful client connection requests
• Client connection termination time

**Description**

A brief description of the Client VPN endpoint.

Type: String

Required: No

**DnsServers**

Information about the DNS servers to be used by Client VPN connections. A Client VPN endpoint can have up to two DNS servers.

Type: DnsServersOptionsModifyStructure object

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**SecurityGroupId.N**

The IDs of one or more security groups to apply to the target network.

Type: Array of strings

Required: No

**SelfServicePortal**

Specify whether to enable the self-service portal for the Client VPN endpoint.
**Type:** String

**Valid Values:** enabled | disabled

**Required:** No

**ServerCertificateArn**

The ARN of the server certificate to be used. The server certificate must be provisioned in AWS Certificate Manager (ACM).

**Type:** String

**Required:** No

**SessionTimeoutHours**

The maximum VPN session duration time in hours.

**Valid values:** 8 | 10 | 12 | 24

**Default value:** 24

**Type:** Integer

**Required:** No

**SplitTunnel**

Indicates whether the VPN is split-tunnel.

For information about split-tunnel VPN endpoints, see [Split-tunnel AWS Client VPN endpoint](#) in the *AWS Client VPN Administrator Guide*.

**Type:** Boolean

**Required:** No

**VpcId**

The ID of the VPC to associate with the Client VPN endpoint.

**Type:** String

**Required:** No
VpnPort

The port number to assign to the Client VPN endpoint for TCP and UDP traffic.

Valid Values: 443 | 1194

Default Value: 443

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example modifies a Client VPN endpoint's description.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyClientVpnEndpoint
&ClientVpnEndpointId=cvpn-endpoint-00c5d11fc4EXAMPLE
&Description=my-client-vpn-endpoint
&AUTHPARAMS

Sample Response

```xml
<ModifyClientVpnEndpointResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>fe4813d3-1e79-4f67-bbd7-3186eEXAMPLE</requestId>
  <return>true</return>
</ModifyClientVpnEndpointResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
ModifyDefaultCreditSpecification

Modifies the default credit option for CPU usage of burstable performance instances. The default credit option is set at the account level per AWS Region, and is specified per instance family. All new burstable performance instances in the account launch using the default credit option.

ModifyDefaultCreditSpecification is an asynchronous operation, which works at an AWS Region level and modifies the credit option for each Availability Zone. All zones in a Region are updated within five minutes. But if instances are launched during this operation, they might not get the new credit option until the zone is updated. To verify whether the update has occurred, you can call GetDefaultCreditSpecification and check DefaultCreditSpecification for updates.

For more information, see Burstable performance instances in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**CpuCredits**

The credit option for CPU usage of the instance family.

Valid Values: standard | unlimited

Type: String

Required: Yes

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**InstanceFamily**

The instance family.
Type: String

Valid Values: t2 | t3 | t3a | t4g

Required: Yes

Response Elements

The following elements are returned by the service.

instanceFamilyCreditSpecification

The default credit option for CPU usage of the instance family.

Type: InstanceFamilyCreditSpecification object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example modifies the default credit option for CPU usage to unlimited for all instances in the T2 instance family in the specified Region.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyDefaultCreditSpecification
&Region=us-east-1
&InstanceFamily=t2
&CpuCredits=unlimited
&AUTHPARAMS
Sample Response

```xml
    requestID=11111111-2222-3333-4444-5555EXAMPLE>
    <instanceFamilyCreditSpecification>
        <cpuCredits>unlimited</cpuCredits>
        <instanceFamily>t2</instanceFamily>
    </instanceFamilyCreditSpecification>
</ModifyDefaultCreditSpecificationResponse>
```

Example 2

This example modifies the default credit option for CPU usage to standard for all instances in the T3 instance family in the specified Region.

Sample Request

```text
https://ec2.amazonaws.com/?Action=ModifyDefaultCreditSpecification
&Region=us-east-1
&InstanceFamily=t3
&CpuCredits=standard
&AUTHPARAMS
```

Sample Response

```xml
    requestID=11111111-2222-3333-4444-5555EXAMPLE>
    <instanceFamilyCreditSpecification>
        <cpuCredits>standard</cpuCredits>
        <instanceFamily>t3</instanceFamily>
    </instanceFamilyCreditSpecification>
</ModifyDefaultCreditSpecificationResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](https://aws.amazon.com/cli/)
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
ModifyEbsDefaultKmsKeyId

Changes the default AWS KMS key for EBS encryption by default for your account in this Region.

AWS creates a unique AWS managed KMS key in each Region for use with encryption by default. If you change the default KMS key to a symmetric customer managed KMS key, it is used instead of the AWS managed KMS key. To reset the default KMS key to the AWS managed KMS key for EBS, use ResetEbsDefaultKmsKeyId. Amazon EBS does not support asymmetric KMS keys.

If you delete or disable the customer managed KMS key that you specified for use with encryption by default, your instances will fail to launch.

For more information, see Amazon EBS encryption in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

KmsKeyId

The identifier of the AWS Key Management Service (AWS KMS) KMS key to use for Amazon EBS encryption. If this parameter is not specified, your AWS KMS key for Amazon EBS is used. If KmsKeyId is specified, the encrypted state must be true.

You can specify the KMS key using any of the following:
- Key ID. For example, 1234abcd-12ab-34cd-56ef-1234567890ab.
- Key alias. For example, alias/ExampleAlias.
- Key ARN. For example, arn:aws:kms:us-east-1:012345678910:key/1234abcd-12ab-34cd-56ef-1234567890ab.
• Alias ARN. For example, arn:aws:kms:us-east-1:012345678910:alias/ExampleAlias.

AWS authenticates the KMS key asynchronously. Therefore, if you specify an ID, alias, or ARN that is not valid, the action can appear to complete, but eventually fails.

Amazon EBS does not support asymmetric KMS keys.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

**kmsKeyId**

The Amazon Resource Name (ARN) of the default KMS key for encryption by default.

Type: String

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
• **AWS SDK for Java V2**
• **AWS SDK for JavaScript V3**
• **AWS SDK for PHP V3**
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
ModifyFleet

Modifies the specified EC2 Fleet.

You can only modify an EC2 Fleet request of type maintain.

While the EC2 Fleet is being modified, it is in the modifying state.

To scale up your EC2 Fleet, increase its target capacity. The EC2 Fleet launches the additional Spot Instances according to the allocation strategy for the EC2 Fleet request. If the allocation strategy is lowest-price, the EC2 Fleet launches instances using the Spot Instance pool with the lowest price. If the allocation strategy is diversified, the EC2 Fleet distributes the instances across the Spot Instance pools. If the allocation strategy is capacity-optimized, EC2 Fleet launches instances from Spot Instance pools with optimal capacity for the number of instances that are launching.

To scale down your EC2 Fleet, decrease its target capacity. First, the EC2 Fleet cancels any open requests that exceed the new target capacity. You can request that the EC2 Fleet terminate Spot Instances until the size of the fleet no longer exceeds the new target capacity. If the allocation strategy is lowest-price, the EC2 Fleet terminates the instances with the highest price per unit. If the allocation strategy is capacity-optimized, the EC2 Fleet terminates the instances in the Spot Instance pools that have the least available Spot Instance capacity. If the allocation strategy is diversified, the EC2 Fleet terminates instances across the Spot Instance pools. Alternatively, you can request that the EC2 Fleet keep the fleet at its current size, but not replace any Spot Instances that are interrupted or that you terminate manually.

If you are finished with your EC2 Fleet for now, but will use it again later, you can set the target capacity to 0.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Context

Reserved.

Type: String
DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ExcessCapacityTerminationPolicy

Indicates whether running instances should be terminated if the total target capacity of the EC2 Fleet is decreased below the current size of the EC2 Fleet.

Supported only for fleets of type maintain.

Type: String

Valid Values: no-termination | termination

Required: No

FleetId

The ID of the EC2 Fleet.

Type: String

Required: Yes

LaunchTemplateConfig.N

The launch template and overrides.

Type: Array of FleetLaunchTemplateConfigRequest objects

Array Members: Minimum number of 0 items. Maximum number of 50 items.

Required: No

TargetCapacitySpecification

The size of the EC2 Fleet.
Response Elements

The following elements are returned by the service.

RequestId

The ID of the request.

Type: String

Return

If the request succeeds, the response returns `true`. If the request fails, no response is returned, and instead an error message is returned.

Type: Boolean

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
• AWS SDK for Ruby V3
ModifyFpgaImageAttribute

Modifies the specified attribute of the specified Amazon FPGA Image (AFI).

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Attribute

- **The name of the attribute.**
  - Type: String
  - Valid Values: description | name | loadPermission | productCodes
  - Required: No

Description

- A description for the AFI.
  - Type: String
  - Required: No

DryRun

- Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.
  - Type: Boolean
  - Required: No

FpgaImageId

- The ID of the AFI.
  - Type: String
  - Required: Yes
**LoadPermission**

The load permission for the AFI.

Type: `LoadPermissionModifications` object

Required: No

**Name**

A name for the AFI.

Type: String

Required: No

**OperationType**

The operation type.

Type: String

Valid Values: add | remove

Required: No

**ProductCode.N**

The product codes. After you add a product code to an AFI, it can't be removed. This parameter is valid only when modifying the `productCodes` attribute.

Type: Array of strings

Required: No

**UserGroup.N**

The user groups. This parameter is valid only when modifying the `loadPermission` attribute.

Type: Array of strings

Required: No

**UserId.N**

The AWS account IDs. This parameter is valid only when modifying the `loadPermission` attribute.
Type: Array of strings
Required: No

Response Elements

The following elements are returned by the service.

**fpgaImageAttribute**

Information about the attribute.

Type: [FpgaImageAttribute](https://ec2.amazonaws.com/doc/2016-11-15/)

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](https://ec2.amazonaws.com/doc/2016-11-15/).

Examples

Example

This example adds load permissions for account ID 123456789012.

Sample Request

```xml
https://ec2.amazonaws.com/?Action=ModifyFpgaImageAttribute
&FpgaImageId=afi-0d123e21abcc85abc
&Attribute=loadPermission
&LoadPermission.Add.1.UserId=123456789012
&AUTHPARAMS
```

Sample Response

```xml
<ModifyFpgaImageAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
```
<requestId>75837959-edf9-4183-ad01-6cb1example</requestId>
<fpgaImageAttribute>
  <fpgaImageId>afi-0d123e21abc85abc</fpgaImageId>
  <loadPermissions>
    <item>
      <userId>123456789012</userId>
    </item>
  </loadPermissions>
</fpgaImageAttribute>
</ModifyFpgaImageAttributeResponse>

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
ModifyHosts

Modify the auto-placement setting of a Dedicated Host. When auto-placement is enabled, any instances that you launch with a tenancy of host but without a specific host ID are placed onto any available Dedicated Host in your account that has auto-placement enabled. When auto-placement is disabled, you need to provide a host ID to have the instance launch onto a specific host. If no host ID is provided, the instance is launched onto a suitable host with auto-placement enabled.

You can also use this API action to modify a Dedicated Host to support either multiple instance types in an instance family, or to support a specific instance type only.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AutoPlacement

Specify whether to enable or disable auto-placement.

Type: String

Valid Values: on | off

Required: No

HostId.N

The IDs of the Dedicated Hosts to modify.

Type: Array of strings

Required: Yes

HostMaintenance

Indicates whether to enable or disable host maintenance for the Dedicated Host. For more information, see Host maintenance in the Amazon EC2 User Guide.

Type: String

Valid Values: on | off
Required: No

**HostRecovery**

Indicates whether to enable or disable host recovery for the Dedicated Host. For more information, see [Host recovery](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/AmznEC2HostRecovery.html) in the *Amazon EC2 User Guide*.

Type: String

Valid Values: on | off

Required: No

**InstanceFamily**

Specifies the instance family to be supported by the Dedicated Host. Specify this parameter to modify a Dedicated Host to support multiple instance types within its current instance family.

If you want to modify a Dedicated Host to support a specific instance type only, omit this parameter and specify **InstanceType** instead. You cannot specify **InstanceFamily** and **InstanceType** in the same request.

Type: String

Required: No

**InstanceType**

Specifies the instance type to be supported by the Dedicated Host. Specify this parameter to modify a Dedicated Host to support only a specific instance type.

If you want to modify a Dedicated Host to support multiple instance types in its current instance family, omit this parameter and specify **InstanceFamily** instead. You cannot specify **InstanceType** and **InstanceFamily** in the same request.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.
**requestId**

The ID of the request.

Type: String

**successful**

The IDs of the Dedicated Hosts that were successfully modified.

Type: Array of strings

**unsuccessful**

The IDs of the Dedicated Hosts that could not be modified. Check whether the setting you requested can be used.

Type: Array of `UnsuccessfulItem` objects

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example 1**

This example enables the auto-placement setting on a Dedicated Host.

**Sample Request**

```plaintext
https://ec2.amazonaws.com/?Action=ModifyHosts
&AutoPlacement=on
&HostId=h-00548908djdsdfs
&AUTHPARAMS
```

**Sample Response**

```xml
  <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
  <unsuccessful/>
  <successful/>
</ModifyHostsResponse>
```
Example 2

This example enables host recovery on a Dedicated Host.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyHosts
&HostRecovery=on
&HostId=h-00548908djdsgfs
&AUTHPARAMS

Sample Response

  <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
  <unsuccessful/>
  <successful>
    <item>h-00548908djdsgfs</item>
  </successful>
</ModifyHostsResponse>

Example 3

This example modifies a Dedicated Host that supports only m5.large instances to support multiple instance types in the m5 instance family.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyHosts
&InstanceFamily=m5
&HostId=h-00548908djdsgfs
&AUTHPARAMS

Sample Response

  <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
</ModifyHostsResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](https://aws.amazon.com/cli/)
- [AWS SDK for .NET](https://docs.aws.amazon.com/sdk-for-net/v3/)
- [AWS SDK for C++](https://docs.aws.amazon.com/sdk-for-cpp/v1/)
- [AWS SDK for Go](https://docs.aws.amazon.com/sdk-for-go/v1/)
- [AWS SDK for Java V2](https://docs.aws.amazon.com/JavaSDK/latest/index.html)
- [AWS SDK for JavaScript V3](https://docs.aws.amazon.com/javascript-sdk/latest/index.html)
- [AWS SDK for PHP V3](https://docs.aws.amazon.com/php-sdk/latest/index.html)
- [AWS SDK for Python](https://docs.aws.amazon.com/sdk-for-python/)
- [AWS SDK for Ruby V3](https://docs.aws.amazon.com/sdk-for-ruby/latest/index.html)
ModifyIdentityIdFormat

Modifies the ID format of a resource for a specified IAM user, IAM role, or the root user for an account; or all IAM users, IAM roles, and the root user for an account. You can specify that resources should receive longer IDs (17-character IDs) when they are created.

This request can only be used to modify longer ID settings for resource types that are within the opt-in period. Resources currently in their opt-in period include: bundle | conversion-task | customer-gateway | dhcp-options | elastic-ip-allocation | elastic-ip-association | export-task | flow-log | image | import-task | internet-gateway | network-acl | network-acl-association | network-interface | network-interface-attachment | prefix-list | route-table | route-table-association | security-group | subnet | subnet-cidr-block-association | vpc | vpc-cidr-block-association | vpc-endpoint | vpc-peering-connection | vpn-connection | vpn-gateway.

For more information, see Resource IDs in the Amazon Elastic Compute Cloud User Guide.

This setting applies to the principal specified in the request; it does not apply to the principal that makes the request.

Resources created with longer IDs are visible to all IAM roles and users, regardless of these settings and provided that they have permission to use the relevant Describe command for the resource type.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

PrincipalArn

The ARN of the principal, which can be an IAM user, IAM role, or the root user. Specify all to modify the ID format for all IAM users, IAM roles, and the root user of the account.

Type: String

Required: Yes

Resource

The type of resource: bundle | conversion-task | customer-gateway | dhcp-options | elastic-ip-allocation | elastic-ip-association | export-task | flow-log |

Alternatively, use the all-current option to include all resource types that are currently within their opt-in period for longer IDs.

Type: String

Required: Yes

UseLongIds

Indicates whether the resource should use longer IDs (17-character IDs)

Type: Boolean

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.
Examples

Example

This example sets the UseLongIds parameter to true for instances launched by the IAM role 'EC2Role'. Instances launched by the IAM role receive longer IDs.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyIdentityFormat
&Resource=instance
&UseLongIds=true
&PrincipalArn=arn:aws:iam::123456789012:role/EC2Role
&AUTHPARAMS

Sample Response

  <requestId>92c1af09-cb4c-410e-8a96-EXAMPLE</requestId>
  <return>true</return>
</ModifyIdentityFormatResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyIdFormat

Modifies the ID format for the specified resource on a per-Region basis. You can specify that resources should receive longer IDs (17-character IDs) when they are created.

This request can only be used to modify longer ID settings for resource types that are within the opt-in period. Resources currently in their opt-in period include: bundle | conversion-task | customer-gateway | dhcp-options | elastic-ip-allocation | elastic-ip-association | export-task | flow-log | image | import-task | internet-gateway | network-acl | network-acl-association | network-interface | network-interface-attachment | prefix-list | route-table | route-table-association | security-group | subnet | subnet-cidr-block-association | vpc | vpc-cidr-block-association | vpc-endpoint | vpc-peering-connection | vpn-connection | vpn-gateway.

This setting applies to the IAM user who makes the request; it does not apply to the entire AWS account. By default, an IAM user defaults to the same settings as the root user. If you’re using this action as the root user, then these settings apply to the entire account, unless an IAM user explicitly overrides these settings for themselves. For more information, see Resource IDs in the Amazon Elastic Compute Cloud User Guide.

Resources created with longer IDs are visible to all IAM roles and users, regardless of these settings and provided that they have permission to use the relevant Describe command for the resource type.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Resource

Alternatively, use the all-current option to include all resource types that are currently within their opt-in period for longer IDs.

Type: String

Required: Yes

**UseLongIds**

Indicate whether the resource should use longer IDs (17-character IDs).

Type: Boolean

Required: Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**return**

Is true if the request succeeds, and an error otherwise.

Type: Boolean

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example sets the UseLongIds parameter to true for instances, so that instances you launch receive longer IDs.
Sample Request

https://ec2.amazonaws.com/?Action=ModifyIdFormat
&Resource=instance
&UseLongIds=true
&AUTHPARAMS

Sample Response

<ModifyIdFormatResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>92c1af09-cb4c-410e-8a96-EXAMPLE</requestId>
  <return>true</return>
</ModifyIdFormatResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyImageAttribute

Modifies the specified attribute of the specified AMI. You can specify only one attribute at a time.

To specify the attribute, you can use the Attribute parameter, or one of the following parameters: Description, ImdsSupport, or LaunchPermission.

Images with an AWS Marketplace product code cannot be made public.

To enable the SriovNetSupport enhanced networking attribute of an image, enable SriovNetSupport on an instance and create an AMI from the instance.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**Attribute**

The name of the attribute to modify.

Valid values: description | imdsSupport | launchPermission

Type: String

Required: No

**Description**

A new description for the AMI.

Type: [AttributeValue](#) object

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
ImageId

The ID of the AMI.

Type: String

Required: Yes

ImdsSupport

Set to v2.0 to indicate that IMDSv2 is specified in the AMI. Instances launched from this AMI will have HttpTokens automatically set to required so that, by default, the instance requires that IMDSv2 is used when requesting instance metadata. In addition, HttpPutResponseHopLimit is set to 2. For more information, see Configure the AMI in the Amazon EC2 User Guide.

⚠️ Important

Do not use this parameter unless your AMI software supports IMDSv2. After you set the value to v2.0, you can't undo it. The only way to “reset” your AMI is to create a new AMI from the underlying snapshot.

Type: AttributeValue object

Required: No

LaunchPermission

A new launch permission for the AMI.

Type: LaunchPermissionModifications object

Required: No

OperationType

The operation type. This parameter can be used only when the Attribute parameter is launchPermission.

Type: String
Valid Values: add | remove

Required: No

**OrganizationalUnitArn.N**

The Amazon Resource Name (ARN) of an organizational unit (OU). This parameter can be used only when the Attribute parameter is `launchPermission`.

Type: Array of strings

Required: No

**OrganizationArn.N**

The Amazon Resource Name (ARN) of an organization. This parameter can be used only when the Attribute parameter is `launchPermission`.

Type: Array of strings

Required: No

**ProductCode.N**

Not supported.

Type: Array of strings

Required: No

**UserGroup.N**

The user groups. This parameter can be used only when the Attribute parameter is `launchPermission`.

Type: Array of strings

Required: No

**UserId.N**

The AWS account IDs. This parameter can be used only when the Attribute parameter is `launchPermission`.

Type: Array of strings
Value

The value of the attribute being modified. This parameter can be used only when the Attribute parameter is description or imdsSupport.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example makes the AMI public (for example, so any AWS account can use it).

Sample Request

https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
Sample Response

<ModifyImageAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <return>true</return>
</ModifyImageAttributeResponse>

Example 2

This example makes the AMI private (for example, so that only you as the owner can use it).

Sample Request

https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
&LaunchPermission.Remove.1.Group=all
&AUTHPARAMS

Example 3

This example grants launch permission to the AWS account with ID 111122223333.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
&LaunchPermission.Add.1.UserId=111122223333
&AUTHPARAMS

Example 4

This example adds the 774F4FF8 product code to the ami-61a54008 AMI.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
Example 5

This example changes the description of the AMI to New Description.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
&Description.Value=New Description
&AUTHPARAMS

Example 6

This example sets the AMI to IMDSv2 only. Instances created from this AMI will require that IMDSv2 is used when requesting instance metadata.

Note that after you set the value to v2.0, you can't undo it.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
&ImdsSupport.Value=v2.0
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
ModifyInstanceAttribute

Modifies the specified attribute of the specified instance. You can specify only one attribute at a time.

**Note:** Using this action to change the security groups associated with an elastic network interface (ENI) attached to an instance can result in an error if the instance has more than one ENI. To change the security groups associated with an ENI attached to an instance that has multiple ENIs, we recommend that you use the ModifyNetworkInterfaceAttribute action.

To modify some attributes, the instance must be stopped. For more information, see Modify a stopped instance in the Amazon EC2 User Guide.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**Attribute**

The name of the attribute to modify.

Type: String

Valid Values: `disableApiTermination` | `instanceType` | `kernel` | `ramdisk` | `instanceInitiatedShutdownBehavior` | `blockDeviceMapping` | `userData` | `sourceDestCheck` | `groupSet` | `ebsOptimized` | `sriovNetSupport` | `enaSupport` | `nvmeSupport` | `disableApiStop` | `enclaveOptions`

Required: No

**BlockDeviceMapping.N**

Modifies the `DeleteOnTermination` attribute for volumes that are currently attached. The volume must be owned by the caller. If no value is specified for `DeleteOnTermination`, the default is `true` and the volume is deleted when the instance is terminated.

To add instance store volumes to an Amazon EBS-backed instance, you must add them when you launch the instance. For more information, see Update the block device mapping when launching an instance in the Amazon EC2 User Guide.
Type: Array of InstanceBlockDeviceMappingSpecification objects

Required: No

DisableApiStop

Indicates whether an instance is enabled for stop protection. For more information, see Stop Protection.

Type: AttributeBooleanValue object

Required: No

DisableApiTermination

If the value is true, you can't terminate the instance using the Amazon EC2 console, CLI, or API; otherwise, you can. You cannot use this parameter for Spot Instances.

Type: AttributeBooleanValue object

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

EbsOptimized

Specifies whether the instance is optimized for Amazon EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS Optimized instance.

Type: AttributeBooleanValue object

Required: No
**EnaSupport**

Set to `true` to enable enhanced networking with ENA for the instance.

This option is supported only for HVM instances. Specifying this option with a PV instance can make it unreachable.

Type: `AttributeValue` object

Required: No

**GroupId.N**

Replaces the security groups of the instance with the specified security groups. You must specify the ID of at least one security group, even if it's just the default security group for the VPC.

Type: Array of strings

Required: No

**InstanceId**

The ID of the instance.

Type: String

Required: Yes

**InstanceInitiatedShutdownBehavior**

Specifies whether an instance stops or terminates when you initiate shutdown from the instance (using the operating system command for system shutdown).

Type: `AttributeValue` object

Required: No

**InstanceType**

Changes the instance type to the specified value. For more information, see [Instance types](#) in the Amazon EC2 User Guide. If the instance type is not valid, the error returned is `InvalidInstanceAttributeValue`.
Type: `AttributeValue` object

Required: No

**Kernel**

Changes the instance's kernel to the specified value. We recommend that you use PV-GRUB instead of kernels and RAM disks. For more information, see [PV-GRUB](#).

Type: `AttributeValue` object

Required: No

**Ramdisk**

Changes the instance's RAM disk to the specified value. We recommend that you use PV-GRUB instead of kernels and RAM disks. For more information, see [PV-GRUB](#).

Type: `AttributeValue` object

Required: No

**SourceDestCheck**

Enable or disable source/destination checks, which ensure that the instance is either the source or the destination of any traffic that it receives. If the value is `true`, source/destination checks are enabled; otherwise, they are disabled. The default value is `true`. You must disable source/destination checks if the instance runs services such as network address translation, routing, or firewalls.

Type: `AttributeBooleanValue` object

Required: No

**SriovNetSupport**

Set to `simple` to enable enhanced networking with the Intel 82599 Virtual Function interface for the instance.

There is no way to disable enhanced networking with the Intel 82599 Virtual Function interface at this time.

This option is supported only for HVM instances. Specifying this option with a PV instance can make it unreachable.
Type: `AttributeValue` object

Required: No

**UserData**

Changes the instance's user data to the specified value. If you are using an AWS SDK or command line tool, base64-encoding is performed for you, and you can load the text from a file. Otherwise, you must provide base64-encoded text.

Type: `BlobAttributeValue` object

Required: No

**Value**

A new value for the attribute. Use only with the `kernel`, `ramdisk`, `userData`, `disableApiTermination`, or `instanceInitiatedShutdownBehavior` attribute.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**return**

`true` if the request succeeds, and an error otherwise.

Type: Boolean

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
Examples

Example 1

This example changes the instanceType attribute of the specified instance. The instance must be in the stopped state.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyInstanceAttribute
&InstanceId=i-1234567890abcdef0
&InstanceType.Value=m1.small
&AUTHPARAMS

Example 2

This example changes the enaSupport attribute of the specified instance.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyInstanceAttribute
&InstanceId=i-1234567890abcdef0
&EnaSupport.Value=true
&AUTHPARAMS

Example 3

This example changes the ebsOptimized attribute of the specified instance.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyInstanceAttribute
&InstanceId=i-1234567890abcdef0
&EbsOptimized.Value=true
&AUTHPARAMS

Example 4

This example changes the instanceInitiatedShutdownBehavior attribute of the specified instance.
Sample Request

https://ec2.amazonaws.com/?Action=ModifyInstanceAttribute
&InstanceId=i-1234567890abcdef0
&InstanceInitiatedShutdownBehavior.Value=terminate
&AUTHPARAMS

Example 5

This example changes the disableApiTermination attribute of the specified instance.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyInstanceAttribute
&InstanceId=i-1234567890abcdef0
&DisableApiTermination.Value=true
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyInstanceCapacityReservationAttributes

Modifies the Capacity Reservation settings for a stopped instance. Use this action to configure an instance to target a specific Capacity Reservation, run in any open Capacity Reservation with matching attributes, or run On-Demand Instance capacity.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CapacityReservationSpecification

Information about the Capacity Reservation targeting option.

Type: CapacityReservationSpecification object

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceId

The ID of the instance to be modified.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

return

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyInstanceCreditSpecification

Modifies the credit option for CPU usage on a running or stopped burstable performance instance. The credit options are standard and unlimited.

For more information, see Burstable performance instances in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

A unique, case-sensitive token that you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceCreditSpecification.N

Information about the credit option for CPU usage.

Type: Array of InstanceCreditSpecificationRequest objects

Required: Yes

Response Elements

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

successfulInstanceCreditSpecificationSet

Information about the instances whose credit option for CPU usage was successfully modified.

Type: Array of SuccessfulInstanceCreditSpecificationItem objects

unsuccessfulInstanceCreditSpecificationSet

Information about the instances whose credit option for CPU usage was not modified.

Type: Array of UnsuccessfulInstanceCreditSpecificationItem objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This request modifies the credit option for CPU usage of the specified instance in the specified Region to unlimited. Valid credit options are standard and unlimited.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyInstanceCreditSpecification
&Region=us-east-1
&InstanceId=i-1234567890abcdef0
&InstanceCreditSpecification.1.CpuCredits=unlimited
&AUTHPARAMS

Sample Response

  <requestId>1111111-2222-3333-4444-5555EXAMPLE</requestId>
</ModifyInstanceCreditSpecificationResponse>
<unsuccessfulInstanceCreditSpecificationSet/>
<successfulInstanceCreditSpecificationSet>
  <item>
    <instanceId>i-1234567890abcdef0</instanceId>
  </item>
</successfulInstanceCreditSpecificationSet>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyInstanceEventStartTime

Modifies the start time for a scheduled Amazon EC2 instance event.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**InstanceId**

The ID of the event whose date and time you are modifying.

Type: String

Required: Yes

**InstanceEventId**

The ID of the instance with the scheduled event.

Type: String

Required: Yes

**NotBefore**

The new date and time when the event will take place.

Type: Timestamp

Required: Yes
Response Elements

The following elements are returned by the service.

**event**

Information about the event.

Type: InstanceStatusEvent object

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

The following example shows how to modify the event start time for the specified instance. The event ID is specified by the InstanceEventId parameter and the new date and time is specified by the NotBefore parameter.

Sample Request

```text
https://ec2.amazonaws.com/?Action=ModifyInstanceEventStartTime
&InstanceId=i-1234567890abcdef0
&InstanceEventId=instance-event-0abcdef1234567890
&NotBefore=2019-03-25T10:00:00.000
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• **AWS Command Line Interface**
• **AWS SDK for .NET**
• **AWS SDK for C++**
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for JavaScript V3**
• **AWS SDK for PHP V3**
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
ModifyInstanceEventWindow

Modifies the specified event window.

You can define either a set of time ranges or a cron expression when modifying the event window, but not both.

To modify the targets associated with the event window, use the AssociateInstanceEventWindow and DisassociateInstanceEventWindow API.

If AWS has already scheduled an event, modifying an event window won't change the time of the scheduled event.

For more information, see Define event windows for scheduled events in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CronExpression

The cron expression of the event window, for example, * 0-4,20-23 * * 1, 5.

Constraints:

- Only hour and day of the week values are supported.
- For day of the week values, you can specify either integers 0 through 6, or alternative single values SUN through SAT.
- The minute, month, and year must be specified by *.
- The hour value must be one or a multiple range, for example, 0-4 or 0-4, 20-23.
- Each hour range must be >= 2 hours, for example, 0-2 or 20-23.
- The event window must be >= 4 hours. The combined total time ranges in the event window must be >= 4 hours.

For more information about cron expressions, see cron on the Wikipedia website.

Type: String
DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceEventWindowId

The ID of the event window.

Type: String

Required: Yes

Name

The name of the event window.

Type: String

Required: No

TimeRange.N

The time ranges of the event window.

Type: Array of InstanceEventWindowTimeRangeRequest objects

Required: No

Response Elements

The following elements are returned by the service.

instanceEventWindow

Information about the event window.

Type: InstanceEventWindow object
requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/APIReference/API_Error_Codes.html).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](https://aws.amazon.com/cli/)
- [AWS SDK for .NET](https://aws.amazon.com/sdk_for_.net/)
- [AWS SDK for C++](https://aws.amazon.com/sdk_for_cpp/)
- [AWS SDK for Go](https://aws.amazon.com/sdk_for_go/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk_for_java/)
- [AWS SDK for JavaScript V3](https://aws.amazon.com/sdk_for_nodejs/)
- [AWS SDK for PHP V3](https://aws.amazon.com/sdk_for_php/)
- [AWS SDK for Python](https://aws.amazon.com/sdk_for_python/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk_for_ruby/)

Errors
ModifyInstanceMaintenanceOptions

Modifies the recovery behavior of your instance to disable simplified automatic recovery or set the recovery behavior to default. The default configuration will not enable simplified automatic recovery for an unsupported instance type. For more information, see [Simplified automatic recovery](#).

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**AutoRecovery**

Disables the automatic recovery behavior of your instance or sets it to default.

- **Type:** String
- **Valid Values:** disabled | default
- **Required:** No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

- **Type:** Boolean
- **Required:** No

**InstanceId**

The ID of the instance.

- **Type:** String
- **Required:** Yes

**Response Elements**

The following elements are returned by the service.
autoRecovery

Provides information on the current automatic recovery behavior of your instance.

Type: String

Valid Values: disabled | default

instanceId

The ID of the instance.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyInstanceMetadataOptions

Modify the instance metadata parameters on a running or stopped instance. When you modify the parameters on a stopped instance, they are applied when the instance is started. When you modify the parameters on a running instance, the API responds with a state of "pending". After the parameter modifications are successfully applied to the instance, the state of the modifications changes from “pending” to “applied” in subsequent describe-instances API calls. For more information, see Instance metadata and user data in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

HttpEndpoint

Enables or disables the HTTP metadata endpoint on your instances. If this parameter is not specified, the existing state is maintained.

If you specify a value of disabled, you cannot access your instance metadata.

Type: String

Valid Values: disabled | enabled

Required: No

HttpProtocolIpv6

Enables or disables the IPv6 endpoint for the instance metadata service. Applies only if you enabled the HTTP metadata endpoint.
Type: String

Valid Values: disabled | enabled

Required: No

HttpPutResponseHopLimit

The desired HTTP PUT response hop limit for instance metadata requests. The larger the number, the further instance metadata requests can travel. If no parameter is specified, the existing state is maintained.

Possible values: Integers from 1 to 64

Type: Integer

Required: No

HttpTokens

Indicates whether IMDSv2 is required.

- optional - IMDSv2 is optional. You can choose whether to send a session token in your instance metadata retrieval requests. If you retrieve IAM role credentials without a session token, you receive the IMDSv1 role credentials. If you retrieve IAM role credentials using a valid session token, you receive the IMDSv2 role credentials.

- required - IMDSv2 is required. You must send a session token in your instance metadata retrieval requests. With this option, retrieving the IAM role credentials always returns IMDSv2 credentials; IMDSv1 credentials are not available.

Default: If the value of ImdsSupport for the Amazon Machine Image (AMI) for your instance is v2.0, the default is required.

Type: String

Valid Values: optional | required

Required: No

InstanceId

The ID of the instance.

Type: String
Required: Yes

**InstanceMetadataTags**

Set to `enabled` to allow access to instance tags from the instance metadata. Set to `disabled` to turn off access to instance tags from the instance metadata. For more information, see [Work with instance tags using the instance metadata](#).

Default: `disabled`

Type: String

Valid Values: `disabled` | `enabled`

Required: No

**Response Elements**

The following elements are returned by the service.

**instanceId**

The ID of the instance.

Type: String

**instanceMetadataOptions**

The metadata options for the instance.

Type: `InstanceMetadataOptionsResponse` object

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
Examples

Example 1: Turn on token requirement

The following example disables access to the instance metadata unless a session token is used in the instance metadata request header. To turn on token requirement, specify required for HttpTokens.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyInstanceMetadataOptions
&InstanceId=i-1234567890abcdef0
&HttpTokens=required
&AUTHPARAMS

Sample Response

<ModifyInstanceMetadataOptions xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-1234567890abcdef0</instanceId>
  <MetadataOptions>
    <state>pending</state>
    <HttpTokens>required</HttpTokens>
    <HttpPutResponseHopLimit>1</HttpPutResponseHopLimit>
    <HttpEndpoint>enabled</HttpEndpoint>
  </MetadataOptions>
</ModifyInstanceMetadataOptions>

Example 2: Turn off access to instance metadata

The following example disables access to the instance metadata by changing the HTTP endpoint state to disabled. To turn off access to instance metadata, specify disabled for HttpEndpoint.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyInstanceMetadataOptions
&InstanceId=i-1234567890abcdef0
&HttpEndpoint=disabled
&AUTHPARAMS
Sample Response

```xml
<ModifyInstanceMetadataOptions xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-1234567890abcdef0</instanceId>
  <MetadataOptions>
    <state>pending</state>
    <HttpTokens>required</HttpTokens>
    <HttpPutResponseHopLimit>1</HttpPutResponseHopLimit>
    <HttpEndpoint>disabled</HttpEndpoint>
  </MetadataOptions>
</ModifyInstanceMetadataOptions>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
ModifyInstancePlacement

Modifies the placement attributes for a specified instance. You can do the following:

- Modify the affinity between an instance and a Dedicated Host. When affinity is set to host and the instance is not associated with a specific Dedicated Host, the next time the instance is launched, it is automatically associated with the host on which it lands. If the instance is restarted or rebooted, this relationship persists.
- Change the Dedicated Host with which an instance is associated.
- Change the instance tenancy of an instance.
- Move an instance to or from a placement group.

At least one attribute for affinity, host ID, tenancy, or placement group name must be specified in the request. Affinity and tenancy can be modified in the same request.

To modify the host ID, tenancy, placement group, or partition for an instance, the instance must be in the stopped state.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Affinity

The affinity setting for the instance.

Type: String

Valid Values: default | host

Required: No

GroupId

The Group Id of a placement group. You must specify the Placement Group Group Id to launch an instance in a shared placement group.

Type: String

Required: No
GroupName

The name of the placement group in which to place the instance. For spread placement groups, the instance must have a tenancy of default. For cluster and partition placement groups, the instance must have a tenancy of default or dedicated.

To remove an instance from a placement group, specify an empty string ("").

Type: String

Required: No

HostId

The ID of the Dedicated Host with which to associate the instance.

Type: String

Required: No

HostResourceGroupArn

The ARN of the host resource group in which to place the instance. The instance must have a tenancy of host to specify this parameter.

Type: String

Required: No

InstanceId

The ID of the instance that you are modifying.

Type: String

Required: Yes

PartitionNumber

The number of the partition in which to place the instance. Valid only if the placement group strategy is set to partition.

Type: Integer

Required: No
Tenancy

The tenancy for the instance.

**Note**

For T3 instances, you must launch the instance on a Dedicated Host to use a tenancy of host. You can't change the tenancy from host to dedicated or default. Attempting to make one of these unsupported tenancy changes results in an InvalidRequest error code.

Type: String

Valid Values: default | dedicated | host

Required: No

Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**return**

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).
Examples

Example 1

This example modifies the affinity of instance i-0b33i09 so that it always has affinity with host h-00548908djdsgfs.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyInstancePlacement
&Affinity=host
&HostId=h-00548908djdsgfs
&InstanceId=i-0b33i09
&AUTHPARAMS

Sample Response

  <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
  <return>true</item>
</ModifyInstancePlacementResponse>

Example 2

This example places instance i-01234567812345678 in the placement group MyPlacementGroup.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyInstancePlacement
&InstanceId=i-01234567812345678
&GroupName=MyPlacementGroup
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
ModifyIpam

Modify the configurations of an IPAM.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AddOperatingRegion.N

Choose the operating Regions for the IPAM. Operating Regions are AWS Regions where the IPAM is allowed to manage IP address CIDRs. IPAM only discovers and monitors resources in the AWS Regions you select as operating Regions.

For more information about operating Regions, see Create an IPAM in the Amazon VPC IPAM User Guide.

Type: Array of AddIpamOperatingRegion objects

Array Members: Minimum number of 0 items. Maximum number of 50 items.

Required: No

Description

The description of the IPAM you want to modify.

Type: String

Required: No

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
**IpamId**

The ID of the IPAM you want to modify.

Type: String

Required: Yes

**RemoveOperatingRegion.N**

The operating Regions to remove.

Type: Array of `RemoveIpamOperatingRegion` objects

Array Members: Minimum number of 0 items. Maximum number of 50 items.

Required: No

**Tier**

IPAM is offered in a Free Tier and an Advanced Tier. For more information about the features available in each tier and the costs associated with the tiers, see [Amazon VPC pricing > IPAM tab](https://aws.amazon.com/vpc/pricing/ipam).

Type: String

Valid Values: `free` | `advanced`

Required: No

**Response Elements**

The following elements are returned by the service.

**ipam**

The results of the modification.

Type: `ipam` object

**requestId**

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyIpamPool

Modify the configurations of an IPAM pool.

For more information, see Modify a pool in the Amazon VPC IPAM User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AddAllocationResourceTag.N

Add tag allocation rules to a pool. For more information about allocation rules, see Create a top-level pool in the Amazon VPC IPAM User Guide.

Type: Array of RequestIpamResourceTag objects

Required: No

AllocationDefaultNetmaskLength

The default netmask length for allocations added to this pool. If, for example, the CIDR assigned to this pool is 10.0.0.0/8 and you enter 16 here, new allocations will default to 10.0.0.0/16.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 128.

Required: No

AllocationMaxNetmaskLength

The maximum netmask length possible for CIDR allocations in this IPAM pool to be compliant. Possible netmask lengths for IPv4 addresses are 0 - 32. Possible netmask lengths for IPv6 addresses are 0 - 128. The maximum netmask length must be greater than the minimum netmask length.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 128.
Required: No

**AllocationMinNetmaskLength**

The minimum netmask length required for CIDR allocations in this IPAM pool to be compliant. Possible netmask lengths for IPv4 addresses are 0 - 32. Possible netmask lengths for IPv6 addresses are 0 - 128. The minimum netmask length must be less than the maximum netmask length.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 128.

Required: No

**AutoImport**

If true, IPAM will continuously look for resources within the CIDR range of this pool and automatically import them as allocations into your IPAM. The CIDRs that will be allocated for these resources must not already be allocated to other resources in order for the import to succeed. IPAM will import a CIDR regardless of its compliance with the pool's allocation rules, so a resource might be imported and subsequently marked as noncompliant. If IPAM discovers multiple CIDRs that overlap, IPAM will import the largest CIDR only. If IPAM discovers multiple CIDRs with matching CIDRs, IPAM will randomly import one of them only.

A locale must be set on the pool for this feature to work.

Type: Boolean

Required: No

**ClearAllocationDefaultNetmaskLength**

Clear the default netmask length allocation rule for this pool.

Type: Boolean

Required: No

**Description**

The description of the IPAM pool you want to modify.

Type: String
DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

IpamPoolId

The ID of the IPAM pool you want to modify.

Type: String
Required: Yes

RemoveAllocationResourceTag.N

Remove tag allocation rules from a pool.

Type: Array of RequestIpamResourceTag objects
Required: No

Response Elements

The following elements are returned by the service.

IpamPool

The results of the modification.

Type: IpamPool object

RequestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyIpamResourceCidr

Modify a resource CIDR. You can use this action to transfer resource CIDRs between scopes and ignore resource CIDRs that you do not want to manage. If set to false, the resource will not be tracked for overlap, it cannot be auto-imported into a pool, and it will be removed from any pool it has an allocation in.

For more information, see Move resource CIDRs between scopes and Change the monitoring state of resource CIDRs in the Amazon VPC IPAM User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CurrentIpamScopeId

The ID of the current scope that the resource CIDR is in.

Type: String

Required: Yes

DestinationIpamScopeId

The ID of the scope you want to transfer the resource CIDR to.

Type: String

Required: No

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Monitored

Determines if the resource is monitored by IPAM. If a resource is monitored, the resource is discovered by IPAM and you can view details about the resource's CIDR.
Type: Boolean
Required: Yes

**ResourceCidr**

The CIDR of the resource you want to modify.

Type: String
Required: Yes

**ResourceId**

The ID of the resource you want to modify.

Type: String
Required: Yes

**ResourceRegion**

The AWS Region of the resource you want to modify.

Type: String
Required: Yes

### Response Elements

The following elements are returned by the service.

**ipamResourceCidr**

The CIDR of the resource.

Type: [IpamResourceCidr](#) object

**requestId**

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyIpamResourceDiscovery

Modifies a resource discovery. A resource discovery is an IPAM component that enables IPAM to manage and monitor resources that belong to the owning account.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AddOperatingRegion.N

Add operating Regions to the resource discovery. Operating Regions are AWS Regions where the IPAM is allowed to manage IP address CIDRs. IPAM only discovers and monitors resources in the AWS Regions you select as operating Regions.

Type: Array of AddIpamOperatingRegion objects

Array Members: Minimum number of 0 items. Maximum number of 50 items.

Required: No

Description

A resource discovery description.

Type: String

Required: No

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

IpamResourceDiscoveryId

A resource discovery ID.
Type: String
Required: Yes

**RemoveOperatingRegion.N**

Remove operating Regions.

Type: Array of [RemoveIpamOperatingRegion](#) objects

Array Members: Minimum number of 0 items. Maximum number of 50 items.

Required: No

### Response Elements

The following elements are returned by the service.

**ipamResourceDiscovery**

A resource discovery.

Type: [IpamResourceDiscovery](#) object

**requestId**

The ID of the request.

Type: String

### Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
ModifyIpamScope

Modify an IPAM scope.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Description

The description of the scope you want to modify.

Type: String

Required: No

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

IpamScopeId

The ID of the scope you want to modify.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

ipamScope

The results of the modification.
Type: IpamScope object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyLaunchTemplate

Modifies a launch template. You can specify which version of the launch template to set as the
default version. When launching an instance, the default version applies when a launch template
version is not specified.

Request Parameters

The following parameters are for this specific action. For more information about required and
optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

- Unique, case-sensitive identifier you provide to ensure the idempotency of the request. For
  more information, see Ensuring idempotency.

  Constraint: Maximum 128 ASCII characters.

  Type: String

  Required: No

DryRun

- Checks whether you have the required permissions for the action, without actually making
  the request, and provides an error response. If you have the required permissions, the error
  response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

  Type: Boolean

  Required: No

LaunchTemplateId

- The ID of the launch template.

  You must specify either the LaunchTemplateId or the LaunchTemplateName, but not both.

  Type: String

  Required: No

LaunchTemplateName

- The name of the launch template.
You must specify either the LaunchTemplateName or the LaunchTemplateId, but not both.

Type: String


Pattern: [a-zA-Z0-9\(\)\.\-/\_]+

Required: No

SetDefaultVersion

The version number of the launch template to set as the default version.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

launchTemplate

Information about the launch template.

Type: LaunchTemplate object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example sets version 2 of launch template lt-0a20c965061f64abc as the default version.
**Sample Request**

https://ec2.amazonaws.com/?Action=ModifyLaunchTemplate
&LaunchTemplateId=lt-0a20c965061f64abc
&SetDefaultVersion=2
&AUTHPARAMS

**Sample Response**

<ModifyLaunchTemplateResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>5b348ca5-bb13-4106-baf9-14d02example</requestId>
  <launchTemplate>
    <createTime>1970-01-01T00:00:00.000Z</createTime>
    <createdBy>arn:aws:iam::123456789012:root</createdBy>
    <defaultVersionNumber>2</defaultVersionNumber>
    <latestVersionNumber>4</latestVersionNumber>
    <launchTemplateId>lt-0a20c965061f64abc</launchTemplateId>
    <launchTemplateName>MyLaunchTemplate</launchTemplateName>
  </launchTemplate>
</ModifyLaunchTemplateResponse>

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
ModifyLocalGatewayRoute

Modifies the specified local gateway route.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DestinationCidrBlock

The CIDR block used for destination matches. The value that you provide must match the CIDR of an existing route in the table.

Type: String

Required: No

DestinationPrefixListId

The ID of the prefix list. Use a prefix list in place of DestinationCidrBlock. You cannot use DestinationPrefixListId and DestinationCidrBlock in the same request.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

LocalGatewayRouteTableId

The ID of the local gateway route table.

Type: String

Required: Yes
LocalGatewayVirtualInterfaceGroupId

The ID of the virtual interface group.

Type: String

Required: No

NetworkInterfaceId

The ID of the network interface.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

route

Information about the local gateway route table.

Type: LocalGatewayRoute object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
ModifyManagedPrefixList

Modifies the specified managed prefix list.

Adding or removing entries in a prefix list creates a new version of the prefix list. Changing the name of the prefix list does not affect the version.

If you specify a current version number that does not match the true current version number, the request fails.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AddEntry.N

One or more entries to add to the prefix list.

Type: Array of AddPrefixListEntry objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

CurrentVersion

The current version of the prefix list.

Type: Long

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
MaxEntries

The maximum number of entries for the prefix list. You cannot modify the entries of a prefix list and modify the size of a prefix list at the same time.

If any of the resources that reference the prefix list cannot support the new maximum size, the modify operation fails. Check the state message for the IDs of the first ten resources that do not support the new maximum size.

Type: Integer

Required: No

PrefixListId

The ID of the prefix list.

Type: String

Required: Yes

PrefixListName

A name for the prefix list.

Type: String

Required: No

RemoveEntry.N

One or more entries to remove from the prefix list.

Type: Array of RemovePrefixListEntry objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

Required: No

Response Elements

The following elements are returned by the service.
prefixList

Information about the prefix list.

Type: ManagedPrefixList object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example modifies the specified managed prefix list by adding another entry.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyManagedPrefixList
&PrefixListId=pl-0123123123123aabb
&CurrentVersion=1
&AddEntry.1.Cidr=10.1.0.0/16
&AddEntry.1.Description=Miami office
&AUTHPARAMS

Sample Response

  <requestId>602f3752-c348-4b14-81e2-example</requestId>
  <prefixList>
    <addressFamily>IPv4</addressFamily>
    <maxEntries>10</maxEntries>
    <ownerId>123456789012</ownerId>
    <prefixListArn>arn:aws:ec2:us-east-1:123456789012:prefix-list/pl-0123123123123aabb</prefixListArn>
    <prefixListId>pl-0123123123123aabb</prefixListId>
  </prefixList>
</ModifyManagedPrefixListResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyNetworkInterfaceAttribute

Modifies the specified network interface attribute. You can specify only one attribute at a time. You can use this action to attach and detach security groups from an existing EC2 instance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Attachment

Information about the interface attachment. If modifying the delete on termination attribute, you must specify the ID of the interface attachment.

Type: NetworkInterfaceAttachmentChanges object

Required: No

ConnectionTrackingSpecification

A connection tracking specification.

Type: ConnectionTrackingSpecificationRequest object

Required: No

Description

A description for the network interface.

Type: AttributeValue object

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
EnablePrimaryIpv6

If you’re modifying a network interface in a dual-stack or IPv6-only subnet, you have the option to assign a primary IPv6 IP address. A primary IPv6 address is an IPv6 GUA address associated with an ENI that you have enabled to use a primary IPv6 address. Use this option if the instance that this ENI will be attached to relies on its IPv6 address not changing. AWS will automatically assign an IPv6 address associated with the ENI attached to your instance to be the primary IPv6 address. Once you enable an IPv6 GUA address to be a primary IPv6, you cannot disable it. When you enable an IPv6 GUA address to be a primary IPv6, the first IPv6 GUA will be made the primary IPv6 address until the instance is terminated or the network interface is detached.

If you have multiple IPv6 addresses associated with an ENI attached to your instance and you enable a primary IPv6 address, the first IPv6 GUA address associated with the ENI becomes the primary IPv6 address.

Type: Boolean

Required: No

EnaSrdSpecification

Updates the ENA Express configuration for the network interface that’s attached to the instance.

Type: EnaSrdSpecification object

Required: No

NetworkInterfaceId

The ID of the network interface.

Type: String

Required: Yes

SecurityGroupId.N

Changes the security groups for the network interface. The new set of groups you specify replaces the current set. You must specify at least one group, even if it’s just the default security group in the VPC. You must specify the ID of the security group, not the name.

Type: Array of strings

Required: No
SourceDestCheck

Enable or disable source/destination checks, which ensure that the instance is either the source or the destination of any traffic that it receives. If the value is true, source/destination checks are enabled; otherwise, they are disabled. The default value is true. You must disable source/destination checks if the instance runs services such as network address translation, routing, or firewalls.

Type: AttributeBooleanValue object

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example sets source/destination checking to false for the specified network interface.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyNetworkInterfaceAttribute
&NetworkInterfaceId=eni-ffda3197
&SourceDestCheck.Value=false
&AUTHPARAMS

Sample Response

<pre><code>&lt;ModifyNetworkInterfaceAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
   &lt;requestId>657a4623-5620-4232-b03b-427e852d71cf&lt;/requestId&gt;
   &lt;return&gt;true&lt;/return&gt;
&lt;/ModifyNetworkInterfaceAttributeResponse&gt;</code></pre>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](https://aws.amazon.com/cli)
- [AWS SDK for .NET](https://aws.amazon.com/sdk/)
- [AWS SDK for C++](https://aws.amazon.com/sdk/)
- [AWS SDK for Go](https://aws.amazon.com/sdk/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk/)
- [AWS SDK for JavaScript V3](https://aws.amazon.com/sdk/)
- [AWS SDK for PHP V3](https://aws.amazon.com/sdk/)
- [AWS SDK for Python](https://aws.amazon.com/sdk/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk/)
ModifyPrivateDnsNameOptions

Modifies the options for instance hostnames for the specified instance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

EnableResourceNameDnsAAAARecord

Indicates whether to respond to DNS queries for instance hostnames with DNS AAAA records.

Type: Boolean

Required: No

EnableResourceNameDnsARecord

Indicates whether to respond to DNS queries for instance hostnames with DNS A records.

Type: Boolean

Required: No

InstanceId

The ID of the instance.

Type: String

Required: Yes
PrivateDnsHostnameType

The type of hostname for EC2 instances. For IPv4 only subnets, an instance DNS name must be based on the instance IPv4 address. For IPv6 only subnets, an instance DNS name must be based on the instance ID. For dual-stack subnets, you can specify whether DNS names use the instance IPv4 address or the instance ID.

Type: String

Valid Values: ip-name | resource-name

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
See Also

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyReservedInstances

Modifies the configuration of your Reserved Instances, such as the Availability Zone, instance count, or instance type. The Reserved Instances to be modified must be identical, except for Availability Zone, network platform, and instance type.

For more information, see Modifying Reserved Instances in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

A unique, case-sensitive token you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String

Required: No

ReservedInstancesConfigurationSetItemType.N

The configuration settings for the Reserved Instances to modify.

Type: Array of ReservedInstancesConfiguration objects

Required: Yes

ReservedInstancesId.N

The IDs of the Reserved Instances to modify.

Type: Array of strings

Required: Yes

Response Elements

The following elements are returned by the service.
**requestId**

The ID of the request.

Type: String

**reservedInstancesModificationId**

The ID for the modification.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example illustrates one usage of ModifyReservedInstances.

**Sample Request**

```plaintext
https://ec2.amazonaws.com/?Action=ModifyReservedInstances
&ClientToken=myClientToken
&ReservedInstancesConfigurationSetItemType.1.AvailabilityZone=us-east-1a
&ReservedInstancesConfigurationSetItemType.1.InstanceCount=1
&ReservedInstancesConfigurationSetItemType.1.Platform=EC2-VPC
&ReservedInstancesConfigurationSetItemType.1.InstanceType=m1.small
&ReservedInstancesId.1=d16f7a91-4d0f-4f19-9d7f-a74d26b1ccfa
&AUTHPARAMS
```

**Sample Response**

```xml
<ModifyReservedInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>bef729b6-0731-4489-8881-2258746ae163</requestId>
  <reservedInstancesModificationId>rimod-3aae219d-3d63-47a9-a7e9-e764example</reservedInstancesModificationId>
</ModifyReservedInstancesResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifySecurityGroupRules

Modifies the rules of a security group.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

GroupId

The ID of the security group.

Type: String
Required: Yes

SecurityGroupRule.N

Information about the security group properties to update.

Type: Array of SecurityGroupRuleUpdate objects
Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.
**Type:** String

**return**

Returns `true` if the request succeeds; otherwise, returns an error.

**Type:** Boolean

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
ModifySnapshotAttribute

Adds or removes permission settings for the specified snapshot. You may add or remove specified AWS account IDs from a snapshot's list of create volume permissions, but you cannot do both in a single operation. If you need to both add and remove account IDs for a snapshot, you must use multiple operations. You can make up to 500 modifications to a snapshot in a single operation.

Encrypted snapshots and snapshots with AWS Marketplace product codes cannot be made public. Snapshots encrypted with your default KMS key cannot be shared with other accounts.

For more information about modifying snapshot permissions, see Share a snapshot in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Attribute

The snapshot attribute to modify. Only volume creation permissions can be modified.

Type: String

Valid Values: productCodes | createVolumePermission

Required: No

CreateVolumePermission

A JSON representation of the snapshot attribute modification.

Type: CreateVolumePermissionModifications object

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
**Required:** No

**OperationType**

The type of operation to perform to the attribute.

Type: String

Valid Values: add | remove

Required: No

**SnapshotId**

The ID of the snapshot.

Type: String

Required: Yes

**UserGroup.N**

The group to modify for the snapshot.

Type: Array of strings

Required: No

**UserId.N**

The account ID to modify for the snapshot.

Type: Array of strings

Required: No

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String
return

  Is true if the request succeeds, and an error otherwise.

  Type: Boolean

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example makes the `snap-1234567890abcdef0` snapshot public, and gives the account with ID `111122223333` permission to create volumes from the snapshot.

Sample Request

```plaintext
https://ec2.amazonaws.com/?Action=ModifySnapshotAttribute
&SnapshotId=snap-1234567890abcdef0
&CreateVolumePermission.Add.1.UserId=111122223333
&CreateVolumePermission.Add.1.Group=all
&AUTHPARAMS
```

Sample Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ModifySnapshotAttributeResponse>
```

Example

This example makes the `snap-1234567890abcdef0` snapshot public, and removes the account with ID `111122223333` from the list of users with permission to create volumes from the snapshot.

Sample Request

```plaintext
https://ec2.amazonaws.com/?Action=ModifySnapshotAttribute
```

Errors
Sample Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ModifySnapshotAttributeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
ModifySnapshotTier

Archives an Amazon EBS snapshot. When you archive a snapshot, it is converted to a full snapshot that includes all of the blocks of data that were written to the volume at the time the snapshot was created, and moved from the standard tier to the archive tier. For more information, see Archive Amazon EBS snapshots in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

SnapshotId

The ID of the snapshot.

Type: String

Required: Yes

StorageTier

The name of the storage tier. You must specify archive.

Type: String

Valid Values: archive

Required: No

Response Elements

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

snapshotId

The ID of the snapshot.

Type: String

tieringStartTime

The date and time when the archive process was started.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifySpotFleetRequest

Modifies the specified Spot Fleet request.

You can only modify a Spot Fleet request of type maintain.

While the Spot Fleet request is being modified, it is in the modifying state.

To scale up your Spot Fleet, increase its target capacity. The Spot Fleet launches the additional Spot Instances according to the allocation strategy for the Spot Fleet request. If the allocation strategy is lowestPrice, the Spot Fleet launches instances using the Spot Instance pool with the lowest price. If the allocation strategy is diversified, the Spot Fleet distributes the instances across the Spot Instance pools. If the allocation strategy is capacityOptimized, Spot Fleet launches instances from Spot Instance pools with optimal capacity for the number of instances that are launching.

To scale down your Spot Fleet, decrease its target capacity. First, the Spot Fleet cancels any open requests that exceed the new target capacity. You can request that the Spot Fleet terminate Spot Instances until the size of the fleet no longer exceeds the new target capacity. If the allocation strategy is lowestPrice, the Spot Fleet terminates the instances with the highest price per unit. If the allocation strategy is capacityOptimized, the Spot Fleet terminates the instances in the Spot Instance pools that have the least available Spot Instance capacity. If the allocation strategy is diversified, the Spot Fleet terminates instances across the Spot Instance pools. Alternatively, you can request that the Spot Fleet keep the fleet at its current size, but not replace any Spot Instances that are interrupted or that you terminate manually.

If you are finished with your Spot Fleet for now, but will use it again later, you can set the target capacity to 0.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Context

Reserved.

Type: String
Required: No

**ExcessCapacityTerminationPolicy**

Indicates whether running instances should be terminated if the target capacity of the Spot Fleet request is decreased below the current size of the Spot Fleet.

Supported only for fleets of type maintain.

Type: String

Valid Values: noTermination | default

Required: No

**LaunchTemplateConfig.N**

The launch template and overrides. You can only use this parameter if you specified a launch template (LaunchTemplateConfigs) in your Spot Fleet request. If you specified LaunchSpecifications in your Spot Fleet request, then omit this parameter.

Type: Array of LaunchTemplateConfig objects

Required: No

**OnDemandTargetCapacity**

The number of On-Demand Instances in the fleet.

Type: Integer

Required: No

**SpotFleetRequestId**

The ID of the Spot Fleet request.

Type: String

Required: Yes

**TargetCapacity**

The size of the fleet.

Type: Integer
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

If the request succeeds, the response returns true. If the request fails, no response is returned, and instead an error message is returned.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifySubnetAttribute

Modifies a subnet attribute. You can only modify one attribute at a time.

Use this action to modify subnets on AWS Outposts.

- To modify a subnet on an Outpost rack, set both MapCustomerOwnedIpOnLaunch and CustomerOwnedIpv4Pool. These two parameters act as a single attribute.
- To modify a subnet on an Outpost server, set either EnableLniAtDeviceIndex or DisableLniAtDeviceIndex.

For more information about AWS Outposts, see the following:

- Outpost servers
- Outpost racks

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**AssignIpv6AddressOnCreation**

Specify `true` to indicate that network interfaces created in the specified subnet should be assigned an IPv6 address. This includes a network interface that's created when launching an instance into the subnet (the instance therefore receives an IPv6 address).

If you enable the IPv6 addressing feature for your subnet, your network interface or instance only receives an IPv6 address if it's created using version 2016-11-15 or later of the Amazon EC2 API.

Type: `AttributeValueBooleanValue` object

Required: No

**CustomerOwnedIpv4Pool**

The customer-owned IPv4 address pool associated with the subnet.

You must set this value when you specify `true` for MapCustomerOwnedIpOnLaunch.
DisableLniAtDeviceIndex

Specify `true` to indicate that local network interfaces at the current position should be disabled.

Type: `AttributeBooleanValue` object

Required: No

EnableDns64

Indicates whether DNS queries made to the Amazon-provided DNS Resolver in this subnet should return synthetic IPv6 addresses for IPv4-only destinations.

Type: `AttributeBooleanValue` object

Required: No

EnableLniAtDeviceIndex

Indicates the device position for local network interfaces in this subnet. For example, 1 indicates local network interfaces in this subnet are the secondary network interface (eth1). A local network interface cannot be the primary network interface (eth0).

Type: Integer

Required: No

EnableResourceNameDnsAAAARecordOnLaunch

Indicates whether to respond to DNS queries for instance hostnames with DNS AAAA records.

Type: `AttributeBooleanValue` object

Required: No

EnableResourceNameDnsARecordOnLaunch

Indicates whether to respond to DNS queries for instance hostnames with DNS A records.

Type: `AttributeBooleanValue` object
MapCustomerOwnedIpOnLaunch

Specify `true` to indicate that network interfaces attached to instances created in the specified subnet should be assigned a customer-owned IPv4 address.

When this value is `true`, you must specify the customer-owned IP pool using `CustomerOwnedIpv4Pool`.

Type: `AttributeBooleanValue` object

Required: No

MapPublicIpOnLaunch

Specify `true` to indicate that network interfaces attached to instances created in the specified subnet should be assigned a public IPv4 address.

Starting on February 1, 2024, AWS will charge for all public IPv4 addresses, including public IPv4 addresses associated with running instances and Elastic IP addresses. For more information, see the `Public IPv4 Address` tab on the [Amazon VPC pricing page](https://aws.amazon.com/vpc/pricing/

Type: `AttributeBooleanValue` object

Required: No

PrivateDnsHostnameTypeOnLaunch

The type of hostname to assign to instances in the subnet at launch. For IPv4-only and dual-stack (IPv4 and IPv6) subnets, an instance DNS name can be based on the instance IPv4 address (ip-name) or the instance ID (resource-name). For IPv6 only subnets, an instance DNS name must be based on the instance ID (resource-name).

Type: String

Valid Values: ip-name | resource-name

Required: No

SubnetId

The ID of the subnet.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example modifies the attribute for subnet-1a2b3c4d to specify that all instances launched into this subnet are assigned a public IPv4 address.

Sample Request

https://ec2.amazonaws.com/?Action=ModifySubnetAttribute
&SubnetId=subnet-1a2b3c4d
&MapPublicIpOnLaunch.Value=true
&AUTHPARAMS

Sample Response

  <requestId>c500a0bc-ad14-46c2-b9c5-e24aexample</requestId>
</ModifySubnetAttributeResponse>
Example 2

This example modifies the attribute for subnet-1a2b3c4d to specify that all network interfaces created in this subnet (and therefore all instances launched into this subnet with a new network interface) are assigned an IPv6 address.

Sample Request

https://ec2.amazonaws.com/?Action=ModifySubnetAttribute
&SubnetId=subnet-1a2b3c4d
&AssignIpv6AddressOnCreation.Value=true
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyTrafficMirrorFilterNetworkServices

Allows or restricts mirroring network services.

By default, Amazon DNS network services are not eligible for Traffic Mirror. Use AddNetworkServices to add network services to a Traffic Mirror filter. When a network service is added to the Traffic Mirror filter, all traffic related to that network service will be mirrored. When you no longer want to mirror network services, use RemoveNetworkServices to remove the network services from the Traffic Mirror filter.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AddNetworkService.N

The network service, for example Amazon DNS, that you want to mirror.

Type: Array of strings

Valid Values: amazon-dns

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

RemoveNetworkService.N

The network service, for example Amazon DNS, that you no longer want to mirror.

Type: Array of strings

Valid Values: amazon-dns
TrafficMirrorFilterId

The ID of the Traffic Mirror filter.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

trafficMirrorFilter

The Traffic Mirror filter that the network service is associated with.

Type: TrafficMirrorFilter object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
ModifyTrafficMirrorFilterRule

Modifies the specified Traffic Mirror rule.

DestinationCidrBlock and SourceCidrBlock must both be an IPv4 range or an IPv6 range.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**Description**

The description to assign to the Traffic Mirror rule.

Type: String

Required: No

**DestinationCidrBlock**

The destination CIDR block to assign to the Traffic Mirror rule.

Type: String

Required: No

**DestinationPortRange**

The destination ports that are associated with the Traffic Mirror rule.

Type: **TrafficMirrorPortRangeRequest** object

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
Protocol

The protocol, for example TCP, to assign to the Traffic Mirror rule.

Type: Integer

Required: No

RemoveField.N

The properties that you want to remove from the Traffic Mirror filter rule.

When you remove a property from a Traffic Mirror filter rule, the property is set to the default.

Type: Array of strings

Valid Values: destination-port-range | source-port-range | protocol | description

Required: No

RuleAction

The action to assign to the rule.

Type: String

Valid Values: accept | reject

Required: No

RuleNumber

The number of the Traffic Mirror rule. This number must be unique for each Traffic Mirror rule in a given direction. The rules are processed in ascending order by rule number.

Type: Integer

Required: No

SourceCidrBlock

The source CIDR block to assign to the Traffic Mirror rule.

Type: String

Required: No
SourcePortRange

The port range to assign to the Traffic Mirror rule.

Type: TrafficMirrorPortRangeRequest object

Required: No

TrafficDirection

The type of traffic to assign to the rule.

Type: String

Valid Values: ingress | egress

Required: No

TrafficMirrorFilterRuleId

The ID of the Traffic Mirror rule.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

trafficMirrorFilterRule

Modifies a Traffic Mirror rule.

Type: TrafficMirrorFilterRule object

Errors

For information about the errors that are common to all actions, see Common client error codes.
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyTrafficMirrorSession

Modifies a Traffic Mirror session.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Description

The description to assign to the Traffic Mirror session.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

PacketLength

The number of bytes in each packet to mirror. These are bytes after the VXLAN header. To mirror a subset, set this to the length (in bytes) to mirror. For example, if you set this value to 100, then the first 100 bytes that meet the filter criteria are copied to the target. Do not specify this parameter when you want to mirror the entire packet.

For sessions with Network Load Balancer (NLB) traffic mirror targets, the default PacketLength will be set to 8500. Valid values are 1-8500. Setting a PacketLength greater than 8500 will result in an error response.

Type: Integer

Required: No
### RemoveField.N

The properties that you want to remove from the Traffic Mirror session.

When you remove a property from a Traffic Mirror session, the property is set to the default.

*Type: Array of strings*

*Valid Values:* packet-length | description | virtual-network-id

*Required: No*

### SessionNumber

The session number determines the order in which sessions are evaluated when an interface is used by multiple sessions. The first session with a matching filter is the one that mirrors the packets.

Valid values are 1-32766.

*Type: Integer*

*Required: No*

### TrafficMirrorFilterId

The ID of the Traffic Mirror filter.

*Type: String*

*Required: No*

### TrafficMirrorSessionId

The ID of the Traffic Mirror session.

*Type: String*

*Required: Yes*

### TrafficMirrorTargetId

The Traffic Mirror target. The target must be in the same VPC as the source, or have a VPC peering connection with the source.

*Type: String*
VirtualNetworkId

The virtual network ID of the Traffic Mirror session.

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

trafficMirrorSession

Information about the Traffic Mirror session.

Type: TrafficMirrorSession object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
ModifyTransitGateway

Modifies the specified transit gateway. When you modify a transit gateway, the modified options are applied to new transit gateway attachments only. Your existing transit gateway attachments are not modified.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Description

The description for the transit gateway.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Options

The options to modify.

Type: ModifyTransitGatewayOptions object

Required: No

TransitGatewayId

The ID of the transit gateway.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

transitGateway

Information about the transit gateway.

Type: TransitGateway object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyTransitGatewayPrefixListReference

Modifies a reference (route) to a prefix list in a specified transit gateway route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Blackhole

Indicates whether to drop traffic that matches this route.

Type: Boolean

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

PrefixListId

The ID of the prefix list.

Type: String

Required: Yes

TransitGatewayAttachmentId

The ID of the attachment to which traffic is routed.

Type: String

Required: No
TransitGatewayRouteTableId

The ID of the transit gateway route table.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

transitGatewayPrefixListReference

Information about the prefix list reference.

Type: TransitGatewayPrefixListReference object

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example modifies the prefix list reference in the specified route table by changing the attachment to which traffic is routed.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyTransitGatewayPrefixListReference
&TransitGatewayRouteTableId=tgw-rtb-0f98a0a509abcabc
&PrefixListId=pl-00112334455aabb
&TransitGatewayAttachmentId=tgw-attach-1123344aabbcc112
Sample Response

```xml
  <requestId>bbd3e523-3e5b-4d3b-b010-example</requestId>
  <transitGatewayPrefixListReference>
    <blackhole>false</blackhole>
    <prefixListId>pl-00112233455aabbcc</prefixListId>
    <prefixListOwnerId>123456789012</prefixListOwnerId>
    <state>modifying</state>
    <transitGatewayAttachment>
      <resourceId>tgw-012233aabbcc11223</resourceId>
      <resourceType>peering</resourceType>
      <transitGatewayAttachmentId>tgw-attach-11223344aabbcc112</transitGatewayAttachmentId>
    </transitGatewayAttachment>
    <transitGatewayRouteTableId>tgw-rtb-0f98a0a5d09abcabc</transitGatewayRouteTableId>
  </transitGatewayPrefixListReference>
</ModifyTransitGatewayPrefixListReferenceResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyTransitGatewayVpcAttachment

Modifies the specified VPC attachment.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**AddSubnetIds.N**

The IDs of one or more subnets to add. You can specify at most one subnet per Availability Zone.

Type: Array of strings

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Options**

The new VPC attachment options.

Type: ModifyTransitGatewayVpcAttachmentRequestOptions object

Required: No

**RemoveSubnetIds.N**

The IDs of one or more subnets to remove.

Type: Array of strings

Required: No
TransitGatewayAttachmentId

The ID of the attachment.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

transitGatewayVpcAttachment

Information about the modified attachment.

Type: TransitGatewayVpcAttachment object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
See Also

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyVerifiedAccessEndpoint

Modifies the configuration of the specified AWS Verified Access endpoint.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

A unique, case-sensitive token that you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String

Required: No

Description

A description for the Verified Access endpoint.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

LoadBalancerOptions

The load balancer details if creating the Verified Access endpoint as load-balancer type.

Type: ModifyVerifiedAccessEndpointLoadBalancerOptions object

Required: No
NetworkInterfaceOptions

The network interface options.

Type: ModifyVerifiedAccessEndpointEniOptions object

Required: No

VerifiedAccessEndpointId

The ID of the Verified Access endpoint.

Type: String

Required: Yes

VerifiedAccessGroupId

The ID of the Verified Access group.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

verifiedAccessEndpoint

Details about the Verified Access endpoint.

Type: VerifiedAccessEndpoint object

Errors

For information about the errors that are common to all actions, see Common client error codes.
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyVerifiedAccessEndpointPolicy

Modifies the specified AWS Verified Access endpoint policy.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**ClientToken**

A unique, case-sensitive token that you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**PolicyDocument**

The Verified Access policy document.

Type: String

Required: No

**PolicyEnabled**

The status of the Verified Access policy.

Type: Boolean

Required: No
**SseSpecification**

The options for server side encryption.

Type: `VerifiedAccessSseSpecificationRequest` object

Required: No

**VerifiedAccessEndpointId**

The ID of the Verified Access endpoint.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**policyDocument**

The Verified Access policy document.

Type: String

**policyEnabled**

The status of the Verified Access policy.

Type: Boolean

**requestId**

The ID of the request.

Type: String

**sseSpecification**

The options in use for server side encryption.

Type: `VerifiedAccessSseSpecificationResponse` object
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyVerifiedAccessGroup

Modifies the specified AWS Verified Access group configuration.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

A unique, case-sensitive token that you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String

Required: No

Description

A description for the Verified Access group.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VerifiedAccessGroupId

The ID of the Verified Access group.

Type: String

Required: Yes
**VerifiedAccessInstanceId**

The ID of the Verified Access instance.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**verifiedAccessGroup**

Details about the Verified Access group.

Type: [VerifiedAccessGroup](#) object

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
ModifyVerifiedAccessGroupPolicy

Modifies the specified AWS Verified Access group policy.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

A unique, case-sensitive token that you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

PolicyDocument

The Verified Access policy document.

Type: String

Required: No

PolicyEnabled

The status of the Verified Access policy.

Type: Boolean

Required: No
SseSpecification

The options for server side encryption.

Type: VerifiedAccessSseSpecificationRequest object

Required: No

VerifiedAccessGroupId

The ID of the Verified Access group.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

documented

The Verified Access policy document.

Type: String

policyEnabled

The status of the Verified Access policy.

Type: Boolean

requestId

The ID of the request.

Type: String

sseSpecification

The options in use for server side encryption.

Type: VerifiedAccessSseSpecificationResponse object
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyVerifiedAccessInstance

Modifies the configuration of the specified AWS Verified Access instance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

A unique, case-sensitive token that you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String

Required: No

Description

A description for the Verified Access instance.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VerifiedAccessInstanceId

The ID of the Verified Access instance.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

verifiedAccessInstance

Details about the Verified Access instance.

Type: VerifiedAccessInstance object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyVerifiedAccessInstanceLoggingConfiguration

Modifies the logging configuration for the specified AWS Verified Access instance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AccessLogs

The configuration options for Verified Access instances.

Type: VerifiedAccessLogOptions object

Required: Yes

ClientToken

A unique, case-sensitive token that you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VerifiedAccessInstanceId

The ID of the Verified Access instance.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

loggingConfiguration

The logging configuration for the Verified Access instance.

Type: VerifiedAccessInstanceLoggingConfiguration object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyVerifiedAccessTrustProvider

Modifies the configuration of the specified AWS Verified Access trust provider.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

A unique, case-sensitive token that you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String

Required: No

Description

A description for the Verified Access trust provider.

Type: String

Required: No

DeviceOptions

The options for a device-based trust provider. This parameter is required when the provider type is device.

Type: ModifyVerifiedAccessTrustProviderDeviceOptions object

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
OidcOptions

The options for an OpenID Connect-compatible user-identity trust provider.

Type: ModifyVerifiedAccessTrustProviderOidcOptions object

Required: No

SseSpecification

The options for server side encryption.

Type: VerifiedAccessSseSpecificationRequest object

Required: No

VerifiedAccessTrustProviderId

The ID of the Verified Access trust provider.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

verifiedAccessTrustProvider

Details about the Verified Access trust provider.

Type: VerifiedAccessTrustProvider object

Errors

For information about the errors that are common to all actions, see Common client error codes.
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
ModifyVolume

You can modify several parameters of an existing EBS volume, including volume size, volume type, and IOPS capacity. If your EBS volume is attached to a current-generation EC2 instance type, you might be able to apply these changes without stopping the instance or detaching the volume from it. For more information about modifying EBS volumes, see Amazon EBS Elastic Volumes (Linux instances) or Amazon EBS Elastic Volumes (Windows instances).

When you complete a resize operation on your volume, you need to extend the volume's file-system size to take advantage of the new storage capacity. For more information, see Extend a Linux file system or Extend a Windows file system.

You can use CloudWatch Events to check the status of a modification to an EBS volume. For information about CloudWatch Events, see the Amazon CloudWatch Events User Guide. You can also track the status of a modification using DescribeVolumesModifications. For information about tracking status changes using either method, see Monitor the progress of volume modifications.

With previous-generation instance types, resizing an EBS volume might require detaching and reattaching the volume or stopping and restarting the instance.

After modifying a volume, you must wait at least six hours and ensure that the volume is in the in-use or available state before you can modify the same volume. This is sometimes referred to as a cooldown period.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Iops

The target IOPS rate of the volume. This parameter is valid only for gp3, io1, and io2 volumes.
The following are the supported values for each volume type:

- **gp3**: 3,000 - 16,000 IOPS
- **io1**: 100 - 64,000 IOPS
- **io2**: 100 - 256,000 IOPS

For io2 volumes, you can achieve up to 256,000 IOPS on instances built on the Nitro System. On other instances, you can achieve performance up to 32,000 IOPS.

Default: The existing value is retained if you keep the same volume type. If you change the volume type to io1, io2, or gp3, the default is 3,000.

Type: Integer

Required: No

**MultiAttachEnabled**

Specifies whether to enable Amazon EBS Multi-Attach. If you enable Multi-Attach, you can attach the volume to up to 16 Nitro-based instances in the same Availability Zone. This parameter is supported with io1 and io2 volumes only. For more information, see Amazon EBS Multi-Attach in the Amazon Elastic Compute Cloud User Guide.

Type: Boolean

Required: No

**Size**

The target size of the volume, in GiB. The target volume size must be greater than or equal to the existing size of the volume.

The following are the supported volumes sizes for each volume type:

- **gp2** and **gp3**: 1 - 16,384 GiB
- **io1**: 4 - 16,384 GiB
- **io2**: 4 - 65,536 GiB
- **st1** and **sc1**: 125 - 16,384 GiB
- **standard**: 1 - 1024 GiB

Default: The existing size is retained.

Type: Integer
Required: No

**Throughput**

The target throughput of the volume, in MiB/s. This parameter is valid only for gp3 volumes. The maximum value is 1,000.

Default: The existing value is retained if the source and target volume type is gp3. Otherwise, the default value is 125.

Valid Range: Minimum value of 125. Maximum value of 1000.

Type: Integer

Required: No

**VolumeId**

The ID of the volume.

Type: String

Required: Yes

**VolumeType**

The target EBS volume type of the volume. For more information, see Amazon EBS volume types in the Amazon Elastic Compute Cloud User Guide.

Default: The existing type is retained.

Type: String

Valid Values: standard | io1 | io2 | gp2 | sc1 | st1 | gp3

Required: No

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.
Type: String

volumeModification

Information about the volume modification.

Type: VolumeModification object

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Modify size, type, and IOPS provisioning of a volume

This example illustrates one usage of ModifyVolume.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyVolume
&VolumeId=vol-1234567890EXAMPLE
&VolumeType=io1
&iops=10000
&Size=200
&Version=2016-11-15

Sample Response

  <requestId>5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
  <volumeModification>
    <targetIops>10000</targetIops>
    <originalIops>300</originalIops>
    <modificationState>modifying</modificationState>
    <targetSize>200</targetSize>
    <targetVolumeType>io1</targetVolumeType>
    <targetMultiAttachEnabled>false</targetMultiAttachEnabled>
    <volumeId>vol-1234567890EXAMPLE</volumeId>
    <progress>0</progress>
    <startTime>2017-01-19T23:58:04.922Z</startTime>
    <originalSize>100</originalSize>
  </volumeModification>
</ModifyVolumeResponse>
Modify Multi-Attach support

This example illustrates one usage of ModifyVolume.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyVolume
&VolumeId=vol-1234567890EXAMPLE
&MultiAttachEnabled=true
&Version=2016-11-15

Sample Response

  <requestId>5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
  <volumeModification>
    <originalMultiAttachEnabled>false</originalMultiAttachEnabled>
    <targetMultiAttachEnabled>true</targetMultiAttachEnabled>
  </volumeModification>
</ModifyVolumeResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
ModifyVolumeAttribute

Modifies a volume attribute.

By default, all I/O operations for the volume are suspended when the data on the volume is determined to be potentially inconsistent, to prevent undetectable, latent data corruption. The I/O access to the volume can be resumed by first enabling I/O access and then checking the data consistency on your volume.

You can change the default behavior to resume I/O operations. We recommend that you change this only for boot volumes or for volumes that are stateless or disposable.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AutoEnableIO

Indicates whether the volume should be auto-enabled for I/O operations.

Type: AttributeBooleanValue object

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VolumeId

The ID of the volume.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example modifies the attribute of the volume vol-1234567890abcdef0.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyVolumeAttribute
&VolumeId=vol-1234567890abcdef0
&AutoEnableIO.Value=true
&AUTHPARAMS

Sample Response

  <requestId>5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
  <return>true</return>
</ModifyVolumeAttributeResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyVpcAttribute

Modifies the specified attribute of the specified VPC.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

EnableDnsHostnames

Indicates whether the instances launched in the VPC get DNS hostnames. If enabled, instances in the VPC get DNS hostnames; otherwise, they do not.

You cannot modify the DNS resolution and DNS hostnames attributes in the same request. Use separate requests for each attribute. You can only enable DNS hostnames if you've enabled DNS support.

Type: AttributeBooleanValue object

Required: No

EnableDnsSupport

Indicates whether the DNS resolution is supported for the VPC. If enabled, queries to the Amazon provided DNS server at the 169.254.169.253 IP address, or the reserved IP address at the base of the VPC network range "plus two" succeed. If disabled, the Amazon provided DNS service in the VPC that resolves public DNS hostnames to IP addresses is not enabled.

You cannot modify the DNS resolution and DNS hostnames attributes in the same request. Use separate requests for each attribute.

Type: AttributeBooleanValue object

Required: No

EnableNetworkAddressUsageMetrics

Indicates whether Network Address Usage metrics are enabled for your VPC.

Type: AttributeBooleanValue object

Required: No
VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example disables support for DNS hostnames in the specified VPC.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyVpcAttribute
&VpcId=vpc-1a2b3c4d
&EnableDnsHostnames.Value=false
&AUTHPARAMS
Sample Response

```xml
  <requestId>d742de94-5f3e-4c3d-b6d4-440cexample</requestId>
  <return>true</return>
</ModifyVpcAttributeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
# ModifyVpcEndpoint

Modifies attributes of a specified VPC endpoint. The attributes that you can modify depend on the type of VPC endpoint (interface, gateway, or Gateway Load Balancer). For more information, see the [AWS PrivateLink Guide](https://aws.amazon.com/privatelink/

## Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**AddRouteTableId.N**

(Gateway endpoint) The IDs of the route tables to associate with the endpoint.

Type: Array of strings

Required: No

**AddSecurityGroupId.N**

(Interface endpoint) The IDs of the security groups to associate with the endpoint network interfaces.

Type: Array of strings

Required: No

**AddSubnetId.N**

(Interface and Gateway Load Balancer endpoints) The IDs of the subnets in which to serve the endpoint. For a Gateway Load Balancer endpoint, you can specify only one subnet.

Type: Array of strings

Required: No

**DnsOptions**

The DNS options for the endpoint.

Type: [DnsOptionsSpecification](#) object

Required: No
DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

IpAddressType

The IP address type for the endpoint.

Type: String

Valid Values: ipv4 | dualstack | ipv6

Required: No

PolicyDocument

(Interface and gateway endpoints) A policy to attach to the endpoint that controls access to the service. The policy must be in valid JSON format.

Type: String

Required: No

PrivateDnsEnabled

(Interface endpoint) Indicates whether a private hosted zone is associated with the VPC.

Type: Boolean

Required: No

RemoveRouteTableId.N

(Gateway endpoint) The IDs of the route tables to disassociate from the endpoint.

Type: Array of strings

Required: No
RemoveSecurityGroupId.N

(Interface endpoint) The IDs of the security groups to disassociate from the endpoint network interfaces.

Type: Array of strings

Required: No

RemoveSubnetId.N

(Interface endpoint) The IDs of the subnets from which to remove the endpoint.

Type: Array of strings

Required: No

ResetPolicy

(Gateway endpoint) Specify true to reset the policy document to the default policy. The default policy allows full access to the service.

Type: Boolean

Required: No

SubnetConfiguration.N

The subnet configurations for the endpoint.

Type: Array of SubnetConfiguration objects

Required: No

VpcEndpointId

The ID of the endpoint.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
**requestId**

The ID of the request.

Type: String

**return**

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example 1**

This example modifies gateway endpoint vpce-1a2b3c4d by associating route table rtb-aaa222bb with the endpoint, and resetting the policy document.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=ModifyVpcEndpoint
&VpcEndpointId=vpce-1a2b3c4d
&ResetPolicy=true
&AddRouteTableId.1=rtb-aaa222bb
&AUTHPARAMS
```

**Sample Response**

```
<ModifyVpcEndpointResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <return>true</return>
  <requestId>125acea6-ba5c-4c6e-8e17-example</requestId>
</ModifyVpcEndpointResponse>
```

**Example 2**

This example modifies interface endpoint vpce-0fe5b17a0707d6fa5 by adding subnet subnet-d6fcaaa8d to the endpoint.
Sample Request

https://ec2.amazonaws.com/?Action=ModifyVpcEndpoint
&VpcEndpointId=vpce-0fe5b17a0707d6fa5
&AddSubnetId.1=subnet-d6fcaa8db
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyVpcEndpointConnectionNotification

Modifies a connection notification for VPC endpoint or VPC endpoint service. You can change the SNS topic for the notification, or the events for which to be notified.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ConnectionEvents.N

The events for the endpoint. Valid values are Accept, Connect, Delete, and Reject.

Type: Array of strings

Required: No

ConnectionNotificationArn

The ARN for the SNS topic for the notification.

Type: String

Required: No

ConnectionNotificationId

The ID of the notification.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns `true` if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

The following example modifies notification `vpce-nfn-abccb952bc8af7123` by modifying the endpoint events and the SNS topic ARN.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyVpcEndpointConnectionNotification
&ConnectionNotificationId=vpce-nfn-abccb952bc8af7123
&ConnectionNotificationArn=arn:aws:sns:us-east-1:123456789012:mytopic
&ConnectionEvents.1=Accept
&ConnectionEvents.2=Reject
&AUTHPARAMS
```

Sample Response

```
  <requestId>08d80840-f750-42db-a6f8-2cd32example</requestId>
</ModifyVpcEndpointConnectionNotificationResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyVpcEndpointServiceConfiguration

Modifies the attributes of your VPC endpoint service configuration. You can change the Network Load Balancers or Gateway Load Balancers for your service, and you can specify whether acceptance is required for requests to connect to your endpoint service through an interface VPC endpoint.

If you set or modify the private DNS name, you must prove that you own the private DNS domain name.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AcceptanceRequired

Indicates whether requests to create an endpoint to your service must be accepted.

Type: Boolean

Required: No

AddGatewayLoadBalancerArn.N

The Amazon Resource Names (ARNs) of Gateway Load Balancers to add to your service configuration.

Type: Array of strings

Required: No

AddNetworkLoadBalancerArn.N

The Amazon Resource Names (ARNs) of Network Load Balancers to add to your service configuration.

Type: Array of strings

Required: No

AddSupportedIpAddressType.N

The IP address types to add to your service configuration.
DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

PrivateDnsName

(Interface endpoint configuration) The private DNS name to assign to the endpoint service.

Type: String
Required: No

RemoveGatewayLoadBalancerArn.N

The Amazon Resource Names (ARNs) of Gateway Load Balancers to remove from your service configuration.

Type: Array of strings
Required: No

RemoveNetworkLoadBalancerArn.N

The Amazon Resource Names (ARNs) of Network Load Balancers to remove from your service configuration.

Type: Array of strings
Required: No

RemovePrivateDnsName

(Interface endpoint configuration) Removes the private DNS name of the endpoint service.

Type: Boolean
Required: No
RemoveSupportedIpAddressType.N

The IP address types to remove from your service configuration.

Type: Array of strings

Required: No

ServiceId

The ID of the service.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example modifies service configuration vpce-svc-03d5ebb7d9579a2b3 to specify that acceptance is required for interface VPC endpoint connection requests to the service, and to assign a private DNS name to the endpoint service.
Sample Request

https://ec2.amazonaws.com/?Action=ModifyVpcEndpointServiceConfiguration
&ServiceId=vpce-svc-03d5ebb7d9579a2b3
&AcceptanceRequired=true
&PrivateDnsName=myexampleservice.com
&AUTHPARAMS

Sample Response

<ModifyVpcEndpointServiceConfigurationResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
    <requestId>08d80840-f750-42db-a6f8-2cd32example</requestId>
    <return>true</return>
</ModifyVpcEndpointServiceConfigurationResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyVpcEndpointServicePayerResponsibility

Modifies the payer responsibility for your VPC endpoint service.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

PayerResponsibility

The entity that is responsible for the endpoint costs. The default is the endpoint owner. If you set the payer responsibility to the service owner, you cannot set it back to the endpoint owner.

Type: String

Valid Values: ServiceOwner

Required: Yes

ServiceId

The ID of the service.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

return

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyVpcEndpointServicePermissions

Modifies the permissions for your VPC endpoint service. You can add or remove permissions for service consumers (AWS accounts, users, and IAM roles) to connect to your endpoint service.

If you grant permissions to all principals, the service is public. Any users who know the name of a public service can send a request to attach an endpoint. If the service does not require manual approval, attachments are automatically approved.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AddAllowedPrincipals.N

The Amazon Resource Names (ARN) of the principals. Permissions are granted to the principals in this list. To grant permissions to all principals, specify an asterisk (*).

Type: Array of strings

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

RemoveAllowedPrincipals.N

The Amazon Resource Names (ARN) of the principals. Permissions are revoked for principals in this list.

Type: Array of strings

Required: No

ServiceId

The ID of the service.
Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

addedPrincipalSet

Information about the added principals.

Type: Array of AddedPrincipal objects

requestId

The ID of the request.

Type: String

return

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example permits all principals in AWS account 123456789012 to connect to your endpoint service vpce-svc-03d5ebb7d9579a2b3.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyVpcEndpointServicePermissions
&ServiceId=vpce-svc-03d5ebb7d9579a2b3
&AddAllowedPrincipals.1=arn:aws:iam::123456789012:root
Sample Response

```xml
<ModifyVpcEndpointServicePermissionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    <requestId>08d80840-f750-42db-a6f8-2cd32example</requestId>
    <return>true</return>
</ModifyVpcEndpointServicePermissionsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
ModifyVpcPeeringConnectionOptions

Modifies the VPC peering connection options on one side of a VPC peering connection.

If the peered VPCs are in the same AWS account, you can enable DNS resolution for queries from the local VPC. This ensures that queries from the local VPC resolve to private IP addresses in the peer VPC. This option is not available if the peered VPCs are in different AWS accounts or different Regions. For peered VPCs in different AWS accounts, each AWS account owner must initiate a separate request to modify the peering connection options. For inter-region peering connections, you must use the Region for the requester VPC to modify the requester VPC peering options and the Region for the accepter VPC to modify the accepter VPC peering options. To verify which VPCs are the accepter and the requester for a VPC peering connection, use the DescribeVpcPeeringConnections command.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AccepterPeeringConnectionOptions

The VPC peering connection options for the accepter VPC.

Type: PeeringConnectionOptionsRequest object

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

RequesterPeeringConnectionOptions

The VPC peering connection options for the requester VPC.

Type: PeeringConnectionOptionsRequest object
Required: No

VpcPeeringConnectionId

The ID of the VPC peering connection.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

accepterPeeringConnectionOptions

Information about the VPC peering connection options for the accepter VPC.

Type: PeeringConnectionOptions object

requesterPeeringConnectionOptions

Information about the VPC peering connection options for the requester VPC.

Type: PeeringConnectionOptions object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

In this example, you want the public DNS hostnames of your instances in your VPC to resolve to private IP addresses when queried from instances in the peer VPC. You were the accepter of the VPC peering connection, therefore you modify the accepter VPC peering connection options.
Sample Request

https://ec2.amazonaws.com/?Action=ModifyVpcPeeringConnectionOptions
&VpcPeeringConnectionId=pcx-1a2b3c4d
&AccepterPeeringConnectionOptions.AllowDnsResolutionFromRemoteVpc=true
&AUTHPARAMS

Sample Response

<ModifyVpcPeeringConnectionOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>f5131846-7920-4359-b565-example</requestId>
  <accepterPeeringConnectionOptions>
    <allowDnsResolutionFromRemoteVpc>true</allowDnsResolutionFromRemoteVpc>
  </accepterPeeringConnectionOptions>
</ModifyVpcPeeringConnectionOptionsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyVpcTenancy

Modifies the instance tenancy attribute of the specified VPC. You can change the instance tenancy attribute of a VPC to `default` only. You cannot change the instance tenancy attribute to `dedicated`.

After you modify the tenancy of the VPC, any new instances that you launch into the VPC have a tenancy of `default`, unless you specify otherwise during launch. The tenancy of any existing instances in the VPC is not affected.

For more information, see [Dedicated Instances](https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/dedicated-instances.html) in the *Amazon EC2 User Guide*.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](https://docs.aws.amazon.com/AWSEC2/latest/APIReference/API_2016_11_15/).  

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean  
Required: No

**InstanceTenancy**

The instance tenancy attribute for the VPC.

Type: String  
Valid Values: `default`  
Required: Yes

**VpcId**

The ID of the VPC.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

turn

Returns true if the request succeeds; otherwise, returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example modifies the tenancy of vpc-1a2b3c4d to default.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyVpcTenancy
&VpcId=vpc-1a2b3c4d
&InstanceTenancy=default
&AUTHPARAMS
```

Sample Response

```
  <return>true</return>
  <requestId>125acea6-ba5c-4c6e-8e17-example</requestId>
</ModifyVpcTenancyResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyVpnConnection

Modifies the customer gateway or the target gateway of an AWS Site-to-Site VPN connection. To modify the target gateway, the following migration options are available:

- An existing virtual private gateway to a new virtual private gateway
- An existing virtual private gateway to a transit gateway
- An existing transit gateway to a new transit gateway
- An existing transit gateway to a virtual private gateway

Before you perform the migration to the new gateway, you must configure the new gateway. Use CreateVpnGateway to create a virtual private gateway, or CreateTransitGateway to create a transit gateway.

This step is required when you migrate from a virtual private gateway with static routes to a transit gateway.

You must delete the static routes before you migrate to the new gateway.

Keep a copy of the static route before you delete it. You will need to add back these routes to the transit gateway after the VPN connection migration is complete.

After you migrate to the new gateway, you might need to modify your VPC route table. Use CreateRoute and DeleteRoute to make the changes described in Update VPC route tables in the AWS Site-to-Site VPN User Guide.

When the new gateway is a transit gateway, modify the transit gateway route table to allow traffic between the VPC and the AWS Site-to-Site VPN connection. Use CreateTransitGatewayRoute to add the routes.

If you deleted VPN static routes, you must add the static routes to the transit gateway route table.

After you perform this operation, the VPN endpoint's IP addresses on the AWS side and the tunnel options remain intact. Your AWS Site-to-Site VPN connection will be temporarily unavailable for a brief period while we provision the new endpoints.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.
CustomerGatewayId

The ID of the customer gateway at your end of the VPN connection.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TransitGatewayId

The ID of the transit gateway.

Type: String

Required: No

VpnConnectionId

The ID of the VPN connection.

Type: String

Required: Yes

VpnGatewayId

The ID of the virtual private gateway at the AWS side of the VPN connection.

Type: String

Required: No

Response Elements

The following elements are returned by the service.
**requestId**

The ID of the request.

Type: String

**vpnConnection**

Information about the VPN connection.

Type: [VpnConnection](#) object

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
ModifyVpnConnectionOptions

Modifies the connection options for your Site-to-Site VPN connection.

When you modify the VPN connection options, the VPN endpoint IP addresses on the AWS side do not change, and the tunnel options do not change. Your VPN connection will be temporarily unavailable for a brief period while the VPN connection is updated.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

LocalIpv4NetworkCidr

The IPv4 CIDR on the customer gateway (on-premises) side of the VPN connection.

Default: 0.0.0.0/0

Type: String

Required: No

LocalIpv6NetworkCidr

The IPv6 CIDR on the customer gateway (on-premises) side of the VPN connection.

Default: ::/0

Type: String

Required: No
**RemoteIPv4NetworkCidr**

The IPv4 CIDR on the AWS side of the VPN connection.

Default: `0.0.0.0/0`

Type: String

Required: No

**RemoteIPv6NetworkCidr**

The IPv6 CIDR on the AWS side of the VPN connection.

Default: `::/0`

Type: String

Required: No

**VpnConnectionId**

The ID of the Site-to-Site VPN connection.

Type: String

Required: Yes

---

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**vpnConnection**

Information about the VPN connection.

Type: [VpnConnection](#) object
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyVpnTunnelCertificate

Modifies the VPN tunnel endpoint certificate.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**VpnConnectionId**

The ID of the AWS Site-to-Site VPN connection.

Type: String

Required: Yes

**VpnTunnelOutsideIpAddress**

The external IP address of the VPN tunnel.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.
Type: String

vpnConnection

Information about the VPN connection.

Type: VpnConnection object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyVpnTunnelOptions

Modifies the options for a VPN tunnel in an AWS Site-to-Site VPN connection. You can modify multiple options for a tunnel in a single request, but you can only modify one tunnel at a time. For more information, see Site-to-Site VPN tunnel options for your Site-to-Site VPN connection in the AWS Site-to-Site VPN User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

SkipTunnelReplacement

Choose whether or not to trigger immediate tunnel replacement. This is only applicable when turning on or off EnableTunnelLifecycleControl.

Valid values: True | False

Type: Boolean

Required: No

TunnelOptions

The tunnel options to modify.

Type: ModifyVpnTunnelOptionsSpecification object

Required: Yes

VpnConnectionId

The ID of the AWS Site-to-Site VPN connection.
Type: String
Required: Yes

**VpnTunnelOutsideIpAddress**

The external IP address of the VPN tunnel.

Type: String
Required: Yes

### Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**vpnConnection**

Information about the VPN connection.

Type: [VpnConnection](#) object

### Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
MonitorInstances

Enables detailed monitoring for a running instance. Otherwise, basic monitoring is enabled. For more information, see Monitor your instances using CloudWatch in the Amazon EC2 User Guide.

To disable detailed monitoring, see UnmonitorInstances.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceId.N

The IDs of the instances.

Type: Array of strings

Required: Yes

Response Elements

The following elements are returned by the service.

instancesSet

The monitoring information.

Type: Array of InstanceMonitoring objects

requestId

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example enables detailed monitoring for the specified two instances.

Sample Request

https://ec2.amazonaws.com/?Action=MonitorInstances
&InstanceId.1=i-1234567890abcdef0
&InstanceId.2=i-0598c7d356eba48d7

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instancesSet>
    <item>
      <instanceId>i-1234567890abcdef0</instanceId>
      <monitoring>
        <state>pending</state>
      </monitoring>
    </item>
    <item>
      <instanceId>i-0598c7d356eba48d7</instanceId>
      <monitoring>
        <state>pending</state>
      </monitoring>
    </item>
  </instancesSet>
</MonitorInstancesResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
MoveAddressToVpc

⚠️ **Note**

This action is deprecated.

Moves an Elastic IP address from the EC2-Classic platform to the EC2-VPC platform. The Elastic IP address must be allocated to your account for more than 24 hours, and it must not be associated with an instance. After the Elastic IP address is moved, it is no longer available for use in the EC2-Classic platform, unless you move it back using the `RestoreAddressToClassic` request. You cannot move an Elastic IP address that was originally allocated for use in the EC2-VPC platform to the EC2-Classic platform.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

- **Type**: Boolean
- **Required**: No

**PublicIp**

The Elastic IP address.

- **Type**: String
- **Required**: Yes

**Response Elements**

The following elements are returned by the service.
**allocationId**

The allocation ID for the Elastic IP address.

Type: String

**requestId**

The ID of the request.

Type: String

**status**

The status of the move of the IP address.

Type: String

Valid Values: MoveInProgress | InVpc | InClassic

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
MoveByoipCidrToIpam

Move a BYOIPv4 CIDR to IPAM from a public IPv4 pool.

If you already have a BYOIPv4 CIDR with AWS, you can move the CIDR to IPAM from a public IPv4 pool. You cannot move an IPv6 CIDR to IPAM. If you are bringing a new IP address to AWS for the first time, complete the steps in Tutorial: BYOIP address CIDRs to IPAM.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Cidr

The BYOIP CIDR.

Type: String

Required: Yes

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

IpamPoolId

The IPAM pool ID.

Type: String

Required: Yes

IpamPoolOwner

The AWS account ID of the owner of the IPAM pool.

Type: String
Response Elements

The following elements are returned by the service.

byoipCidr

The BYOIP CIDR.

Type: ByoipCidr object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ProvisionByoipCidr

Provisions an IPv4 or IPv6 address range for use with your AWS resources through bring your own IP addresses (BYOIP) and creates a corresponding address pool. After the address range is provisioned, it is ready to be advertised using `AdvertiseByoipCidr`.

AWS verifies that you own the address range and are authorized to advertise it. You must ensure that the address range is registered to you and that you created an RPKI ROA to authorize Amazon ASNs 16509 and 14618 to advertise the address range. For more information, see [Bring your own IP addresses (BYOIP)](https://docs.aws.amazon.com/elasticloadbalancing/latest/application/create-byoip-crips.html) in the Amazon Elastic Compute Cloud User Guide.

Provisioning an address range is an asynchronous operation, so the call returns immediately, but the address range is not ready to use until its status changes from pending-provision to provisioned. To monitor the status of an address range, use `DescribeByoipCidrs`. To allocate an Elastic IP address from your IPv4 address pool, use `AllocateAddress` with either the specific address from the address pool or the ID of the address pool.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](https://docs.aws.amazon.com/elasticloadbalancing/latest/application/create-byoip-crips.html).

**Cidr**

The public IPv4 or IPv6 address range, in CIDR notation. The most specific IPv4 prefix that you can specify is /24. The most specific IPv6 prefix you can specify is /56. The address range cannot overlap with another address range that you’ve brought to this or another Region.

Type: String

Required: Yes

**CidrAuthorizationContext**

A signed document that proves that you are authorized to bring the specified IP address range to Amazon using BYOIP.

Type: `CidrAuthorizationContext` object

Required: No
**Description**

A description for the address range and the address pool.

Type: String

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**MultiRegion**

Reserved.

Type: Boolean

Required: No

**NetworkBorderGroup**

If you have Local Zones enabled, you can choose a network border group for Local Zones when you provision and advertise a BYOIPv4 CIDR. Choose the network border group carefully as the EIP and the AWS resource it is associated with must reside in the same network border group.

You can provision BYOIP address ranges to and advertise them in the following Local Zone network border groups:

- us-east-1-dfw-2
- us-west-2-lax-1
- us-west-2-phx-2

**Note**

You cannot provision or advertise BYOIPv6 address ranges in Local Zones at this time.

Type: String
Required: No

**PoolTagSpecification.N**

The tags to apply to the address pool.

Type: Array of [TagSpecification](#) objects

Required: No

**PubliclyAdvertisable**

(IPv6 only) Indicate whether the address range will be publicly advertised to the internet.

Default: true

Type: Boolean

Required: No

**Response Elements**

The following elements are returned by the service.

**byoipCidr**

Information about the address range.

Type: [ByoipCidr](#) object

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
ProvisionIpamByoasn

Provisions your Autonomous System Number (ASN) for use in your AWS account. This action requires authorization context for Amazon to bring the ASN to an AWS account. For more information, see Tutorial: Bring your ASN to IPAM in the Amazon VPC IPAM guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Asn

A public 2-byte or 4-byte ASN.

Type: String

Required: Yes

AsnAuthorizationContext

An ASN authorization context.

Type: AsnAuthorizationContext object

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

IpamId

An IPAM ID.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

byoasn

An ASN and BYOIP CIDR association.

Type: Byoasn object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ProvisionIpamPoolCidr

Provision a CIDR to an IPAM pool. You can use this action to provision new CIDRs to a top-level pool or to transfer a CIDR from a top-level pool to a pool within it.

For more information, see Provision CIDRs to pools in the Amazon VPC IPAM User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**Cidr**

The CIDR you want to assign to the IPAM pool. Either "NetmaskLength" or "Cidr" is required. This value will be null if you specify "NetmaskLength" and will be filled in during the provisioning process.

Type: String

Required: No

**CidrAuthorizationContext**

A signed document that proves that you are authorized to bring a specified IP address range to Amazon using BYOIP. This option applies to public pools only.

Type: IpamCidrAuthorizationContext object

Required: No

**ClientToken**

A unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see Ensuring Idempotency.

Type: String

Required: No

**DryRun**

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.
Type: Boolean
Required: No

IpamPoolId

The ID of the IPAM pool to which you want to assign a CIDR.

Type: String
Required: Yes

NetmaskLength

The netmask length of the CIDR you'd like to provision to a pool. Can be used for provisioning Amazon-provided IPv6 CIDRs to top-level pools and for provisioning CIDRs to pools with source pools. Cannot be used to provision BYOIP CIDRs to top-level pools. Either "NetmaskLength" or "Cidr" is required.

Type: Integer
Required: No

Response Elements

The following elements are returned by the service.

ipamPoolCidr

Information about the provisioned CIDR.

Type: IpamPoolCidr object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
Provision Public IPv4 Pool CIDR

Provision a CIDR to a public IPv4 pool.

For more information about IPAM, see [What is IPAM?](#) in the Amazon VPC IPAM User Guide.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**IpamPoolId**

The ID of the IPAM pool you would like to use to allocate this CIDR.

Type: String

Required: Yes

**NetmaskLength**

The netmask length of the CIDR you would like to allocate to the public IPv4 pool.

Type: Integer

Required: Yes

**PoolId**

The ID of the public IPv4 pool you would like to use for this CIDR.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

**poolAddressRange**

Information about the address range of the public IPv4 pool.

Type: PublicIpv4PoolRange object

**poolId**

The ID of the pool that you want to provision the CIDR to.

Type: String

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
PurchaseCapacityBlock

Purchase the Capacity Block for use with your account. With Capacity Blocks you ensure GPU capacity is available for machine learning (ML) workloads. You must specify the ID of the Capacity Block offering you are purchasing.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**CapacityBlockOfferingId**

The ID of the Capacity Block offering.

Type: String

Required: Yes

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**InstancePlatform**

The type of operating system for which to reserve capacity.

Type: String

Valid Values: Linux/UNIX | Red Hat Enterprise Linux | SUSE Linux | Windows | Windows with SQL Server | Windows with SQL Server Enterprise | Windows with SQL Server Standard | Windows with SQL Server Web | Linux with SQL Server Standard | Linux with SQL Server Web | Linux with SQL Server Enterprise | RHEL with SQL Server Standard | RHEL with SQL Server Enterprise | RHEL with SQL Server Web | RHEL with HA | RHEL with HA and
SQL Server Standard | RHEL with HA and SQL Server Enterprise | Ubuntu Pro

Required: Yes

TagSpecification.N

The tags to apply to the Capacity Block during launch.

Type: Array of TagSpecification objects

Required: No

Response Elements

The following elements are returned by the service.

capacityReservation

The Capacity Reservation.

Type: CapacityReservation object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
PurchaseHostReservation

Purchase a reservation with configurations that match those of your Dedicated Host. You must have active Dedicated Hosts in your account before you purchase a reservation. This action results in the specified reservation being purchased and charged to your account.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see Ensuring Idempotency.

Type: String
Required: No

CurrencyCode

The currency in which the totalUpfrontPrice, LimitPrice, and totalHourlyPrice amounts are specified. At this time, the only supported currency is USD.

Type: String
Valid Values: USD
Required: No

HostIdSet.N

The IDs of the Dedicated Hosts with which the reservation will be associated.

Type: Array of strings
Required: Yes

LimitPrice

The specified limit is checked against the total upfront cost of the reservation (calculated as the offering's upfront cost multiplied by the host count). If the total upfront cost is greater than the specified price limit, the request fails. This is used to ensure that the purchase does not exceed
the expected upfront cost of the purchase. At this time, the only supported currency is USD. For example, to indicate a limit price of USD 100, specify 100.00.

Type: String
Required: No

**OfferingId**

The ID of the offering.

Type: String
Required: Yes

**TagSpecification.N**

The tags to apply to the Dedicated Host Reservation during purchase.

Type: Array of [TagSpecification](#) objects
Required: No

**Response Elements**

The following elements are returned by the service.

**clientToken**

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see [Ensuring Idempotency](#).

Type: String

**currencyCode**

The currency in which the totalUpfrontPrice and totalHourlyPrice amounts are specified. At this time, the only supported currency is USD.

Type: String
Valid Values: USD

**purchase**

Describes the details of the purchase.
Type: Array of Purchase objects

requestId

The ID of the request.

Type: String

totalHourlyPrice

The total hourly price of the reservation calculated per hour.

Type: String

totalUpfrontPrice

The total amount charged to your account when you purchase the reservation.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example uses the same configuration information from GetHostReservationPurchasePreview to make the purchase and associate the offering with the specified Dedicated Host.

Sample Request

https://ec2.amazonaws.com/?Action=PurchaseHostReservation
&OfferingId=hro-0eb3541dght849c2d
&HostIdSet=h-0fgr9ddb0ecd0a1cd
&AUTHPARAMS

Sample Response

<PurchaseHostReservationResult xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>d4904fd9-84c3-b40d-gtyk-a9983EXAMPLE</requestId>
  <purchase>
</purchase>
<item>
  <duration>31536000</duration>
  <upfrontPrice>7453.000</upfrontPrice>
  <paymentOption>PartialUpfront</paymentOption>
  <instanceFamily>m4</instanceFamily>
  <hourlyPrice>0.850</hourlyPrice>
  <hostIdSet>
    <item>h-0fgr9ddb0ecd0a1cd</item>
  </hostIdSet>
</item>
</purchase>
</PurchaseHostReservationResult>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
PurchaseReservedInstancesOffering

Purchases a Reserved Instance for use with your account. With Reserved Instances, you pay a lower hourly rate compared to On-Demand instance pricing.

Use DescribeReservedInstancesOfferings to get a list of Reserved Instance offerings that match your specifications. After you've purchased a Reserved Instance, you can check for your new Reserved Instance with DescribeReservedInstances.

To queue a purchase for a future date and time, specify a purchase time. If you do not specify a purchase time, the default is the current time.

For more information, see Reserved Instances and Reserved Instance Marketplace in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceCount

The number of Reserved Instances to purchase.

Type: Integer

Required: Yes

LimitPrice

Specified for Reserved Instance Marketplace offerings to limit the total order and ensure that the Reserved Instances are not purchased at unexpected prices.
Type: **ReservedInstanceLimitPrice** object

Required: No

**PurchaseTime**

The time at which to purchase the Reserved Instance, in UTC format (for example, `YYYY-MM-DDTHH:MM:SSZ`).

Type: Timestamp

Required: No

**ReservedInstancesOfferingId**

The ID of the Reserved Instance offering to purchase.

Type: String

Required: Yes

### Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**reservedInstancesId**

The IDs of the purchased Reserved Instances. If your purchase crosses into a discounted pricing tier, the final Reserved Instances IDs might change. For more information, see [Crossing pricing tiers](https://docs.aws.amazon.com/AWSEC2/latest/userguide/ReservedInstances.html) in the *Amazon Elastic Compute Cloud User Guide*.

Type: String

### Errors

For information about the errors that are common to all actions, see [Common client error codes](https://docs.aws.amazon.com/AWSEC2/latest/userguide/iam-service-quotas.html).
Examples

Example 1

This example uses a limit price to limit the total purchase order of Standard Reserved Instances from the Reserved Instance Marketplace.

Sample Request

https://ec2.amazonaws.com/?Action=PurchaseReservedInstancesOffering
&ReservedInstancesOfferingId=4b2293b4-5813-4cc8-9ce3-1957fEXAMPLE
&LimitPrice.Amount=200
&InstanceCount=2
&AUTHPARAMS

Sample Response

<PurchaseReservedInstancesOfferingResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
  requestId=59dbff89-35bd-4eac-99ed-be587EXAMPLE/>
  <reservedInstancesId>e5a2ff3b-7d14-49f-90af-0b5d0EXAMPLE</reservedInstancesId>
</PurchaseReservedInstancesOfferingResponse>

Example 2

This example illustrates a purchase of a Reserved Instances offering.

Sample Request

https://ec2.amazonaws.com/?Action=PurchaseReservedInstancesOffering
&ReservedInstancesOfferingId=4b2293b4-5813-4cc8-9ce3-1957fEXAMPLE
&InstanceCount=2
&AUTHPARAMS

Sample Response

<PurchaseReservedInstancesOfferingResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
  requestId=59dbff89-35bd-4eac-99ed-be587EXAMPLE/>
  <reservedInstancesId>e5a2ff3b-7d14-49f-90af-0b5d0EXAMPLE</reservedInstancesId>
</PurchaseReservedInstancesOfferingResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
PurchaseScheduledInstances

⚠️ Note
You can no longer purchase Scheduled Instances.

Purchases the Scheduled Instances with the specified schedule.

Scheduled Instances enable you to purchase Amazon EC2 compute capacity by the hour for a one-year term. Before you can purchase a Scheduled Instance, you must call DescribeScheduledInstanceAvailability to check for available schedules and obtain a purchase token. After you purchase a Scheduled Instance, you must call RunScheduledInstances during each scheduled time period.

After you purchase a Scheduled Instance, you can't cancel, modify, or resell your purchase.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier that ensures the idempotency of the request. For more information, see Ensuring Idempotency.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
**PurchaseRequest.N**

The purchase requests.

Type: Array of `PurchaseRequest` objects

Array Members: Minimum number of 1 item.

Required: Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**scheduledInstanceSet**

Information about the Scheduled Instances.

Type: Array of `ScheduledInstance` objects

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
• **AWS SDK for JavaScript V3**
• **AWS SDK for PHP V3**
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
RebootInstances

Requests a reboot of the specified instances. This operation is asynchronous; it only queues a request to reboot the specified instances. The operation succeeds if the instances are valid and belong to you. Requests to reboot terminated instances are ignored.

If an instance does not cleanly shut down within a few minutes, Amazon EC2 performs a hard reboot.

For more information about troubleshooting, see Troubleshoot an unreachable instance in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceId.N

The instance IDs.

Type: Array of strings

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.
Type: String

`return`

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example reboots two instances.

Sample Request

```
https://ec2.amazonaws.com/?Action=RebootInstances
&InstanceId.1=i-1234567890abcdef0
&InstanceId.2=i-0598c7d356e9a48d7

&AUTHPARAMS
```

Sample Response

```
<RebootInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>

  <return>true</return>

</RebootInstancesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
RegisterImage

Registers an AMI. When you're creating an AMI, this is the final step you must complete before you can launch an instance from the AMI. For more information about creating AMIs, see Create your own AMI in the Amazon Elastic Compute Cloud User Guide.

Note

For Amazon EBS-backed instances, CreateImage creates and registers the AMI in a single request, so you don't have to register the AMI yourself. We recommend that you always use CreateImage unless you have a specific reason to use RegisterImage.

If needed, you can deregister an AMI at any time. Any modifications you make to an AMI backed by an instance store volume invalidates its registration. If you make changes to an image, deregister the previous image and register the new image.

Register a snapshot of a root device volume

You can use RegisterImage to create an Amazon EBS-backed Linux AMI from a snapshot of a root device volume. You specify the snapshot using a block device mapping. You can't set the encryption state of the volume using the block device mapping. If the snapshot is encrypted, or encryption by default is enabled, the root volume of an instance launched from the AMI is encrypted.

For more information, see Create a Linux AMI from a snapshot and Use encryption with Amazon EBS-backed AMIs in the Amazon Elastic Compute Cloud User Guide.

AWS Marketplace product codes

If any snapshots have AWS Marketplace product codes, they are copied to the new AMI.

Windows and some Linux distributions, such as Red Hat Enterprise Linux (RHEL) and SUSE Linux Enterprise Server (SLES), use the Amazon EC2 billing product code associated with an AMI to verify the subscription status for package updates. To create a new AMI for operating systems that require a billing product code, instead of registering the AMI, do the following to preserve the billing product code association:

1. Launch an instance from an existing AMI with that billing product code.
2. Customize the instance.
3. Create an AMI from the instance using CreateImage.

If you purchase a Reserved Instance to apply to an On-Demand Instance that was launched from an AMI with a billing product code, make sure that the Reserved Instance has the matching billing product code. If you purchase a Reserved Instance without the matching billing product code, the Reserved Instance will not be applied to the On-Demand Instance. For information about how to obtain the platform details and billing information of an AMI, see Understand AMI billing information in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Architecture

The architecture of the AMI.

Default: For Amazon EBS-backed AMIs, i386. For instance store-backed AMIs, the architecture specified in the manifest file.

Type: String

Valid Values: i386 | x86_64 | arm64 | x86_64_mac | arm64_mac

Required: No

BillingProduct.N

The billing product codes. Your account must be authorized to specify billing product codes.

If your account is not authorized to specify billing product codes, you can publish AMIs that include billable software and list them on the AWS Marketplace. You must first register as a seller on the AWS Marketplace. For more information, see Getting started as a seller and AMI-based products in the AWS Marketplace Seller Guide.

Type: Array of strings

Required: No

BlockDeviceMapping.N

The block device mapping entries.
If you specify an Amazon EBS volume using the ID of an Amazon EBS snapshot, you can't specify the encryption state of the volume.

If you create an AMI on an Outpost, then all backing snapshots must be on the same Outpost or in the Region of that Outpost. AMIs on an Outpost that include local snapshots can be used to launch instances on the same Outpost only. For more information, Amazon EBS local snapshots on Outposts in the Amazon EC2 User Guide.

Type: Array of BlockDeviceMapping objects

Required: No

BootMode

The boot mode of the AMI. A value of uefi-preferred indicates that the AMI supports both UEFI and Legacy BIOS.

Note

The operating system contained in the AMI must be configured to support the specified boot mode.

For more information, see Boot modes in the Amazon EC2 User Guide.

Type: String

Valid Values: legacy-bios | uefi | uefi-preferred

Required: No

Description

A description for your AMI.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.
Type: Boolean
Required: No

**EnaSupport**

Set to `true` to enable enhanced networking with ENA for the AMI and any instances that you launch from the AMI.

This option is supported only for HVM AMIs. Specifying this option with a PV AMI can make instances launched from the AMI unreachable.

Type: Boolean
Required: No

**ImageLocation**

The full path to your AMI manifest in Amazon S3 storage. The specified bucket must have the `aws-exec-read` canned access control list (ACL) to ensure that it can be accessed by Amazon EC2. For more information, see [Canned ACLs](https://docs.aws.amazon.com/AmazonS3/latest/userguide/canned-acls.html) in the *Amazon S3 Service Developer Guide*.

Type: String
Required: No

**ImdsSupport**

Set to `v2.0` to indicate that IMDSv2 is specified in the AMI. Instances launched from this AMI will have `HttpTokens` automatically set to `required` so that, by default, the instance requires that IMDSv2 is used when requesting instance metadata. In addition, `HttpPutResponseHopLimit` is set to 2. For more information, see [Configure the AMI](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/configure-ami.html) in the *Amazon EC2 User Guide*.

If you set the value to `v2.0`, make sure that your AMI software can support IMDSv2.

Type: String
Valid Values: `v2.0`
Required: No
**KernelId**

The ID of the kernel.

Type: String

Required: No

**Name**

A name for your AMI.

Constraints: 3-128 alphanumeric characters, parentheses (()), square brackets ([]), spaces ( ), periods (.), slashes (/), dashes (-), single quotes ('), at-signs (@), or underscores(_)

Type: String

Required: Yes

**RamdiskId**

The ID of the RAM disk.

Type: String

Required: No

**RootDeviceName**

The device name of the root device volume (for example, /dev/sda1).

Type: String

Required: No

**SriovNetSupport**

Set to simple to enable enhanced networking with the Intel 82599 Virtual Function interface for the AMI and any instances that you launch from the AMI.

There is no way to disable sriovNetSupport at this time.

This option is supported only for HVM AMIs. Specifying this option with a PV AMI can make instances launched from the AMI unreachable.

Type: String
Required: No

**TpmSupport**

Set to v2.0 to enable Trusted Platform Module (TPM) support. For more information, see [NitroTPM](#) in the *Amazon EC2 User Guide*.

Type: String

Valid Values: v2.0

Required: No

**UefiData**

Base64 representation of the non-volatile UEFI variable store. To retrieve the UEFI data, use the `GetInstanceUefiData` command. You can inspect and modify the UEFI data by using the `python-uefivars` tool on GitHub. For more information, see [UEFI Secure Boot](#) in the *Amazon EC2 User Guide*.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 64000.

Required: No

**VirtualizationType**

The type of virtualization (hvm | paravirtual).

Default: paravirtual

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**imageId**

The ID of the newly registered AMI.
Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example 1**

This example registers the AMI specified in the `my-new-image.manifest.xml` manifest file, located in the bucket called `myawsbucket`.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=RegisterImage
&ImageLocation=myawsbucket/my-new-image.manifest.xml
&AUTHPARAMS
```  

**Sample Response**

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imageId>ami-1a2b3c4d</imageId>
</RegisterImageResponse>
```

**Example 2**

This example specifies a snapshot for the root device of an Amazon EBS-backed AMI.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=RegisterImage
&RootDeviceName=/dev/sda1
&BlockDeviceMapping.1.DeviceName=/dev/sda1
```
Sample Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imageId>ami-1a2b3c4d</imageId>
</RegisterImageResponse>
```

Example 3

This example registers an AMI with a block device mapping for three Amazon EBS volumes. The first volume is the root device volume based on an Amazon EBS snapshot. The second volume is based on another snapshot. The third volume is an empty 100 GiB Amazon EBS volume.

Sample Request

```xml
https://ec2.amazonaws.com/?Action=RegisterImage
&RootDeviceName=/dev/sda1
&BlockDeviceMapping.1.DeviceName=/dev/sda1
&BlockDeviceMapping.1.Ebs.SnapshotId=snap-1234567890abcdef0
&BlockDeviceMapping.2.DeviceName=/dev/sdb
&BlockDeviceMapping.2.Ebs.SnapshotId=snap-1234567890abcdef1
&BlockDeviceMapping.3.DeviceName=/dev/sdc
&BlockDeviceMapping.3.Ebs.VolumeSize=100
&Name=MyImage
&AUTHPARAMS
```

Sample Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imageId>ami-1a2b3c4d</imageId>
</RegisterImageResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
RegisterInstanceEventNotificationAttributes

Registers a set of tag keys to include in scheduled event notifications for your resources.

To remove tags, use DeregisterInstanceEventNotificationAttributes.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceTagAttribute

Information about the tag keys to register.

Type: RegisterInstanceTagAttributeRequest object

Required: No

Response Elements

The following elements are returned by the service.

instanceTagAttribute

The resulting set of tag keys.

Type: InstanceTagNotificationAttribute object

requestId

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RegisterTransitGatewayMulticastGroupMembers

Registers members (network interfaces) with the transit gateway multicast group. A member is a network interface associated with a supported EC2 instance that receives multicast traffic. For information about supported instances, see Multicast Consideration in Amazon VPC Transit Gateways.

After you add the members, use SearchTransitGatewayMulticastGroups to verify that the members were added to the transit gateway multicast group.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

GroupIpAddress

The IP address assigned to the transit gateway multicast group.

Type: String

Required: No

NetworkInterfaceIds.N

The group members’ network interface IDs to register with the transit gateway multicast group.

Type: Array of strings

Required: Yes

TransitGatewayMulticastDomainId

The ID of the transit gateway multicast domain.
Response Elements

The following elements are returned by the service.

registeredMulticastGroupMembers

Information about the registered transit gateway multicast group members.

Type: TransitGatewayMulticastRegisteredGroupMembers object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example registers the network interface as a group member eni-0e246d3269EXAMPLE with the multicast domain tgw-mcast-domain-0c4905cef7EXAMPLE.

Sample Request

```
https://ec2.amazonaws.com/?Action=RegisterTransitGatewayMulticastGroupMembers
&TransitGatewayMulticastDomainId=tgw-mcast-domain-0c4905cef7EXAMPLE
&NetworkInterfaceIds=eni-0e246d3269EXAMPLE
&AUTHPARAMS
```

Sample Response

```
<RegisterTransitGatewayMulticastGroupMembersResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
```

Response Elements
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RegisterTransitGatewayMulticastGroupSources

Registers sources (network interfaces) with the specified transit gateway multicast group.

A multicast source is a network interface attached to a supported instance that sends multicast traffic. For information about supported instances, see Multicast Considerations in Amazon VPC Transit Gateways.

After you add the source, use SearchTransitGatewayMulticastGroups to verify that the source was added to the multicast group.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

GroupIpAddress

The IP address assigned to the transit gateway multicast group.

Type: String
Required: No

NetworkInterfaceIds.N

The group sources' network interface IDs to register with the transit gateway multicast group.

Type: Array of strings
Required: Yes

TransitGatewayMulticastDomainId

The ID of the transit gateway multicast domain.
Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

registeredMulticastGroupSources

Information about the transit gateway multicast group sources.

Type: TransitGatewayMulticastRegisteredGroupSources object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example registers the network interface as a group source eni-07f290fc3cEXAMPLE with the multicast domain tgw-mcast-domain-0c4905cef7EXAMPLE.

Sample Request

https://ec2.amazonaws.com/?Action=RegisterTransitGatewayMulticastGroupSources
&TransitGatewayMulticastDomainId=tgw-mcast-domain-0c4905cef7EXAMPLE
&NetworkInterfaceIds=eni-07f290fc3cEXAMPLE
&AUTHPARAMS

Sample Response

<RegisterTransitGatewayMulticastGroupSourcesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
<requestId>b66c84ed-eb8a-4e6d-8d79-2347fEXAMPLE</requestId>
<registeredMulticastGroupSources>
  <groupIpAddress>224.0.1.0</groupIpAddress>
  <registeredNetworkInterfaceIds>
    <item>eni-07f290fc3cEXAMPLE</item>
  </registeredNetworkInterfaceIds>
</registeredMulticastGroupSources>
<transitGatewayMulticastDomainId>tgw-mcast-domain-0c4905cef7EXAMPLE</transitGatewayMulticastDomainId>
</RegisterTransitGatewayMulticastGroupSourcesResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RejectTransitGatewayMulticastDomainAssociations

Rejects a request to associate cross-account subnets with a transit gateway multicast domain.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

SubnetIds.N

The IDs of the subnets to associate with the transit gateway multicast domain.

Type: Array of strings

Required: No

TransitGatewayAttachmentId

The ID of the transit gateway attachment.

Type: String

Required: No

TransitGatewayMulticastDomainId

The ID of the transit gateway multicast domain.

Type: String

Required: No
Response Elements

The following elements are returned by the service.

associations

Information about the multicast domain associations.

Type: `TransitGatewayMulticastDomainAssociations` object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
RejectTransitGatewayPeeringAttachment

Rejects a transit gateway peering attachment request.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

TransitGatewayAttachmentId

The ID of the transit gateway peering attachment.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

transitGatewayPeeringAttachment

The transit gateway peering attachment.

Type: TransitGatewayPeeringAttachment object
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example rejects the specified transit gateway peering attachment by specifying its attachment ID.

Sample Request

https://ec2.amazonaws.com/?Action=RejectTransitGatewayPeeringAttachment&TransitGatewayAttachmentId=tgw-attach-12345678901abcd12

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RejectTransitGatewayVpcAttachment

Rejects a request to attach a VPC to a transit gateway.

The VPC attachment must be in the pendingAcceptance state. Use DescribeTransitGatewayVpcAttachments to view your pending VPC attachment requests. Use AcceptTransitGatewayVpcAttachment to accept a VPC attachment request.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TransitGatewayAttachmentId

The ID of the attachment.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String
transitGatewayVpcAttachment

Information about the attachment.

Type: TransitGatewayVpcAttachment object

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RejectVpcEndpointConnections

Rejects VPC endpoint connection requests to your VPC endpoint service.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

ServiceId

The ID of the service.

Type: String
Required: Yes

VpcEndpointId.N

The IDs of the VPC endpoints.

Type: Array of strings
Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.
unsuccessful

Information about the endpoints that were not rejected, if applicable.

Type: Array of UnsuccessfulItem objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example rejects the request for VPC endpoint vpce-0c1308d7312217cd7 to connect to your service vpce-svc-03d5eb7d9579a2b3.

Sample Request

https://ec2.amazonaws.com/?Action=RejectVpcEndpointConnections
&ServiceId=vpce-svc-03d5eb7d9579a2b3
&VpcEndpointId.1=vpce-0c1308d7312217cd7
&amp;AUTHPARAMS

Sample Response

  <requestId>986a2264-8a40-4da8-8f11-e8aexample</requestId>
  <unsuccessful/>
</RejectVpcEndpointConnectionsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
See Also

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RejectVpcPeeringConnection

Rejects a VPC peering connection request. The VPC peering connection must be in the pending-acceptance state. Use the DescribeVpcPeeringConnections request to view your outstanding VPC peering connection requests. To delete an active VPC peering connection, or to delete a VPC peering connection request that you initiated, use DeleteVpcPeeringConnection.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VpcPeeringConnectionId

The ID of the VPC peering connection.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns true if the request succeeds; otherwise, it returns an error.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example rejects the specified VPC peering connection request.

Sample Request

https://ec2.amazonaws.com/?Action=RejectVpcPeeringConnection
&vpcPeeringConnectionId=pcx-1a2b3c4d
&AUTHPARAMS

Sample Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</RejectVpcPeeringConnectionResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
See Also

- **AWS SDK for Python**
- **AWS SDK for Ruby V3**
ReleaseAddress

Releases the specified Elastic IP address.

[Default VPC] Releasing an Elastic IP address automatically disassociates it from any instance that it's associated with. To disassociate an Elastic IP address without releasing it, use DisassociateAddress.

[Nondefault VPC] You must use DisassociateAddress to disassociate the Elastic IP address before you can release it. Otherwise, Amazon EC2 returns an error (InvalidIPAddress.InUse).

After releasing an Elastic IP address, it is released to the IP address pool. Be sure to update your DNS records and any servers or devices that communicate with the address. If you attempt to release an Elastic IP address that you already released, you'll get an AuthFailure error if the address is already allocated to another AWS account.

After you release an Elastic IP address, you might be able to recover it. For more information, see AllocateAddress.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AllocationId

- The allocation ID. This parameter is required.
  - Type: String
  - Required: No

DryRun

- Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.
  - Type: Boolean
  - Required: No
**NetworkBorderGroup**

The set of Availability Zones, Local Zones, or Wavelength Zones from which AWS advertises IP addresses.

If you provide an incorrect network border group, you receive an `InvalidAddress.NotFound` error.

Type: String

Required: No

**PublicIp**

Deprecated.

Type: String

Required: No

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**return**

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
Examples

Example

This example releases the specified Elastic IP address.

Sample Request

https://ec2.amazonaws.com/?Action=ReleaseAddress
&AllocationId=eipalloc-5723d13e
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ReleaseHosts

When you no longer want to use an On-Demand Dedicated Host it can be released. On-Demand billing is stopped and the host goes into released state. The host ID of Dedicated Hosts that have been released can no longer be specified in another request, for example, to modify the host. You must stop or terminate all instances on a host before it can be released.

When Dedicated Hosts are released, it may take some time for them to stop counting toward your limit and you may receive capacity errors when trying to allocate new Dedicated Hosts. Wait a few minutes and then try again.

Released hosts still appear in a DescribeHosts response.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

HostId.N

The IDs of the Dedicated Hosts to release.

Type: Array of strings

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

successful

The IDs of the Dedicated Hosts that were successfully released.

Type: Array of strings
unsuccessful

The IDs of the Dedicated Hosts that could not be released, including an error message.

Type: Array of UnsuccessfulItem objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This releases a Dedicated Host successfully.

**Sample Request**

```xml
https://ec2.amazonaws.com/?Action=ReleaseHosts
&HostId=h-00548908djdsgfs
&AUTHPARAMS
```

**Sample Response**

```xml
   <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
   <unsuccessful/>
   <successful>
     <item>h-00548908djdsgfs</item>
   </successful>
</ReleaseHostsResponse>
```

Example

This request is unsuccessful.

**Sample Request**

```xml
https://ec2.amazonaws.com/?Action=ReleaseHosts
&HostId=h-00548908djdsgfs
```
Sample Response

  <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
  <unsuccessful>
    <item>
      <error>
        <message>Dedicated host 'h-00548908djdsgfs' cannot be released as it is occupied</message>
        <code>Client.InvalidHost.Occupied</code>
      </error>
      <resourceId>h-00548908djdsgfs</resourceId>
    </item>
  </unsuccessful>
  <successful/>
</ReleaseHostsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ReleaseIpamPoolAllocation

Release an allocation within an IPAM pool. The Region you use should be the IPAM pool locale. The locale is the AWS Region where this IPAM pool is available for allocations. You can only use this action to release manual allocations. To remove an allocation for a resource without deleting the resource, set its monitored state to false using ModifyIpamResourceCidr. For more information, see Release an allocation in the Amazon VPC IPAM User Guide.

Note

All EC2 API actions follow an eventual consistency model.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Cidr

The CIDR of the allocation you want to release.

Type: String

Required: Yes

DryRun

A check for whether you have the required permissions for the action without actually making the request and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

IpamPoolAllocationId

The ID of the allocation.

Type: String
IpamPoolId

The ID of the IPAM pool which contains the allocation you want to release.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

success

Indicates if the release was successful.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
ReplaceIamInstanceProfileAssociation

Replaces an IAM instance profile for the specified running instance. You can use this action to change the IAM instance profile that's associated with an instance without having to disassociate the existing IAM instance profile first.

Use **DescribeIamInstanceProfileAssociations** to get the association ID.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see **Common Query Parameters**.

**AssociationId**

The ID of the existing IAM instance profile association.

Type: String

Required: Yes

**IamInstanceProfile**

The IAM instance profile.

Type: **IamInstanceProfileSpecification** object

Required: Yes

**Response Elements**

The following elements are returned by the service.

**IamInstanceProfileAssociation**

Information about the IAM instance profile association.

Type: **IamInstanceProfileAssociation** object

**requestId**

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example replaces the IAM instance profile represented by the association iip-assoc-060bae234aac2e7fa with the IAM instance profile named AdminProfile.

Sample Request

https://ec2.amazonaws.com/?Action=ReplaceIamInstanceProfileAssociation
&AssociationId=iip-assoc-060bae234aac2e7fa
&IamInstanceProfile.Name=AdminProfile
&AUTHPARAMS

Sample Response

<?xml version="1.0"?>
<ReplaceIamInstanceProfileAssociationResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>ba40aa4c-d788-4f24-8a34-example</requestId>
  <iamInstanceProfileAssociation>
    <associationId>iip-assoc-08049da59357d598c</associationId>
    <iamInstanceProfile>
      <arn>arn:aws:iam::123456789012:instance-profile/AdminRole</arn>
      <id>AIPAI5IVHMFFY2DKV5Y</id>
    </iamInstanceProfile>
    <instanceId>i-1234567890abcdef0</instanceId>
    <state>associating</state>
  </iamInstanceProfileAssociation>
</ReplaceIamInstanceProfileAssociationResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
ReplaceNetworkAclAssociation

Changes which network ACL a subnet is associated with. By default when you create a subnet, it's automatically associated with the default network ACL. For more information, see [Network ACLs in the Amazon VPC User Guide](https://docs.aws.amazon.com/vpc/latest/userguide/network-acls.html).

This is an idempotent operation.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](https://docs.aws.amazon.com/vpc/latest/userguide/common-query-parameters.html).

**AssociationId**

The ID of the current association between the original network ACL and the subnet.

Type: String

Required: Yes

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**NetworkAclId**

The ID of the new network ACL to associate with the subnet.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.
newAssociationId

The ID of the new association.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example starts with a network ACL associated with a subnet, and a corresponding association ID aclassoc-e5b95c8c. You want to associate a different network ACL (acl-5fb85d36) with the subnet. The result is a new association ID representing the new association.

Sample Request

https://ec2.amazonaws.com/?Action=ReplaceNetworkAclAssociation
&AssociationId=aclassoc-e5b95c8c
&NetworkAclId=acl-5fb85d36
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <newAssociationId>aclassoc-17b85d7e</newAssociationId>
</ReplaceNetworkAclAssociationResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• **AWS Command Line Interface**
• **AWS SDK for .NET**
• **AWS SDK for C++**
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for JavaScript V3**
• **AWS SDK for PHP V3**
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
ReplaceNetworkAclEntry

Replaces an entry (rule) in a network ACL. For more information, see Network ACLs in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CidrBlock

The IPv4 network range to allow or deny, in CIDR notation (for example 172.16.0.0/24).

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Egress

Indicates whether to replace the egress rule.

Default: If no value is specified, we replace the ingress rule.

Type: Boolean

Required: Yes

Icmp

ICMP protocol: The ICMP or ICMPv6 type and code. Required if specifying protocol 1 (ICMP) or protocol 58 (ICMPv6) with an IPv6 CIDR block.

Type: IcmpTypeCode object
Required: No

Ipv6CidrBlock

The IPv6 network range to allow or deny, in CIDR notation (for example 2001:bd8:1234:1a00::/64).

Type: String

Required: No

NetworkAclId

The ID of the ACL.

Type: String

Required: Yes

PortRange

TCP or UDP protocols: The range of ports the rule applies to. Required if specifying protocol 6 (TCP) or 17 (UDP).

Type: PortRange object

Required: No

Protocol

The protocol number. A value of "-1" means all protocols. If you specify "-1" or a protocol number other than "6" (TCP), "17" (UDP), or "1" (ICMP), traffic on all ports is allowed, regardless of any ports or ICMP types or codes that you specify. If you specify protocol "58" (ICMPv6) and specify an IPv4 CIDR block, traffic for all ICMP types and codes allowed, regardless of any that you specify. If you specify protocol "58" (ICMPv6) and specify an IPv6 CIDR block, you must specify an ICMP type and code.

Type: String

Required: Yes

RuleAction

Indicates whether to allow or deny the traffic that matches the rule.

Type: String
Valid Values: allow | deny

Required: Yes

**RuleNumber**

The rule number of the entry to replace.

Type: Integer

Required: Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**return**

Is true if the request succeeds, and an error otherwise.

Type: Boolean

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example replaces the egress entry numbered 110 in the specified network ACL. The new rule denies egress traffic destined for any IPv4 address (0.0.0.0/0) on TCP port 139.

**Sample Request**

https://ec2.amazonaws.com/?Action=ReplaceNetworkAclEntry
&NetworkAclId=acl-2cb85d45
&RuleNumber=110
&Protocol=6
&RuleAction=deny
&Egress=true
&CidrBlock=0.0.0.0/0
&PortRange.From=139
&PortRange.To=139
&AUTHPARAMS

Sample Response

<ReplaceNetworkAclEntryResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ReplaceNetworkAclEntryResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
ReplaceRoute

Replaces an existing route within a route table in a VPC.

You must specify either a destination CIDR block or a prefix list ID. You must also specify exactly one of the resources from the parameter list, or reset the local route to its default target.

For more information, see Route tables in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**CarrierGatewayId**

[IPv4 traffic only] The ID of a carrier gateway.

Type: String

Required: No

**CoreNetworkArn**

The Amazon Resource Name (ARN) of the core network.

Type: String

Required: No

**DestinationCidrBlock**

The IPv4 CIDR address block used for the destination match. The value that you provide must match the CIDR of an existing route in the table.

Type: String

Required: No

**DestinationIpv6CidrBlock**

The IPv6 CIDR address block used for the destination match. The value that you provide must match the CIDR of an existing route in the table.

Type: String
Required: No

**DestinationPrefixListId**

The ID of the prefix list for the route.

Type: String

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**EgressOnlyInternetGatewayId**

[IPv6 traffic only] The ID of an egress-only internet gateway.

Type: String

Required: No

**GatewayId**

The ID of an internet gateway or virtual private gateway.

Type: String

Required: No

**InstanceId**

The ID of a NAT instance in your VPC.

Type: String

Required: No

**LocalGatewayId**

The ID of the local gateway.
LocalTarget

Specifies whether to reset the local route to its default target (local).

Type: Boolean
Required: No

NatGatewayId

[IPv4 traffic only] The ID of a NAT gateway.

Type: String
Required: No

NetworkInterfaceId

The ID of a network interface.

Type: String
Required: No

RouteTableId

The ID of the route table.

Type: String
Required: Yes

TransitGatewayId

The ID of a transit gateway.

Type: String
Required: No

VpcEndpointId

The ID of a VPC endpoint. Supported for Gateway Load Balancer endpoints only.

Type: String
Required: No

VpcPeeringConnectionId

The ID of a VPC peering connection.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example replaces a route in the specified route table. The new route matches the IPv4 CIDR 10.0.0.0/8 and sends the traffic to the virtual private gateway with the ID vgw-123456abcde123456.

Sample Request

https://ec2.amazonaws.com/?Action=ReplaceRoute
Sample Response

```xml
<ReplaceRouteResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <return>true</return>
</ReplaceRouteResponse>
```

Example 2

This examples resets the target for the default local route.

Sample Request

```
https://ec2.amazonaws.com/?Action=ReplaceRoute
&RouteTableId=rtb-11223344556677889
&DestinationCidrBlock=10.0.0.0/16
&LocalTarget=true
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
ReplaceRouteTableAssociation

Changes the route table associated with a given subnet, internet gateway, or virtual private
gateway in a VPC. After the operation completes, the subnet or gateway uses the routes in the new
route table. For more information about route tables, see Route tables in the Amazon VPC User
Guide.

You can also use this operation to change which table is the main route table in the VPC. Specify
the main route table's association ID and the route table ID of the new main route table.

Request Parameters

The following parameters are for this specific action. For more information about required and
optional parameters that are common to all actions, see Common Query Parameters.

AssociationId

The association ID.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making
the request, and provides an error response. If you have the required permissions, the error
response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

RouteTableId

The ID of the new route table to associate with the subnet.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

**associationState**

The state of the association.

Type: [RouteTableAssociationState](#) object

**newAssociationId**

The ID of the new association.

Type: String

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example starts with a route table associated with a subnet, and a corresponding association ID rtbassoc-04ca27a6914a0b4f. You want to associate a different route table (table rtb-1a2b3c4d1a2b3c4d1) to the subnet. The result is a new association ID representing the new association.

Sample Request

```
https://ec2.amazonaws.com/?Action=ReplaceRouteTableAssociation
&AssociationId=rtbassoc-04ca27a6914a0b4f
&RouteTableId=rtb-1a2b3c4d1a2b3c4d1
&AUTHPARAMS
```
Sample Response

<ReplaceRouteTableAssociationResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <newAssociationId>rtbassoc-1122344556677889</newAssociationId>
</ReplaceRouteTableAssociationResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
ReplaceTransitGatewayRoute

Replaces the specified route in the specified transit gateway route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Blackhole

Indicates whether traffic matching this route is to be dropped.

Type: Boolean

Required: No

DestinationCidrBlock

The CIDR range used for the destination match. Routing decisions are based on the most specific match.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

TransitGatewayAttachmentId

The ID of the attachment.

Type: String

Required: No
**TransitGatewayRouteTableId**

The ID of the route table.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**route**

Information about the modified route.

Type: `TransitGatewayRoute` object

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
ReplaceVpnTunnel

Trigger replacement of specified VPN tunnel.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ApplyPendingMaintenance

Trigger pending tunnel endpoint maintenance.

Type: Boolean

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

VpnConnectionId

The ID of the Site-to-Site VPN connection.

Type: String

Required: Yes

VpnTunnelOutsideIpAddress

The external IP address of the VPN tunnel.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Confirmation of replace tunnel operation.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ReportInstanceStatus

Submits feedback about the status of an instance. The instance must be in the running state. If your experience with the instance differs from the instance status returned by DescribeInstanceStatus, use ReportInstanceStatus to report your experience with the instance. Amazon EC2 collects this information to improve the accuracy of status checks.

Use of this action does not change the value returned by DescribeInstanceStatus.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Description

Descriptive text about the health state of your instance.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

EndTime

The time at which the reported instance health state ended.

Type: Timestamp

Required: No

InstanceId.N

The instances.

Type: Array of strings
**Required:** Yes

**ReasonCode.N**

The reason codes that describe the health state of your instance.

- **instance-stuck-in-state**: My instance is stuck in a state.
- **unresponsive**: My instance is unresponsive.
- **not-accepting-credentials**: My instance is not accepting my credentials.
- **password-not-available**: A password is not available for my instance.
- **performance-network**: My instance is experiencing performance problems that I believe are network related.
- **performance-instance-store**: My instance is experiencing performance problems that I believe are related to the instance stores.
- **performance-ebs-volume**: My instance is experiencing performance problems that I believe are related to an EBS volume.
- **performance-other**: My instance is experiencing performance problems.
- **other**: [explain using the description parameter]

Type: Array of strings


**Required:** Yes

**StartTime**

The time at which the reported instance health state began.

Type: Timestamp

**Required:** No

**Status**

The status of all instances listed.

Type: String
Valid Values: ok | impaired

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example reports instance health state for two instances.

Sample Request

https://ec2.amazonaws.com/?Action=ReportInstanceStatus
&Status=impaired
&InstanceId.1=i-1234567890abcdef0
&InstanceId.2=i-0598c7d356eba48d7
&AUTHPARAMS

Example 2

This example reports instance health state for two instances with reason codes.
Sample Request

https://ec2.amazonaws.com/?Action=ReportInstanceStatus
&Description=Description+of+my+issue.
&Status=impaired
&InstanceId.1=i-1234567890abcdef0
&InstanceId.2=i-0598c7d356eba48d7
&ReasonCode.1=instance-performance-network
&ReasonCode.2=instance-performance-disk
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RequestSpotFleet

Creates a Spot Fleet request.

The Spot Fleet request specifies the total target capacity and the On-Demand target capacity. Amazon EC2 calculates the difference between the total capacity and On-Demand capacity, and launches the difference as Spot capacity.

You can submit a single request that includes multiple launch specifications that vary by instance type, AMI, Availability Zone, or subnet.

By default, the Spot Fleet requests Spot Instances in the Spot Instance pool where the price per unit is the lowest. Each launch specification can include its own instance weighting that reflects the value of the instance type to your application workload.

Alternatively, you can specify that the Spot Fleet distribute the target capacity across the Spot pools included in its launch specifications. By ensuring that the Spot Instances in your Spot Fleet are in different Spot pools, you can improve the availability of your fleet.

You can specify tags for the Spot Fleet request and instances launched by the fleet. You cannot tag other resource types in a Spot Fleet request because only the spot-fleet-request and instance resource types are supported.

For more information, see Spot Fleet requests in the Amazon EC2 User Guide.

⚠️ Important

We strongly discourage using the RequestSpotFleet API because it is a legacy API with no planned investment. For options for requesting Spot Instances, see Which is the best Spot request method to use? in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.
**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**SpotFleetRequestConfig**

The configuration for the Spot Fleet request.

Type: [SpotFleetRequestConfigData](#) object

Required: Yes

**Response Elements**

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**spotFleetRequestId**

The ID of the Spot Fleet request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example creates a Spot Fleet request with two launch specifications.
Sample Request

https://ec2.amazonaws.com/?Action=RequestSpotFleet
&SpotFleetRequestConfig.IamFleetRole=arn:aws:iam::123456789011:role/spot-fleet-role
&SpotFleetRequestConfig.TargetCapacity=5
&SpotFleetRequestConfig.LaunchSpecifications.1.ImageId=ami-1ecae776
&SpotFleetRequestConfig.LaunchSpecifications.1.InstanceType=m4.large
&SpotFleetRequestConfig.LaunchSpecifications.1.SubnetId=subnet-1a2b3c4d
&SpotFleetRequestConfig.LaunchSpecifications.2.ImageId=ami-1ecae776
&SpotFleetRequestConfig.LaunchSpecifications.2.InstanceType=m3.medium
&SpotFleetRequestConfig.LaunchSpecifications.2.SubnetId=subnet-1a2b3c4d

Sample Response

  <requestId>60262cc5-2bd4-4c8d-98ed-example</requestId>
  <spotFleetRequestId>sfr-123f8fc2-cb31-425e-abcd-example2710</spotFleetRequestId>
</RequestSpotFleetResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RequestSpotInstances

Creates a Spot Instance request.

For more information, see Spot Instance requests in the Amazon EC2 User Guide for Linux Instances.

⚠️ Important

We strongly discourage using the RequestSpotInstances API because it is a legacy API with no planned investment. For options for requesting Spot Instances, see Which is the best Spot request method to use? in the Amazon EC2 User Guide for Linux Instances.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AvailabilityZoneGroup

The user-specified name for a logical grouping of requests.

When you specify an Availability Zone group in a Spot Instance request, all Spot Instances in the request are launched in the same Availability Zone. Instance proximity is maintained with this parameter, but the choice of Availability Zone is not. The group applies only to requests for Spot Instances of the same instance type. Any additional Spot Instance requests that are specified with the same Availability Zone group name are launched in that same Availability Zone, as long as at least one instance from the group is still active.

If there is no active instance running in the Availability Zone group that you specify for a new Spot Instance request (all instances are terminated, the request is expired, or the maximum price you specified falls below current Spot price), then Amazon EC2 launches the instance in any Availability Zone where the constraint can be met. Consequently, the subsequent set of Spot Instances could be placed in a different zone from the original request, even if you specified the same Availability Zone group.

Default: Instances are launched in any available Availability Zone.

Type: String
Required: No

**BlockDurationMinutes**

Deprecated.

Type: Integer

Required: No

**ClientToken**

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see [How to Ensure Idempotency](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/Idempotency.html) in the *Amazon EC2 User Guide for Linux Instances*.

Type: String

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is **DryRunOperation**. Otherwise, it is **UnauthorizationOperation**.

Type: Boolean

Required: No

**InstanceCount**

The maximum number of Spot Instances to launch.

Default: 1

Type: Integer

Required: No

**InstanceInterruptionBehavior**

The behavior when a Spot Instance is interrupted. The default is **terminate**.

Type: String

Valid Values: hibernate | stop | terminate
**LaunchGroup**

The instance launch group. Launch groups are Spot Instances that launch together and terminate together.

Default: Instances are launched and terminated individually

Type: String

Required: No

**LaunchSpecification**

The launch specification.

Type: [RequestSpotLaunchSpecification](#) object

Required: No

**SpotPrice**

The maximum price per unit hour that you are willing to pay for a Spot Instance. We do not recommend using this parameter because it can lead to increased interruptions. If you do not specify this parameter, you will pay the current Spot price.

**Important**

If you specify a maximum price, your instances will be interrupted more frequently than if you do not specify this parameter.

Type: String

Required: No

**TagSpecification.N**

The key-value pair for tagging the Spot Instance request on creation. The value for ResourceType must be `spot-instances-request`, otherwise the Spot Instance request fails. To tag the Spot Instance request after it has been created, see [CreateTags](#).

Type: Array of [TagSpecification](#) objects

Required: No
Type

The Spot Instance request type.

Default: one-time

Type: String

Valid Values: one-time | persistent

Required: No

ValidFrom

The start date of the request. If this is a one-time request, the request becomes active at this date and time and remains active until all instances launch, the request expires, or the request is canceled. If the request is persistent, the request becomes active at this date and time and remains active until it expires or is canceled.

The specified start date and time cannot be equal to the current date and time. You must specify a start date and time that occurs after the current date and time.

Type: Timestamp

Required: No

ValidUntil

The end date of the request, in UTC format (YYYY-MM-DDTHH:MM:SSZ).

- For a persistent request, the request remains active until the ValidUntil date and time is reached. Otherwise, the request remains active until you cancel it.
- For a one-time request, the request remains active until all instances launch, the request is canceled, or the ValidUntil date and time is reached. By default, the request is valid for 7 days from the date the request was created.

Type: Timestamp

Required: No

Response Elements

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

spotInstanceRequestSet

The Spot Instance requests.

Type: Array of SpotInstanceRequest objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example creates a one-time Spot Instance request for two instances. It does not include an Availability Zone or subnet, so Amazon EC2 selects an Availability Zone for you and launches the instances in the default subnet of the selected Availability Zone.

Sample Request

```
https://ec2.amazonaws.com/?Action=RequestSpotInstances
&InstanceCount=2
&Type=one-time
&LaunchSpecification.ImageId=ami-1a2b3c4d
&LaunchSpecification.KeyName=my-key-pair
&LaunchSpecification.SecurityGroupId.1=sg-1a2b3c4d
&LaunchSpecification.InstanceType=m3.medium
&LaunchSpecification.IamInstanceProfile.Name=s3access
&AUTHPARAMS
```

Example 2

The following example includes an Availability Zone. Amazon EC2 launches the instances in the default subnet of the specified Availability Zone.
Sample Request

https://ec2.amazonaws.com/?Action=RequestSpotInstances
&InstanceCount=2
&Type=one-time
&LaunchSpecification.ImageId=ami-1a2b3c4d
&LaunchSpecification.KeyName=my-key-pair
&LaunchSpecification.SecurityGroupId.1=sg-1a2b3c4d
&LaunchSpecification.InstanceType=m3.medium
&LaunchSpecification.Placement.AvailabilityZone=us-west-2a
&LaunchSpecification.IamInstanceProfile.Name=s3access
&AUTHPARAMS

Example 3

The following example includes a subnet. Amazon EC2 launches the instances in the specified subnet.

Sample Request

https://ec2.amazonaws.com/?Action=RequestSpotInstances
&InstanceCount=2
&Type=one-time
&LaunchSpecification.ImageId=ami-1a2b3c4d
&LaunchSpecification.KeyName=my-key-pair
&LaunchSpecification.SecurityGroupId.1=sg-1a2b3c4d
&LaunchSpecification.InstanceType=m3.medium
&LaunchSpecification.SubnetId=subnet-1a2b3c4d
&LaunchSpecification.IamInstanceProfile.Name=s3access
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
ResetAddressAttribute

Resets the attribute of the specified IP address. For requirements, see Using reverse DNS for email applications.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AllocationId

[EC2-VPC] The allocation ID.

Type: String

Required: Yes

Attribute

The attribute of the IP address.

Type: String

Valid Values: domain-name

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.
address

Information about the IP address.

Type: AddressAttribute object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ResetEbsDefaultKmsKeyId

Resets the default AWS KMS key for EBS encryption for your account in this Region to the AWS managed KMS key for EBS.

After resetting the default KMS key to the AWS managed KMS key, you can continue to encrypt by a customer managed KMS key by specifying it when you create the volume. For more information, see Amazon EBS encryption in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

kmsKeyId

The Amazon Resource Name (ARN) of the default KMS key for EBS encryption by default.

Type: String

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ResetFpgaImageAttribute

Resets the specified attribute of the specified Amazon FPGA Image (AFI) to its default value. You can only reset the load permission attribute.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Attribute

The attribute.

Type: String

Valid Values: loadPermission

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

FpgaImageId

The ID of the AFI.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example resets the load permissions for the specified AFI.

Sample Request

https://ec2.amazonaws.com/?Action=ResetFpgaImageAttribute
&FpgaImageId=afi-0d123e21abcc85abc
&Attribute=loadPermission
&AUTHPARAMS

Sample Response

<ResetFpgaImageAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>ccb58a32-30ee-4f9b-831c-639example</requestId>
  <return>true</return>
</ResetFpgaImageAttributeResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
ResetImageAttribute

Resets an attribute of an AMI to its default value.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Attribute

The attribute to reset (currently you can only reset the launch permission attribute).

Type: String

Valid Values: launchPermission

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ImageId

The ID of the AMI.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.
Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example resets the launchPermission attribute for the specified AMI.

Sample Request

https://ec2.amazonaws.com/?Action=ResetImageAttribute
&ImageId=ami-61a54008
&Attribute=launchPermission
&AUTHPARAMS

Sample Response

<ResetImageAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ResetImageAttributeResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for JavaScript V3**
• **AWS SDK for PHP V3**
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
ResetInstanceAttribute

Resets an attribute of an instance to its default value. To reset the kernel or ramdisk, the instance must be in a stopped state. To reset the sourceDestCheck, the instance can be either running or stopped.

The sourceDestCheck attribute controls whether source/destination checking is enabled. The default value is true, which means checking is enabled. This value must be false for a NAT instance to perform NAT. For more information, see NAT Instances in the Amazon VPC User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Attribute

The attribute to reset.

Type: String

Valid Values: kernel | ramdisk | sourceDestCheck

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceId

The ID of the instance.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example resets the sourceDestCheck attribute.

Sample Request

https://ec2.amazonaws.com/?Action=ResetInstanceAttribute
&InstanceId=i-1234567890abcdef0
&Attribute=sourceDestCheck
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ResetInstanceAttributeResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ResetNetworkInterfaceAttribute

Resets a network interface attribute. You can specify only one attribute at a time.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

NetworkInterfaceId

The ID of the network interface.

Type: String

Required: Yes

SourceDestCheck

The source/destination checking attribute. Resets the value to true.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.
Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ResetSnapshotAttribute

Resets permission settings for the specified snapshot.

For more information about modifying snapshot permissions, see Share a snapshot in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Attribute

The attribute to reset. Currently, only the attribute for permission to create volumes can be reset.

Type: String

Valid Values: productCodes | createVolumePermission

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

SnapshotId

The ID of the snapshot.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
requestId

The ID of the request.

Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example resets the permissions for snap-1234567890abcdef0, making it a private snapshot that can only be used by the account that created it.

Sample Request

https://ec2.amazonaws.com/?Action=ResetSnapshotAttribute
&SnapshotId=snap-1234567890abcdef0
&Attribute=createVolumePermission
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ResetSnapshotAttributeResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
See Also

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RestoreAddressToClassic

>Note

This action is deprecated.

Restores an Elastic IP address that was previously moved to the EC2-VPC platform back to the EC2-Classic platform. You cannot move an Elastic IP address that was originally allocated for use in EC2-VPC. The Elastic IP address must not be associated with an instance or network interface.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

**PublicIp**

The Elastic IP address.

Type: String
Required: Yes

**Response Elements**

The following elements are returned by the service.

**publicIp**

The Elastic IP address.
Type: String

**requestId**

The ID of the request.

Type: String

**status**

The move status for the IP address.

Type: String

Valid Values: MoveInProgress | InVpc | InClassic

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
RestoreImageFromRecycleBin

Restores an AMI from the Recycle Bin. For more information, see Recycle Bin in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**ImageId**

The ID of the AMI to restore.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**return**

Returns true if the request succeeds; otherwise, it returns an error.

Type: Boolean
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
**RestoreManagedPrefixListVersion**

Restores the entries from a previous version of a managed prefix list to a new version of the prefix list.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**CurrentVersion**

The current version number for the prefix list.

Type: Long

Required: Yes

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**PrefixListId**

The ID of the prefix list.

Type: String

Required: Yes

**PreviousVersion**

The version to restore.

Type: Long

Required: Yes
Response Elements

The following elements are returned by the service.

prefixList

Information about the prefix list.

Type: ManagedPrefixList object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example restores the entries from version 1 of the specified prefix list.

Sample Request

https://ec2.amazonaws.com/?Action=RestoreManagedPrefixListVersion
&PrefixListId=pl-0123123123123aabb
&CurrentVersion=3
&PreviousVersion=1
&AUTHPARAMS

Sample Response

  <requestId>aeb3faff-8938-41a0-9747-example</requestId>
  <prefixList>
    <addressFamily>IPv4</addressFamily>
    <maxEntries>10</maxEntries>
  </prefixList>
</RestoreManagedPrefixListVersionResponse>
<ownerId>123456789012</ownerId>
<prefixListArn>arn:aws:ec2:us-east-1:123456789012:prefix-list/pl-0123123123123aabb</prefixListArn>
<prefixListId>pl-0123123123123aabb</prefixListId>
<prefixListName>tgw-attachments</prefixListName>
<state>restore-in-progress</state>
<version>3</version>
</prefixList>
</RestoreManagedPrefixListVersionResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
RestoreSnapshotFromRecycleBin

Restores a snapshot from the Recycle Bin. For more information, see Restore snapshots from the Recycle Bin in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**SnapshotId**

The ID of the snapshot to restore.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

**description**

The description for the snapshot.

Type: String

**encrypted**

Indicates whether the snapshot is encrypted.

Type: Boolean
**outpostArn**

The ARN of the Outpost on which the snapshot is stored. For more information, see Amazon EBS local snapshots on Outposts in the Amazon Elastic Compute Cloud User Guide.

Type: String

**ownerId**

The ID of the AWS account that owns the EBS snapshot.

Type: String

**progress**

The progress of the snapshot, as a percentage.

Type: String

**requestId**

The ID of the request.

Type: String

**snapshotId**

The ID of the snapshot.

Type: String

**sseType**

Reserved for future use.

Type: String

Valid Values: sse-ebs | sse-kms | none

**startTime**

The time stamp when the snapshot was initiated.

Type: Timestamp

**status**

The state of the snapshot.
Type: String

Valid Values: pending | completed | error | recoverable | recovering

volumeId

The ID of the volume that was used to create the snapshot.

Type: String

volumeSize

The size of the volume, in GiB.

Type: Integer

Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RestoreSnapshotTier

Restores an archived Amazon EBS snapshot for use temporarily or permanently, or modifies the restore period or restore type for a snapshot that was previously temporarily restored.

For more information see Restore an archived snapshot and modify the restore period or restore type for a temporarily restored snapshot in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

PermanentRestore

Indicates whether to permanently restore an archived snapshot. To permanently restore an archived snapshot, specify true and omit the RestoreSnapshotTierRequest $TemporaryRestoreDays parameter.

Type: Boolean
Required: No

SnapshotId

The ID of the snapshot to restore.

Type: String
Required: Yes

TemporaryRestoreDays

Specifies the number of days for which to temporarily restore an archived snapshot. Required for temporary restores only. The snapshot will be automatically re-archived after this period.
To temporarily restore an archived snapshot, specify the number of days and omit the `PermanentRestore` parameter or set it to `false`.

Type: Integer
Required: No

**Response Elements**

The following elements are returned by the service.

**isPermanentRestore**

Indicates whether the snapshot is permanently restored. `true` indicates a permanent restore. `false` indicates a temporary restore.

Type: Boolean

**requestId**

The ID of the request.

Type: String

**restoreDuration**

For temporary restores only. The number of days for which the archived snapshot is temporarily restored.

Type: Integer

**restoreStartTime**

The date and time when the snapshot restore process started.

Type: Timestamp

**snapshotId**

The ID of the snapshot.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RevokeClientVpnIngress

Removes an ingress authorization rule from a Client VPN endpoint.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AccessGroupId

The ID of the Active Directory group for which to revoke access.

Type: String

Required: No

ClientVpnEndpointId

The ID of the Client VPN endpoint with which the authorization rule is associated.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

RevokeAllGroups

Indicates whether access should be revoked for all clients.

Type: Boolean

Required: No

TargetNetworkCidr

The IPv4 address range, in CIDR notation, of the network for which access is being removed.
Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**status**

The current state of the authorization rule.

Type: $ClientVpnAuthorizationRuleStatus$ object

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

Examples

Example

This example removes an authorization rule from a Client VPN endpoint.

Sample Request

```xml
https://ec2.amazonaws.com/?Action=RevokeClientVpnIngress
&ClientVpnEndpointId=cvpn-endpoint-00c5d11fc4EXAMPLE
&TargetNetworkCidr=10.0.0.0/16
&RevokeAllGroups=true
&AUTHPARAMS
```

Sample Response

```xml
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RevokeSecurityGroupEgress

Removes the specified outbound (egress) rules from the specified security group.

You can specify rules using either rule IDs or security group rule properties. If you use rule properties, the values that you specify (for example, ports) must match the existing rule's values exactly. Each rule has a protocol, from and to ports, and destination (CIDR range, security group, or prefix list). For the TCP and UDP protocols, you must also specify the destination port or range of ports. For the ICMP protocol, you must also specify the ICMP type and code. If the security group rule has a description, you do not need to specify the description to revoke the rule.

For a default VPC, if the values you specify do not match the existing rule's values, no error is returned, and the output describes the security group rules that were not revoked.

AWS recommends that you describe the security group to verify that the rules were removed.

Rule changes are propagated to instances within the security group as quickly as possible. However, a small delay might occur.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CidrIp

Not supported. Use a set of IP permissions to specify the CIDR.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No
FromPort

Not supported. Use a set of IP permissions to specify the port.

Type: Integer

Required: No

GroupId

The ID of the security group.

Type: String

Required: Yes

IpPermissions.N

The sets of IP permissions. You can't specify a destination security group and a CIDR IP address range in the same set of permissions.

Type: Array of IpPermission objects

Required: No

IpProtocol

Not supported. Use a set of IP permissions to specify the protocol name or number.

Type: String

Required: No

SecurityGroupRuleId.N

The IDs of the security group rules.

Type: Array of strings

Required: No

SourceSecurityGroupName

Not supported. Use a set of IP permissions to specify a destination security group.

Type: String
Required: No

SourceSecurityGroupId

Not supported. Use a set of IP permissions to specify a destination security group.

Type: String

Required: No

ToPort

Not supported. Use a set of IP permissions to specify the port.

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns true if the request succeeds; otherwise, returns an error.

Type: Boolean

unknownIpPermissionSet

The outbound rules that were unknown to the service. In some cases, unknownIpPermissionSet might be in a different format from the request parameter.

Type: Array of IpPermission objects

Errors

For information about the errors that are common to all actions, see Common client error codes.
Examples

Example 1

This example revokes the access that the specified security group has to the 205.192.0.0/16 and 205.159.0.0/16 IPv4 address ranges on TCP port 80.

Sample Request

&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&IpPermissions.1.IpRanges.1.CidrIp=205.192.0.0/16
&IpPermissions.1.IpRanges.2.CidrIp=205.159.0.0/16
&AUTHPARAMS

Example 2

This example revokes the access that the specified security group has to the security group with the ID sg-9a8d7f5c on TCP port 1433.

Sample Request

&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=1433
&IpPermissions.1.ToPort=1433
&IpPermissions.1.Groups.1.GroupId=sg-9a8d7f5c
&AUTHPARAMS

Example 3

This example revokes TCP port 22 access to the 203.0.113.4/32 address range for the security group sg-112233. The security group rule includes the description 'Access to office CT12'. Specifying the description to revoke the rule is optional, but if you do specify the description, it must match the existing rule's value exactly.
Sample Request

&GroupId=sg-112233
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=22
&IpPermissions.1.ToPort=22
&IpPermissions.1.IpRanges.1.CidrIp=203.0.113.4/32
&IpPermissions.1.IpRanges.1.Description=Access to office CT12
&AUTHPARAMS

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RevokeSecurityGroupIngress

Removes the specified inbound (ingress) rules from a security group.

You can specify rules using either rule IDs or security group rule properties. If you use rule properties, the values that you specify (for example, ports) must match the existing rule's values exactly. Each rule has a protocol, from and to ports, and source (CIDR range, security group, or prefix list). For the TCP and UDP protocols, you must also specify the destination port or range of ports. For the ICMP protocol, you must also specify the ICMP type and code. If the security group rule has a description, you do not need to specify the description to revoke the rule.

For a default VPC, if the values you specify do not match the existing rule's values, no error is returned, and the output describes the security group rules that were not revoked.

For a non-default VPC, if the values you specify do not match the existing rule's values, an InvalidPermission.NotFound client error is returned, and no rules are revoked.

AWS recommends that you describe the security group to verify that the rules were removed.

Rule changes are propagated to instances within the security group as quickly as possible. However, a small delay might occur.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

CidrIp

The CIDR IP address range. You can't specify this parameter when specifying a source security group.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.
**Type:** Boolean

**Required:** No

**FromPort**

If the protocol is TCP or UDP, this is the start of the port range. If the protocol is ICMP, this is the type number. A value of -1 indicates all ICMP types.

**Type:** Integer

**Required:** No

**GroupId**

The ID of the security group.

**Type:** String

**Required:** No

**GroupName**

[Default VPC] The name of the security group. You must specify either the security group ID or the security group name in the request. For security groups in a nondefault VPC, you must specify the security group ID.

**Type:** String

**Required:** No

**IpPermissions.N**

The sets of IP permissions. You can't specify a source security group and a CIDR IP address range in the same set of permissions.

**Type:** Array of `IpPermission` objects

**Required:** No

**IpProtocol**

The IP protocol name (tcp, udp, icmp) or number (see [Protocol Numbers](#)). Use -1 to specify all.

**Type:** String

**Required:** No
SecurityGroupRuleId.N

The IDs of the security group rules.

Type: Array of strings

Required: No

SourceSecurityGroupName

[Default VPC] The name of the source security group. You can't specify this parameter in combination with the following parameters: the CIDR IP address range, the start of the port range, the IP protocol, and the end of the port range. The source security group must be in the same VPC. To revoke a specific rule for an IP protocol and port range, use a set of IP permissions instead.

Type: String

Required: No

SourceSecurityGroupOwnerId

Not supported.

Type: String

Required: No

ToPort

If the protocol is TCP or UDP, this is the end of the port range. If the protocol is ICMP, this is the code. A value of -1 indicates all ICMP codes.

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.
Type: String

return

Returns true if the request succeeds; otherwise, returns an error.

Type: Boolean

unknownIpPermissionSet

The inbound rules that were unknown to the service. In some cases, unknownIpPermissionSet might be in a different format from the request parameter.

Type: Array of IpPermission objects

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example revokes TCP port 80 access from the 205.192.0.0/16 IPv4 address range for the security group named websrv. If the security group is for a VPC, specify the ID of the security group instead of the name.

Sample Request

https://ec2.amazonaws.com/?Action=RevokeSecurityGroupIngress
&GroupName=websrv
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&IpPermissions.1.IpRanges.1.CidrIp=205.192.0.0/16
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
</RevokeSecurityGroupIngressResponse>
Example 2

This example revokes TCP port 22 (SSH) access from IPv6 range 2001:db8:1234:1a00::/64.

Sample Request

https://ec2.amazonaws.com/?Action=RevokeSecurityGroupIngress
&GroupName=websrv
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&IpPermissions.1.Ipv6Ranges.1.CidrIpv6=2001:db8:1234:1a00::/64

Example 3

This example revokes TCP port 22 access from the 203.0.113.4/32 address range for the security group sg-112233. The security group rule includes the description 'Access from workstation 1a2b'. Specifying the description to revoke the rule is optional, but if you do specify the description, it must match the existing rule's value exactly.

Sample Request

https://ec2.amazonaws.com/?Action=RevokeSecurityGroupIngress
&GroupId=sg-112233
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=22
&IpPermissions.1.ToPort=22
&IpPermissions.1.IpRanges.1.CidrIp=203.0.113.4/32
&IpPermissions.1.IpRanges.1.Description=Access from workstation 1a2b

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• **AWS SDK for .NET**
• **AWS SDK for C++**
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for JavaScript V3**
• **AWS SDK for PHP V3**
• **AWS SDK for Python**
• **AWS SDK for Ruby V3**
RunInstances

Launches the specified number of instances using an AMI for which you have permissions.

You can specify a number of options, or leave the default options. The following rules apply:

- If you don't specify a subnet ID, we choose a default subnet from your default VPC for you. If you don't have a default VPC, you must specify a subnet ID in the request.
- All instances have a network interface with a primary private IPv4 address. If you don't specify this address, we choose one from the IPv4 range of your subnet.
- Not all instance types support IPv6 addresses. For more information, see Instance types.
- If you don't specify a security group ID, we use the default security group. For more information, see Security groups.
- If any of the AMIs have a product code attached for which the user has not subscribed, the request fails.

You can create a launch template, which is a resource that contains the parameters to launch an instance. When you launch an instance using RunInstances, you can specify the launch template instead of specifying the launch parameters.

To ensure faster instance launches, break up large requests into smaller batches. For example, create five separate launch requests for 100 instances each instead of one launch request for 500 instances.

An instance is ready for you to use when it's in the running state. You can check the state of your instance using DescribeInstances. You can tag instances and EBS volumes during launch, after launch, or both. For more information, see CreateTags and Tagging your Amazon EC2 resources.

Linux instances have access to the public key of the key pair at boot. You can use this key to provide secure access to the instance. Amazon EC2 public images use this feature to provide secure access without passwords. For more information, see Key pairs.

For troubleshooting, see What to do if an instance immediately terminates, and Troubleshooting connecting to your instance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.
**AdditionalInfo**

Reserved.

Type: String

Required: No

**BlockDeviceMapping.N**

The block device mapping, which defines the EBS volumes and instance store volumes to attach to the instance at launch. For more information, see [Block device mappings](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/block-device-mappings.html) in the *Amazon EC2 User Guide*.

Type: Array of [BlockDeviceMapping](https://docs.aws.amazon.com/AWSEC2/latest/APIReference/AmznESBstatus.html) objects

Required: No

**CapacityReservationSpecification**

Information about the Capacity Reservation targeting option. If you do not specify this parameter, the instance's Capacity Reservation preference defaults to open, which enables it to run in any open Capacity Reservation that has matching attributes (instance type, platform, Availability Zone).

Type: [CapacityReservationSpecification](https://docs.aws.amazon.com/AWSEC2/latest/APIReference/AmznESBstatus.html) object

Required: No

**ClientToken**

Unique, case-sensitive identifier you provide to ensure the idempotency of the request. If you do not specify a client token, a randomly generated token is used for the request to ensure idempotency.

For more information, see [Ensuring Idempotency](https://docs.aws.amazon.com/AWSEC2/latest/APIReference/EnsuringIdempotency.html).

Constraints: Maximum 64 ASCII characters

Type: String

Required: No
CpuOptions

The CPU options for the instance. For more information, see Optimize CPU options in the Amazon EC2 User Guide.

Type: CpuOptionsRequest object

Required: No

CreditSpecification

The credit option for CPU usage of the burstable performance instance. Valid values are standard and unlimited. To change this attribute after launch, use ModifyInstanceCreditSpecification. For more information, see Burstable performance instances in the Amazon EC2 User Guide.

Default: standard (T2 instances) or unlimited (T3/T3a/T4g instances)

For T3 instances with host tenancy, only standard is supported.

Type: CreditSpecificationRequest object

Required: No

DisableApiStop

Indicates whether an instance is enabled for stop protection. For more information, see Stop protection.

Type: Boolean

Required: No

DisableApiTermination

If you set this parameter to true, you can't terminate the instance using the Amazon EC2 console, CLI, or API; otherwise, you can. To change this attribute after launch, use ModifyInstanceAttribute. Alternatively, if you set InstanceInitiatedShutdownBehavior to terminate, you can terminate the instance by running the shutdown command from the instance.

Default: false
DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

EbsOptimized

Indicates whether the instance is optimized for Amazon EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal Amazon EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS-optimized instance.

Default: false

Type: Boolean
Required: No

ElasticGpuSpecification.N

An elastic GPU to associate with the instance. An Elastic GPU is a GPU resource that you can attach to your Windows instance to accelerate the graphics performance of your applications. For more information, see Amazon EC2 Elastic GPUs in the Amazon EC2 User Guide.

Type: Array of ElasticGpuSpecification objects
Required: No

ElasticInferenceAccelerator.N

An elastic inference accelerator to associate with the instance. Elastic inference accelerators are a resource you can attach to your Amazon EC2 instances to accelerate your Deep Learning (DL) inference workloads.

You cannot specify accelerators from different generations in the same request.
Note

Starting April 15, 2023, AWS will not onboard new customers to Amazon Elastic Inference (EI), and will help current customers migrate their workloads to options that offer better price and performance. After April 15, 2023, new customers will not be able to launch instances with Amazon EI accelerators in Amazon SageMaker, Amazon ECS, or Amazon EC2. However, customers who have used Amazon EI at least once during the past 30-day period are considered current customers and will be able to continue using the service.

Type: Array of ElasticInferenceAccelerator objects

Required: No

EnablePrimaryIpv6

If you’re launching an instance into a dual-stack or IPv6-only subnet, you can enable assigning a primary IPv6 address. A primary IPv6 address is an IPv6 GUA address associated with an ENI that you have enabled to use a primary IPv6 address. Use this option if an instance relies on its IPv6 address not changing. When you launch the instance, AWS will automatically assign an IPv6 address associated with the ENI attached to your instance to be the primary IPv6 address. Once you enable an IPv6 GUA address to be a primary IPv6, you cannot disable it. When you enable an IPv6 GUA address to be a primary IPv6, the first IPv6 GUA will be made the primary IPv6 address until the instance is terminated or the network interface is detached. If you have multiple IPv6 addresses associated with an ENI attached to your instance and you enable a primary IPv6 address, the first IPv6 GUA address associated with the ENI becomes the primary IPv6 address.

Type: Boolean

Required: No

EnclaveOptions

Indicates whether the instance is enabled for AWS Nitro Enclaves. For more information, see What is AWS Nitro Enclaves? in the AWS Nitro Enclaves User Guide.

You can't enable AWS Nitro Enclaves and hibernation on the same instance.

Type: EnclaveOptionsRequest object
HibernationOptions

Indicates whether an instance is enabled for hibernation. This parameter is valid only if the instance meets the hibernation prerequisites. For more information, see Hibernate your instance in the Amazon EC2 User Guide.

You can't enable hibernation and AWS Nitro Enclaves on the same instance.

Type: HibernationOptionsRequest object

Required: No

IamInstanceProfile

The name or Amazon Resource Name (ARN) of an IAM instance profile.

Type: IamInstanceProfileSpecification object

Required: No

ImageId

The ID of the AMI. An AMI ID is required to launch an instance and must be specified here or in a launch template.

Type: String

Required: No

InstanceInitiatedShutdownBehavior

Indicates whether an instance stops or terminates when you initiate shutdown from the instance (using the operating system command for system shutdown).

Default: stop

Type: String

Valid Values: stop | terminate

Required: No

InstanceMarketOptions

The market (purchasing) option for the instances.
**Type:** InstanceMarketOptionsRequest object

Required: No

**InstanceType**

The instance type. For more information, see Instance types in the Amazon EC2 User Guide.

Type: String

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.1large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metal | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5d.metal | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c5n.9xlarge | c5n.18xlarge | c5n.metal | c6g.medium | c6g.large | c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.metal | c6gd.medium | c6gd.large | c6gd.xlarge | c6gd.2xlarge | c6gd.4xlarge | c6gd.8xlarge | c6gd.12xlarge | c6gd.16xlarge | c6gd.metal | c6gn.medium | c6gn.large | c6gn.xlarge | c6gn.2xlarge | c6gn.4xlarge | c6gn.8xlarge | c6gn.12xlarge | c6gn.16xlarge | c6i.large | c6i.xlarge | c6i.2xlarge | c6i.4xlarge | c6i.8xlarge | c6i.12xlarge | c6i.16xlarge | c6i.24xlarge | c6i.32xlarge | c6i.metal | cc1.4xlarge | cc2.8xlarge | cg1.4xlarge | cr1.8xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | d3.xlarge | d3.2xlarge | d3.4xlarge | d3.8xlarge | d3en.xlarge | d3en.2xlarge | d3en.4xlarge | d3en.6xlarge | d3en.8xlarge | d3en.12xlarge | dl1.24xlarge | f1.2xlarge | f1.4xlarge | f1.16xlarge | g2.2xlarge | g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | g3s.xlarge | g4ad.xlarge | g4ad.2xlarge | g4ad.4xlarge | g4ad.8xlarge | g4ad.16xlarge | g4dn.xlarge | g4dn.2xlarge | g4dn.4xlarge | g4dn.8xlarge | g4dn.12xlarge | g4dn.16xlarge | g4dn.metal | g5.xlarge | g5.2xlarge | g5.4xlarge | g5.8xlarge | g5.12xlarge | g5.16xlarge | g5.24xlarge |
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**Required:** No

**I Pv6Address.N**

The IPv6 addresses from the range of the subnet to associate with the primary network interface. You cannot specify this option and the option to assign a number of IPv6 addresses in the same request. You cannot specify this option if you've specified a minimum number of instances to launch.

You cannot specify this option and the network interfaces option in the same request.
Type: Array of `InstanceIpv6Address` objects

Required: No

**Ipv6AddressCount**

The number of IPv6 addresses to associate with the primary network interface. Amazon EC2 chooses the IPv6 addresses from the range of your subnet. You cannot specify this option and the option to assign specific IPv6 addresses in the same request. You can specify this option if you've specified a minimum number of instances to launch.

You cannot specify this option and the network interfaces option in the same request.

Type: Integer

Required: No

**KernelId**

The ID of the kernel.

⚠️ **Important**

We recommend that you use PV-GRUB instead of kernels and RAM disks. For more information, see [PV-GRUB](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/what-is-pv-grub.html) in the *Amazon EC2 User Guide*.

Type: String

Required: No

**KeyName**

The name of the key pair. You can create a key pair using [CreateKeyPair](https://docs.aws.amazon.com/AWSEC2/latest/APIReference/API_CreateKeyPair.html) or [ImportKeyPair](https://docs.aws.amazon.com/AWSEC2/latest/APIReference/API_ImportKeyPair.html).

⚠️ **Important**

If you do not specify a key pair, you can't connect to the instance unless you choose an AMI that is configured to allow users another way to log in.

Type: String
Required: No

**LaunchTemplate**

The launch template to use to launch the instances. Any parameters that you specify in `RunInstances` override the same parameters in the launch template. You can specify either the name or ID of a launch template, but not both.

Type: `LaunchTemplateSpecification` object

Required: No

**LicenseSpecification.N**

The license configurations.

Type: Array of `LicenseConfigurationRequest` objects

Required: No

**MaintenanceOptions**

The maintenance and recovery options for the instance.

Type: `InstanceMaintenanceOptionsRequest` object

Required: No

**MaxCount**

The maximum number of instances to launch. If you specify more instances than Amazon EC2 can launch in the target Availability Zone, Amazon EC2 launches the largest possible number of instances above `MinCount`.

Constraints: Between 1 and the maximum number you're allowed for the specified instance type. For more information about the default limits, and how to request an increase, see [How many instances can I run in Amazon EC2](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/instance-limits.html) in the Amazon EC2 FAQ.

Type: Integer

Required: Yes

**MetadataOptions**

The metadata options for the instance. For more information, see [Instance metadata and user data](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/instance-metadata.html).
Type: `InstanceMetadataOptionsRequest` object

Required: No

**MinCount**

The minimum number of instances to launch. If you specify a minimum that is more instances than Amazon EC2 can launch in the target Availability Zone, Amazon EC2 launches no instances.

Constraints: Between 1 and the maximum number you're allowed for the specified instance type. For more information about the default limits, and how to request an increase, see [How many instances can I run in Amazon EC2](https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/limits.html) in the Amazon EC2 General FAQ.

Type: Integer

Required: Yes

**Monitoring**

Specifies whether detailed monitoring is enabled for the instance.

Type: `RunInstancesMonitoringEnabled` object

Required: No

**NetworkInterface.N**

The network interfaces to associate with the instance. If you specify a network interface, you must specify any security groups and subnets as part of the network interface.

Type: Array of `InstanceNetworkInterfaceSpecification` objects

Required: No

**Placement**

The placement for the instance.

Type: `Placement` object

Required: No

**PrivateDnsNameOptions**

The options for the instance hostname. The default values are inherited from the subnet. Applies only if creating a network interface, not attaching an existing one.
Type: PrivateDnsNameOptionsRequest object

Required: No

**PrivatIpAddress**

The primary IPv4 address. You must specify a value from the IPv4 address range of the subnet.

Only one private IP address can be designated as primary. You can't specify this option if you've specified the option to designate a private IP address as the primary IP address in a network interface specification. You cannot specify this option if you're launching more than one instance in the request.

You cannot specify this option and the network interfaces option in the same request.

Type: String

Required: No

**RamdiskId**

The ID of the RAM disk to select. Some kernels require additional drivers at launch. Check the kernel requirements for information about whether you need to specify a RAM disk. To find kernel requirements, go to the AWS Resource Center and search for the kernel ID.

⚠️ Important

We recommend that you use PV-GRUB instead of kernels and RAM disks. For more information, see PV-GRUB in the Amazon EC2 User Guide.

Type: String

Required: No

**SecurityGroup.N**

[Default VPC] The names of the security groups.

If you specify a network interface, you must specify any security groups as part of the network interface.

Default: Amazon EC2 uses the default security group.
Type: Array of strings
Required: No

**SecurityGroupId.N**

The IDs of the security groups. You can create a security group using [CreateSecurityGroup](https://console.aws.amazon.com/ec2/

If you specify a network interface, you must specify any security groups as part of the network interface.

Type: Array of strings
Required: No

**SubnetId**

The ID of the subnet to launch the instance into.

If you specify a network interface, you must specify any subnets as part of the network interface.

Type: String
Required: No

**TagSpecification.N**

The tags to apply to the resources that are created during instance launch.

You can specify tags for the following resources only:

- Instances
- Volumes
- Elastic graphics
- Spot Instance requests
- Network interfaces

To tag a resource after it has been created, see [CreateTags](https://console.aws.amazon.com/

Type: Array of **TagSpecification** objects
Required: No
UserData

The user data script to make available to the instance. For more information, see Run commands on your Linux instance at launch and Run commands on your Windows instance at launch. If you are using a command line tool, base64-encoding is performed for you, and you can load the text from a file. Otherwise, you must provide base64-encoded text. User data is limited to 16 KB.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

groupSet

Not supported.

Type: Array of GroupIdentifier objects

instancesSet

The instances.

Type: Array of Instance objects

ownerId

The ID of the AWS account that owns the reservation.

Type: String

requesterId

The ID of the requester that launched the instances on your behalf (for example, AWS Management Console or Auto Scaling).

Type: String

requestId

The ID of the request.
Type: String

reservationId

The ID of the reservation.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example launches three instances using the specified AMI.

Sample Request

https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-60a54009
&MaxCount=3
&MinCount=1
&KeyName=my-key-pair
&SecurityGroupId.1=sg-0598c7d3
&Placement.AvailabilityZone=us-east-1d
&AUTHPARAMS

Example 2

This example launches an instance into the specified subnet. Because no network interface is specified, a new network interface is created.

Sample Request

https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-31814f58
&InstanceType=t2.micro
&MaxCount=1
Example 3

This example launches an instance into the specified subnet. The network interface specifies a primary private IPv4 address of 10.0.2.106 and two secondary private IPv4 addresses (10.0.2.107 and 10.0.2.108).

Sample Request

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-beb0caec
&InstanceType=t2.small
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&NetworkInterface.1.DeviceIndex=0
&NetworkInterface.1.PrivateIpAddresses.1.Primary=true
&NetworkInterface.1.PrivateIpAddresses.1.PrivateIpAddress=10.0.2.106
&NetworkInterface.1.PrivateIpAddresses.2.Primary=false
&NetworkInterface.1.PrivateIpAddresses.2.PrivateIpAddress=10.0.2.107
&NetworkInterface.1.PrivateIpAddresses.3.Primary=false
&NetworkInterface.1.PrivateIpAddresses.3.PrivateIpAddress=10.0.2.108
&NetworkInterface.1.SubnetId=subnet-a61dafcf
&AUTHPARAMS
```

Example 4

This example launches a Dedicated Instance into the specified subnet.

Sample Request

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-2a1fecd3
&InstanceType=m6i.8xlarge
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
```
Example 5

This request launches an instance into the specified subnet, and requests a public IPv4 address for a new network interface with the device index of 0.

Sample Request

https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-1a2b3c4d
&InstanceType=m6i.8xlarge
&MaxCount=1
&MinCount=1
&NetworkInterface.1.DeviceIndex=0
&NetworkInterface.1.AssociatePublicIpAddress=true
&NetworkInterface.1.SubnetId=subnet-1a2b3c4d
&AUTHPARAMS

Example 6

This request launches an instance with a block device mapping. There are two instance store volumes mapped to /dev/sdc and /dev/sdd, and a 100-GB EBS volume mapped to /dev/sdf. The EBS volume attached to the instance is encrypted by a customer managed CMK.

For more information about block device mappings, see EbsBlockDevice and Modifying block device mappings during launch.

For more information, see Amazon EBS encryption.

Sample Request

https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-1a2b3c4d
&InstanceType=m6id.12xlarge
&BlockDeviceMapping.1.DeviceName=%2Fdev%2Fsdc
&BlockDeviceMapping.1.VirtualName=ephemeral0
&BlockDeviceMapping.2.DeviceName=%2Fdev%2Fsdd
&BlockDeviceMapping.2.VirtualName=ephemeral1
&BlockDeviceMapping.3.DeviceName=/dev/sdf
&BlockDeviceMapping.3.Ebs.DeleteOnTermination=false
&BlockDeviceMapping.3.Ebs.VolumeSize=100
&BlockDeviceMapping.3.Ebs.Encrypted=true
&BlockDeviceMapping.3.Ebs.KmsKeyId=arn:aws:kms:us-east-1:6000094008816533:Akey%2Fa48a521f-3aff-4b34-a159-376ac5d37812
&EbsOptimized=false
&MinCount=1
&MaxCount=1
&DisableApiTermination=false
&Monitoring.Enabled=false
&AUTHPARAMS

Example 7

This request launches two instances and applies a tag with a key of `webserver` and a value of `production` to the instances. The request also applies a tag with a key of `cost-center` and a value of `cc123` to the volumes that are created (in this case, the root volume for each instance).

Sample Request

https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-31814f58
&InstanceType=t2.large
&MaxCount=2
&MinCount=1
&KeyName=my-key-pair
&SecurityGroupId.1=sg-0598c7d3
&SubnetId=subnet-b2a249da
&TagSpecification.1.ResourceType=instance
&TagSpecification.1.Tag.1.Key=webserver
&TagSpecification.1.Tag.1.Value=production
&TagSpecification.2.ResourceType=volume
&TagSpecification.2.Tag.1.Key=cost-center
&TagSpecification.2.Tag.1.Value=cc123
&AUTHPARAMS

Example 8

This request launches a burstable performance instance with the credit option for CPU usage set to unlimited.
Sample Request

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-31814f58
&InstanceType=t2.micro
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&SecurityGroupId.1=sg-0598c7d3
&CredtSpecification.CpuCredits=unlimited
&AUTHPARAMS
```

Example 9

This request launches an instance into the specified partition placement group but does not specify the partition.

Sample Request

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-31814f58
&InstanceType=t3.large
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&SecurityGroupId.1=sg-0598c7d3
&Placement=HDFS-Group-A
&AUTHPARAMS
```

Example 10

This request launches an instance into the specified partition placement group and into the specified partition.

Sample Request

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-31814f58
&InstanceType=t3.large
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
```
Example 11

This example launches an instance with a metadata type requiring a session token for metadata retrieval requests.

Sample Request

https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-1a2b3c4d
&InstanceType=c6i.large
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&SecurityGroupId.1=sg-0598c7d3
&MetadataOptions.HttpTokens=required

Example 12

This example launches an instance with instance metadata access turned off.

Sample Request

https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-1a2b3c4d
&InstanceType=c6i.large
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&SecurityGroupId.1=sg-0598c7d3
&MetadataOptions.HttpEndpoint=disabled

Example 13

This example launches an instance with a metadata type requiring a session token for metadata retrieval requests and a metadata hop limit of 3.
Sample Request

https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-1a2b3c4d
&InstanceType=c6i.large
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&SecurityGroupId.1=sg-0598c7d3
&MetadataOptions.HttpTokens=required
&MetadataOptions.HttpPutResponseHopLimit=3

Example 14

This example launches an instance and assigns two security groups and an IPv6 address to the primary network interface.

Sample Request

https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-00112233445566aab
&InstanceType=t2.micro
&MinCount=1
&MaxCount=1
&NetworkInterface.1.DeviceIndex=0
&NetworkInterface.1.SecurityGroupId.1=sg-444455556666cccdd
&NetworkInterface.1.SecurityGroupId.2=sg-111122223333aaabb
&NetworkInterface.1.Ipv6Addresses.1.Ipv6Address=2001:db8:1234:1a00::123
&NetworkInterface.1.SubnetId=subnet-aabbccdd112233445

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RunScheduledInstances

Launches the specified Scheduled Instances.

Before you can launch a Scheduled Instance, you must purchase it and obtain an identifier using PurchaseScheduledInstances.

You must launch a Scheduled Instance during its scheduled time period. You can't stop or reboot a Scheduled Instance, but you can terminate it as needed. If you terminate a Scheduled Instance before the current scheduled time period ends, you can launch it again after a few minutes. For more information, see Scheduled Instances in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

ClientToken

Unique, case-sensitive identifier that ensures the idempotency of the request. For more information, see Ensuring Idempotency.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceCount

The number of instances.

Default: 1

Type: Integer
Required: No

**LaunchSpecification**

The launch specification. You must match the instance type, Availability Zone, network, and platform of the schedule that you purchased.

Type: `ScheduledInstancesLaunchSpecification` object

Required: Yes

**ScheduledInstanceId**

The Scheduled Instance ID.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**instanceIdSet**

The IDs of the newly launched instances.

Type: Array of strings

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
See Also

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
SearchLocalGatewayRoutes

Searches for routes in the specified local gateway route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**Filter.N**

One or more filters.

- `prefix-list-id` - The ID of the prefix list.
- `route-search.exact-match` - The exact match of the specified filter.
- `route-search.longest-prefix-match` - The longest prefix that matches the route.
- `route-search.subnet-of-match` - The routes with a subnet that match the specified CIDR filter.
- `route-search.supernet-of-match` - The routes with a CIDR that encompass the CIDR filter. For example, if you have 10.0.1.0/29 and 10.0.1.0/31 routes in your route table and you specify supernet-of-match as 10.0.1.0/30, then the result returns 10.0.1.0/29.
- `state` - The state of the route.
- `type` - The route type.

Type: Array of Filter objects

Required: No

**LocalGatewayRouteTableId**

The ID of the local gateway route table.
Type: String
Required: Yes

MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned nextToken value.

Type: Integer
Required: No

NextToken

The token for the next page of results.

Type: String
Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

routeSet

Information about the routes.

Type: Array of LocalGatewayRoute objects
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
SearchTransitGatewayMulticastGroups

Searches one or more transit gateway multicast groups and returns the group membership information.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**Filter.N**

One or more filters. The possible values are:

- `group-ip-address` - The IP address of the transit gateway multicast group.
- `is-group-member` - The resource is a group member. Valid values are `true` | `false`.
- `is-group-source` - The resource is a group source. Valid values are `true` | `false`.
- `member-type` - The member type. Valid values are `igmp` | `static`.
- `resource-id` - The ID of the resource.
- `resource-type` - The type of resource. Valid values are `vpc` | `vpn` | `direct-connect-gateway` | `tgw-peering`.
- `source-type` - The source type. Valid values are `igmp` | `static`.
- `subnet-id` - The ID of the subnet.
- `transit-gateway-attachment-id` - The id of the transit gateway attachment.

Type: Array of `Filter` objects

Required: No
MaxResults

The maximum number of results to return with a single call. To retrieve the remaining results, make another call with the returned `nextToken` value.

Type: Integer


Required: No

NextToken

The token for the next page of results.

Type: String

Required: No

TransitGatewayMulticastDomainId

The ID of the transit gateway multicast domain.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

multicastGroups

Information about the transit gateway multicast group.

Type: Array of `TransitGatewayMulticastGroup` objects

nextToken

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String
requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example 1

This example returns the group membership information for the specified multicast domain.

Sample Request

https://ec2.amazonaws.com/?Action=SearchTransitGatewayMulticastGroups &TransitGatewayMulticastDomainId=tgw-mcast-domain-0c4905cef79d6e597 &AUTHPARAMS

Sample Response

    requestId>19af1e8f-f80b-479d-9cf4-c7d19EXAMPLE</requestId>
    <multicastGroups>
        <item>
            <groupIpAddress>224.0.1.0</groupIpAddress>
            <groupMember>true</groupMember>
            <groupSource>false</groupSource>
            <memberType>static</memberType>
            <networkInterfaceId>eni-07f290fc3cEXAMPLE</networkInterfaceId>
            <subnetId>subnet-000de86e3bEXAMPLE</subnetId>
            <transitGatewayAttachmentId>tgw-attach-028c1dd0f8EXAMPLE</transitGatewayAttachmentId>
        </item>
        <item>
            <groupIpAddress>224.0.1.0</groupIpAddress>
            <groupMember>false</groupMember>
        </item>
    </multicastGroups>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](https://aws.amazon.com/cli/)
- [AWS SDK for .NET](https://aws.amazon.com/sdk-for-net/)
- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://aws.amazon.com/sdk-for-go/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for JavaScript V3](https://aws.amazon.com/sdk-for-javascript/)
- [AWS SDK for PHP V3](https://aws.amazon.com/sdk-for-php/)
- [AWS SDK for Python](https://aws.amazon.com/sdk-for-python/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)
SearchTransitGatewayRoutes

Searches for routes in the specified transit gateway route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Filter.N

One or more filters. The possible values are:

- `attachment.transit-gateway-attachment-id` - The id of the transit gateway attachment.
- `attachment.resource-id` - The resource id of the transit gateway attachment.
- `attachment.resource-type` - The attachment resource type. Valid values are `vpc | vpn | direct-connect-gateway | peering | connect`.
- `prefix-list-id` - The ID of the prefix list.
- `route-search.exact-match` - The exact match of the specified filter.
- `route-search.longest-prefix-match` - The longest prefix that matches the route.
- `route-search.subnet-of-match` - The routes with a subnet that match the specified CIDR filter.
- `route-search.supernet-of-match` - The routes with a CIDR that encompass the CIDR filter. For example, if you have 10.0.1.0/29 and 10.0.1.0/31 routes in your route table and you specify supernet-of-match as 10.0.1.0/30, then the result returns 10.0.1.0/29.
- `state` - The state of the route (`active | blackhole`).
- `type` - The type of route (`propagated | static`).
Type: Array of Filter objects

Required: Yes

**MaxResults**

The maximum number of routes to return.

Type: Integer


Required: No

**TransitGatewayRouteTableId**

The ID of the transit gateway route table.

Type: String

Required: Yes

**Response Elements**

The following elements are returned by the service.

**additionalRoutesAvailable**

Indicates whether there are additional routes available.

Type: Boolean

**requestId**

The ID of the request.

Type: String

**routeSet**

Information about the routes.

Type: Array of TransitGatewayRoute objects
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
SendDiagnosticInterrupt

Sends a diagnostic interrupt to the specified Amazon EC2 instance to trigger a kernel panic (on Linux instances), or a blue screen/stop error (on Windows instances). For instances based on Intel and AMD processors, the interrupt is received as a non-maskable interrupt (NMI).

In general, the operating system crashes and reboots when a kernel panic or stop error is triggered. The operating system can also be configured to perform diagnostic tasks, such as generating a memory dump file, loading a secondary kernel, or obtaining a call trace.

Before sending a diagnostic interrupt to your instance, ensure that its operating system is configured to perform the required diagnostic tasks.

For more information about configuring your operating system to generate a crash dump when a kernel panic or stop error occurs, see Send a diagnostic interrupt (for advanced users) (Linux instances) or Send a diagnostic interrupt (for advanced users) (Windows instances).

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

InstanceId

The ID of the instance.

Type: String

Required: Yes
Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**return**

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

**Example**

This example sends a diagnostic interrupt to the specified instance.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=SendDiagnosticInterrupt
&InstanceId=i-1234567890abcdef0
&AUTHPARAMS
```

**Sample Response**

```
<SendDiagnosticInterruptResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</SendDiagnosticInterruptResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
StartInstances

Starts an Amazon EBS-backed instance that you’ve previously stopped.

Instances that use Amazon EBS volumes as their root devices can be quickly stopped and started. When an instance is stopped, the compute resources are released and you are not billed for instance usage. However, your root partition Amazon EBS volume remains and continues to persist your data, and you are charged for Amazon EBS volume usage. You can restart your instance at any time. Every time you start your instance, Amazon EC2 charges a one-minute minimum for instance usage, and thereafter charges per second for instance usage.

Before stopping an instance, make sure it is in a state from which it can be restarted. Stopping an instance does not preserve data stored in RAM.

Performing this operation on an instance that uses an instance store as its root device returns an error.

If you attempt to start a T3 instance with host tenancy and the unlimited CPU credit option, the request fails. The unlimited CPU credit option is not supported on Dedicated Hosts. Before you start the instance, either change its CPU credit option to standard, or change its tenancy to default or dedicated.

For more information, see Stop and start your instance in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AdditionalInfo

Reserved.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.
Type: Boolean
Required: No

**InstanceId.N**

The IDs of the instances.

Type: Array of strings
Required: Yes

**Response Elements**

The following elements are returned by the service.

**instancesSet**

Information about the started instances.

Type: Array of `InstanceStateChange` objects

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

This example starts the specified instance.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=StartInstances
&InstanceId.1=i-1234567890abcdef0
```
Sample Response

```xml
<StartInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instancesSet>
    <item>
      <instanceId>i-1234567890abcdef0</instanceId>
      <currentState>
        <code>0</code>
        <name>pending</name>
      </currentState>
      <previousState>
        <code>80</code>
        <name>stopped</name>
      </previousState>
    </item>
  </instancesSet>
</StartInstancesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
StartNetworkInsightsAccessScopeAnalysis

Starts analyzing the specified Network Access Scope.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**ClientToken**

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see [How to ensure idempotency](#).

Type: String

Required: Yes

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**NetworkInsightsAccessScopeId**

The ID of the Network Access Scope.

Type: String

Required: Yes

**TagSpecification.N**

The tags to apply.

Type: Array of [TagSpecification](#) objects

Required: No
Response Elements

The following elements are returned by the service.

**networkInsightsAccessScopeAnalysis**

The Network Access Scope analysis.

Type: `NetworkInsightsAccessScopeAnalysis` object

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common client error codes](#).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
StartNetworkInsightsAnalysis

Starts analyzing the specified path. If the path is reachable, the operation returns the shortest feasible path.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

AdditionalAccount.N

The member accounts that contain resources that the path can traverse.

Type: Array of strings

Required: No

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to ensure idempotency.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

FilterInArn.N

The Amazon Resource Names (ARN) of the resources that the path must traverse.

Type: Array of strings

Required: No

**NetworkInsightsPathId**

The ID of the path.

Type: String

Required: Yes

**TagSpecification.N**

The tags to apply.

Type: Array of [TagSpecification](#) objects

Required: No

---

**Response Elements**

The following elements are returned by the service.

**networkInsightsAnalysis**

Information about the network insights analysis.

Type: [NetworkInsightsAnalysis](#) object

**requestId**

The ID of the request.

Type: String

---

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

---

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
See Also

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
StartVpcEndpointServicePrivateDnsVerification

Initiates the verification process to prove that the service provider owns the private DNS name domain for the endpoint service.

The service provider must successfully perform the verification before the consumer can use the name to access the service.

Before the service provider runs this command, they must add a record to the DNS server.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

ServiceId

The ID of the endpoint service.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String
**return**

Returns `true` if the request succeeds; otherwise, it returns an error.

Type: Boolean

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
StopInstances

Stops an Amazon EBS-backed instance. For more information, see Stop and start your instance in the Amazon EC2 User Guide.

You can use the Stop action to hibernate an instance if the instance is enabled for hibernation and it meets the hibernation prerequisites. For more information, see Hibernate your instance in the Amazon EC2 User Guide.

We don't charge usage for a stopped instance, or data transfer fees; however, your root partition Amazon EBS volume remains and continues to persist your data, and you are charged for Amazon EBS volume usage. Every time you start your instance, Amazon EC2 charges a one-minute minimum for instance usage, and thereafter charges per second for instance usage.

You can't stop or hibernate instance store-backed instances. You can't use the Stop action to hibernate Spot Instances, but you can specify that Amazon EC2 should hibernate Spot Instances when they are interrupted. For more information, see Hibernating interrupted Spot Instances in the Amazon EC2 User Guide.

When you stop or hibernate an instance, we shut it down. You can restart your instance at any time. Before stopping or hibernating an instance, make sure it is in a state from which it can be restarted. Stopping an instance does not preserve data stored in RAM, but hibernating an instance does preserve data stored in RAM. If an instance cannot hibernate successfully, a normal shutdown occurs.

Stopping and hibernating an instance is different to rebooting or terminating it. For example, when you stop or hibernate an instance, the root device and any other devices attached to the instance persist. When you terminate an instance, the root device and any other devices attached during the instance launch are automatically deleted. For more information about the differences between rebooting, stopping, hibernating, and terminating instances, see Instance lifecycle in the Amazon EC2 User Guide.

When you stop an instance, we attempt to shut it down forcibly after a short while. If your instance appears stuck in the stopping state after a period of time, there may be an issue with the underlying host computer. For more information, see Troubleshoot stopping your instance in the Amazon EC2 User Guide.
Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Force

Forces the instances to stop. The instances do not have an opportunity to flush file system caches or file system metadata. If you use this option, you must perform file system check and repair procedures. This option is not recommended for Windows instances.

Default: false

Type: Boolean

Required: No

Hibernate

Hibernates the instance if the instance was enabled for hibernation at launch. If the instance cannot hibernate successfully, a normal shutdown occurs. For more information, see Hibernate your instance in the Amazon EC2 User Guide.

Default: false

Type: Boolean

Required: No

InstanceId.N

The IDs of the instances.

Type: Array of strings
Response Elements

The following elements are returned by the service.

instancesSet

Information about the stopped instances.

Type: Array of InstanceStateChange objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example stops the specified instance.

Sample Request

https://ec2.amazonaws.com/?Action=StopInstances
&InstanceId.1=i-1234567890abcdef0
&AUTHPARAMS

Sample Response

<StopInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instancesSet>
    <item>
      <instanceId>i-1234567890abcdef0</instanceId>
    </item>
  </instancesSet>
</StopInstancesResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
**TerminateClientVpnConnections**

Terminates active Client VPN endpoint connections. This action can be used to terminate a specific client connection, or up to five connections established by a specific user.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**ClientVpnEndpointId**

The ID of the Client VPN endpoint to which the client is connected.

Type: String

Required: Yes

**ConnectionId**

The ID of the client connection to be terminated.

Type: String

Required: No

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**Username**

The name of the user who initiated the connection. Use this option to terminate all active connections for the specified user. This option can only be used if the user has established up to five connections.

Type: String
Response Elements

The following elements are returned by the service.

clientVpnEndpointId

The ID of the Client VPN endpoint.

Type: String

collectionStatuses

The current state of the client connections.

Type: Array of TerminateConnectionStatus objects

requestId

The ID of the request.

Type: String

username

The user who established the terminated client connections.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example terminates a Client VPN endpoint connection.

Sample Request

https://ec2.amazonaws.com/?Action=TerminateClientVpnConnections
Sample Response

```xml
CLIENTVpnEndpointId=cvpn-endpoint-00c5d11fc4EXAMPLE
&ConnectionId=cvpn-connection-010b1282b7EXAMPLE
&AUTHPARAMS

<clientVpnEndpointId>cvpn-endpoint-00c5d11fc4EXAMPLE</clientVpnEndpointId>
<connectionStatuses>
<Item>
<connectionId>cvpn-connection-010b1282b7EXAMPLE</connectionId>
<currentStatus>
<code>terminating</code>
</currentStatus>
<previousStatus>
<code>active</code>
</previousStatus>
</Item>
</connectionStatuses>
<requestId>00d80748-708d-40f7-8635-f34acEXAMPLE</requestId>

</TerminateClientVpnConnectionsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
TerminatesInstances

Shuts down the specified instances. This operation is idempotent; if you terminate an instance more than once, each call succeeds.

If you specify multiple instances and the request fails (for example, because of a single incorrect instance ID), none of the instances are terminated.

If you terminate multiple instances across multiple Availability Zones, and one or more of the specified instances are enabled for termination protection, the request fails with the following results:

- The specified instances that are in the same Availability Zone as the protected instance are not terminated.
- The specified instances that are in different Availability Zones, where no other specified instances are protected, are successfully terminated.

For example, say you have the following instances:

- Instance A: us-east-1a; Not protected
- Instance B: us-east-1a; Not protected
- Instance C: us-east-1b; Protected
- Instance D: us-east-1b; not protected

If you attempt to terminate all of these instances in the same request, the request reports failure with the following results:

- Instance A and Instance B are successfully terminated because none of the specified instances in us-east-1a are enabled for termination protection.
- Instance C and Instance D fail to terminate because at least one of the specified instances in us-east-1b (Instance C) is enabled for termination protection.

Terminated instances remain visible after termination (for approximately one hour).

By default, Amazon EC2 deletes all EBS volumes that were attached when the instance launched. Volumes attached after instance launch continue running.
You can stop, start, and terminate EBS-backed instances. You can only terminate instance store-backed instances. What happens to an instance differs if you stop it or terminate it. For example, when you stop an instance, the root device and any other devices attached to the instance persist. When you terminate an instance, any attached EBS volumes with the `DeleteOnTermination` block device mapping parameter set to `true` are automatically deleted. For more information about the differences between stopping and terminating instances, see `Instance lifecycle` in the *Amazon EC2 User Guide*.

For more information about troubleshooting, see `Troubleshooting terminating your instance` in the *Amazon EC2 User Guide*.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see `Common Query Parameters`.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**InstanceId.N**

The IDs of the instances.

Constraints: Up to 1000 instance IDs. We recommend breaking up this request into smaller batches.

Type: Array of strings

Required: Yes

**Response Elements**

The following elements are returned by the service.
instancesSet

Information about the terminated instances.

Type: Array of InstanceStateChange objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example terminates the specified instance.

Sample Request

https://ec2.amazonaws.com/?Action=TerminateInstances
&InstanceId.1=i-1234567890abcdef0
&AUTHPARAMS

Sample Response

<TerminateInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instancesSet>
    <item>
      <instanceId>i-1234567890abcdef0</instanceId>
      <currentState>
        <code>32</code>
        <name>shutting-down</name>
      </currentState>
      <previousState>
        <code>16</code>
        <name>running</name>
      </previousState>
    </item>
  </instancesSet>
</TerminateInstancesResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
UnassignIpv6Addresses

Unassigns one or more IPv6 addresses IPv4 Prefix Delegation prefixes from a network interface.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Ipv6Addresses.N

The IPv6 addresses to unassign from the network interface.

Type: Array of strings

Required: No

Ipv6Prefix.N

The IPv6 prefixes to unassign from the network interface.

Type: Array of strings

Required: No

NetworkInterfaceId

The ID of the network interface.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

networkInterfaceId

The ID of the network interface.

Type: String
**requestId**

The ID of the request.

Type: String

**unassignedIpv6Addresses**

The IPv6 addresses that have been unassigned from the network interface.

Type: Array of strings

**unassignedIpv6PrefixSet**

The IPv4 prefixes that have been unassigned from the network interface.

Type: Array of strings

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**Examples**

**Example**

The following example unassigns two IPv6 addresses from the specified network interface.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=UnassignIpv6Addresses
&NetworkInterfaceId=eni-197d9972
&Ipv6Addresses.1=2001:db8:1234:1a00::123
&Ipv6Addresses.2=2001:db8:1234:1a00::456
&AUTHPARAMS
```

**Sample Response**

```
  <requestId>94d446d7-fc8e-4918-94f9-example</requestId>
  <networkInterfaceId>eni-197d9972</networkInterfaceId>
  <unassignedIpv6Addresses>
```

---

Errors

API Version 2016-11-15

2179
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
UnassignPrivateIpAddresses

Unassigns one or more secondary private IP addresses, or IPv4 Prefix Delegation prefixes from a network interface.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Ipv4Prefix.N

The IPv4 prefixes to unassign from the network interface.

Type: Array of strings

Required: No

NetworkInterfaceId

The ID of the network interface.

Type: String

Required: Yes

PrivateIpAddress.N

The secondary private IP addresses to unassign from the network interface. You can specify this option multiple times to unassign more than one IP address.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.
Type: String

return

Is true if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

The following example unassigns two secondary private IP addresses from the specified network interface.

Sample Request

https://ec2.amazonaws.com/?Action=UnassignPrivateIpAddresses
&NetworkInterfaceId=eni-197d9972
&PrivateIpAddress.1=10.0.2.60
&PrivateIpAddress.2=10.0.2.65
&AUTHPARAMS

Sample Response

   <requestId>59dbff89-35bd-4ead-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</UnassignPrivateIpAddresses>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript V3
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
UnassignPrivateNatGatewayAddress

Unassigns secondary private IPv4 addresses from a private NAT gateway. You cannot unassign your primary private IP. For more information, see Edit secondary IP address associations in the Amazon VPC User Guide.

While unassigning is in progress, you cannot assign/unassign additional IP addresses while the connections are being drained. You are, however, allowed to delete the NAT gateway.

A private IP address will only be released at the end of MaxDrainDurationSeconds. The private IP addresses stay associated and support the existing connections, but do not support any new connections (new connections are distributed across the remaining assigned private IP address). After the existing connections drain out, the private IP addresses are released.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**MaxDrainDurationSeconds**

The maximum amount of time to wait (in seconds) before forcibly releasing the IP addresses if connections are still in progress. Default value is 350 seconds.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 4000.

Required: No
**NatGatewayId**

The ID of the NAT gateway.

Type: String

Required: Yes

**PrivatIpAddress.N**

The private IPv4 addresses you want to unassign.

Type: Array of strings

Required: Yes

**Response Elements**

The following elements are returned by the service.

**natGatewayAddressSet**

Information about the NAT gateway IP addresses.

Type: Array of [NatGatewayAddress](#) objects

**natGatewayId**

The ID of the NAT gateway.

Type: String

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
UnlockSnapshot

Unlocks a snapshot that is locked in governance mode or that is locked in compliance mode but still in the cooling-off period. You can't unlock a snapshot that is locked in compliance mode after the cooling-off period has expired.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

**SnapshotId**

The ID of the snapshot to unlock.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**snapshotId**

The ID of the snapshot.
Errors

For information about the errors that are common to all actions, see Common client error codes.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
UnmonitorInstances

Disables detailed monitoring for a running instance. For more information, see Monitoring your instances and volumes in the Amazon EC2 User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

InstanceId.N

The IDs of the instances.

Type: Array of strings
Required: Yes

Response Elements

The following elements are returned by the service.

instancesSet

The monitoring information.

Type: Array of InstanceMonitoring objects

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example disables detailed monitoring for the specified instances.

Sample Request

https://ec2.amazonaws.com/?Action=UnmonitorInstances
&InstanceId.1=i-1234567890abcdef0
&InstanceId.2=i-0598c7d356eba48d7
&AUTHPARAMS

Sample Response

<UnmonitorInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instancesSet>
    <item>
      <instanceId>i-1234567890abcdef0</instanceId>
      <monitoring>
        <state>disabled</state>
      </monitoring>
    </item>
    <item>
      <instanceId>i-0598c7d356eba48d7</instanceId>
      <monitoring>
        <state>disabled</state>
      </monitoring>
    </item>
  </instancesSet>
</UnmonitorInstancesResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
See Also

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
UpdateSecurityGroupRuleDescriptionsEgress

Updates the description of an egress (outbound) security group rule. You can replace an existing description, or add a description to a rule that did not have one previously. You can remove a description for a security group rule by omitting the description parameter in the request.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean
Required: No

GroupId

The ID of the security group. You must specify either the security group ID or the security group name in the request. For security groups in a nondefault VPC, you must specify the security group ID.

Type: String
Required: No

GroupName

[Default VPC] The name of the security group. You must specify either the security group ID or the security group name.

Type: String
Required: No

IpPermissions.N

The IP permissions for the security group rule. You must specify either the IP permissions or the description.

UpdateSecurityGroupRuleDescriptionsEgress

API Version 2016-11-15
Type: Array of IpPermission objects

Required: No

SecurityGroupRuleDescription.N

The description for the egress security group rules. You must specify either the description or the IP permissions.

Type: Array of SecurityGroupRuleDescription objects

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns true if the request succeeds; otherwise, returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.

Examples

Example

This example updates the description for the security group rule that allows outbound access over port 80 to the 205.192.0.0/16 IPv4 address range. The description 'Outbound HTTP access to server 2' replaces any existing description for the rule.
Sample Request

&GroupId=sg-112233
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&IpPermissions.1.IpRanges.1.CidrIp=205.192.0.0/16
&IpPermissions.1.IpRanges.1.Description=Outbound HTTP access to server 2
&AUTHPARAMS

Sample Response

  <requestId>1480cf25-4fbe-4168-aa9c-365example</requestId>
  <return>true</return>
</UpdateSecurityGroupRuleDescriptionsEgressResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
UpdateSecurityGroupRuleDescriptionsIngress

Updates the description of an ingress (inbound) security group rule. You can replace an existing description, or add a description to a rule that did not have one previously. You can remove a description for a security group rule by omitting the description parameter in the request.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see [Common Query Parameters](#).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

**GroupId**

The ID of the security group. You must specify either the security group ID or the security group name in the request. For security groups in a nondefault VPC, you must specify the security group ID.

Type: String

Required: No

**GroupName**

[Default VPC] The name of the security group. You must specify either the security group ID or the security group name. For security groups in a nondefault VPC, you must specify the security group ID.

Type: String

Required: No
IpPermissions.N

The IP permissions for the security group rule. You must specify either IP permissions or a description.

Type: Array of IpPermission objects

Required: No

SecurityGroupRuleDescription.N

The description for the ingress security group rules. You must specify either a description or IP permissions.

Type: Array of SecurityGroupRuleDescription objects

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns true if the request succeeds; otherwise, returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common client error codes.
Examples

Example 1

This example updates the description for the security group rule that allows inbound access over port 22 from the 203.0.113.0/16 IPv4 address range. The description 'SSH access from ABC office' replaces any existing description for the rule.

Sample Request

&GroupId=sg-112233
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=22
&IpPermissions.1.ToPort=22
&IpPermissions.1.IpRanges.1.CidrIp=203.0.113.0/16
&IpPermissions.1.IpRanges.1.Description=SSH access from ABC office

Sample Response

  <requestId>b4a57536-2e4a-4cbe-82f0-399example</requestId>
  <return>true</return>
</UpdateSecurityGroupRuleDescriptionsIngressResponse>

Example 2

This example removes the description for the specified security group rule.

Sample Request

&GroupId=sg-112233
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=22
&IpPermissions.1.ToPort=22
&IpPermissions.1.IpRanges.1.CidrIp=203.0.113.4/32

Examples
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
WithdrawByoipCidr

Stops advertising an address range that is provisioned as an address pool.

You can perform this operation at most once every 10 seconds, even if you specify different address ranges each time.

It can take a few minutes before traffic to the specified addresses stops routing to AWS because of BGP propagation delays.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters.

Cidr

The address range, in CIDR notation.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

byoipCidr

Information about the address pool.

Type: ByoipCidr object
**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common client error codes](#).

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)
Data Types

The Amazon Elastic Compute Cloud API contains several data types that various actions use. This section describes each data type in detail.

⚠️ Note

The order of each element in a data type structure is not guaranteed. Applications should not assume a particular order.

The following data types are supported:

- `AcceleratorCount`
- `AcceleratorCountRequest`
- `AcceleratorTotalMemoryMiB`
- `AcceleratorTotalMemoryMiBRequest`
- `AccessScopeAnalysisFinding`
- `AccessScopePath`
- `AccessScopePathRequest`
- `AccountAttribute`
- `AccountAttributeValue`
- `ActiveInstance`
- `AddedPrincipal`
- `AddIpamOperatingRegion`
- `AdditionalDetail`
- `AddPrefixListEntry`
- `Address`
- `AddressAttribute`
- `AddressTransfer`
- `AllowedPrincipal`
- `AlternatePathHint`
- `AnalysisAclRule`
- AnalysisComponent
- AnalysisLoadBalancerListener
- AnalysisLoadBalancerTarget
- AnalysisPacketHeader
- AnalysisRouteTableRoute
- AnalysisSecurityGroupRule
- AsnAssociation
- AsnAuthorizationContext
- AssignedPrivatelpAddress
- AssociatedRole
- AssociatedTargetNetwork
- AssociationStatus
- AthenaIntegration
- AttachmentEnaSrdSpecification
- AttachmentEnaSrdUdpSpecification
- AttributeBooleanValue
- AttributeValue
- AuthorizationRule
- AvailabilityZone
- AvailabilityZoneMessage
- AvailableCapacity
- BaselineEbsBandwidthMbps
- BaselineEbsBandwidthMbpsRequest
- BlobAttributeValue
- BlockDeviceMapping
- BundleTask
- BundleTaskError
- Byoasn
- ByoipCidr
- CancelCapacityReservationFleetError
• CancelledSpotInstanceRequest
• CancelSpotFleetRequestsError
• CancelSpotFleetRequestsErrorItem
• CancelSpotFleetRequestsSuccessItem
• CapacityAllocation
• CapacityBlockOffering
• CapacityReservation
• CapacityReservationFleet
• CapacityReservationFleetCancellationState
• CapacityReservationGroup
• CapacityReservationOptions
• CapacityReservationOptionsRequest
• CapacityReservationSpecification
• CapacityReservationSpecificationResponse
• CapacityReservationTarget
• CapacityReservationTargetResponse
• CarrierGateway
• CertificateAuthentication
• CertificateAuthenticationRequest
• CidrAuthorizationContext
• CidrBlock
• ClassicLinkDnsSupport
• ClassicLinkInstance
• ClassicLoadBalancer
• ClassicLoadBalancersConfig
• ClientCertificateRevocationListStatus
• ClientConnectOptions
• ClientConnectResponseOptions
• ClientData
• ClientLoginBannerOptions
• ClientLoginBannerResponseOptions
• ClientVpnAuthentication
• ClientVpnAuthenticationRequest
• ClientVpnAuthorizationRuleStatus
• ClientVpnConnection
• ClientVpnConnectionStatus
• ClientVpnEndpoint
• ClientVpnEndpointAttributeStatus
• ClientVpnEndpointStatus
• ClientVpnRoute
• ClientVpnRouteStatus
• CloudWatchLogOptions
• CloudWatchLogOptionsSpecification
• CoipAddressUsage
• CoipCidr
• CoipPool
• ConnectionLogOptions
• ConnectionLogResponseOptions
• ConnectionNotification
• ConnectionTrackingConfiguration
• ConnectionTrackingSpecification
• ConnectionTrackingSpecificationRequest
• ConnectionTrackingSpecificationResponse
• ConversionTask
• CpuOptions
• CpuOptionsRequest
• CreateFleetError
• CreateFleetInstance
• CreateTransitGatewayConnectRequestOptions
• CreateTransitGatewayMulticastDomainRequestOptions
- CreateTransitGatewayPeeringAttachmentRequestOptions
- CreateTransitGatewayVpcAttachmentRequestOptions
- CreateVerifiedAccessEndpointEniOptions
- CreateVerifiedAccessEndpointLoadBalancerOptions
- CreateVerifiedAccessTrustProviderDeviceOptions
- CreateVerifiedAccessTrustProviderOidcOptions
- CreateVolumePermission
- CreateVolumePermissionModifications
- CreditSpecification
- CreditSpecificationRequest
- CustomerGateway
- DataQuery
- DataResponse
- DeleteFleetError
- DeleteFleetErrorItem
- DeleteFleetSuccessItem
- DeleteLaunchTemplateVersionsResponseErrorItem
- DeleteLaunchTemplateVersionsResponseSuccessItem
- DeleteQueuedReservedInstancesError
- DeregisterInstanceTagAttributeRequest
- DescribeFastLaunchImagesSuccessItem
- DescribeFastSnapshotRestoreSuccessItem
- DescribeFleetError
- DescribeFleetsInstances
- DestinationOptionsRequest
- DestinationOptionsResponse
- DeviceOptions
- DhcpConfiguration
- DhcpOptions
- DirectoryServiceAuthentication
• DirectoryServiceAuthenticationRequest
• DisableFastSnapshotRestoreErrorItem
• DisableFastSnapshotRestoreStateError
• DisableFastSnapshotRestoreStateErrorItem
• DisableFastSnapshotRestoreSuccessItem
• DiskImage
• DiskImageDescription
• DiskImageDetail
• DiskImageVolumeDescription
• DiskInfo
• DnsEntry
• DnsOptions
• DnsOptionsSpecification
• DnsServersOptionsModifyStructure
• EbsBlockDevice
• EbsInfo
• EbsInstanceBlockDevice
• EbsInstanceBlockDeviceSpecification
• EbsOptimizedInfo
• Ec2InstanceConnectEndpoint
• EfaInfo
• EgressOnlyInternetGateway
• ElasticGpuAssociation
• ElasticGpuHealth
• ElasticGpus
• ElasticGpuSpecification
• ElasticGpuSpecificationResponse
• ElasticInferenceAccelerator
• ElasticInferenceAcceleratorAssociation
• EnableFastSnapshotRestoreErrorItem
• EnableFastSnapshotRestoreStateError
• EnableFastSnapshotRestoreStateErrorItem
• EnableFastSnapshotRestoreSuccessItem
• EnaSrdSpecification
• EnaSrdSpecificationRequest
• EnaSrdUdpSpecification
• EnaSrdUdpSpecificationRequest
• EnclaveOptions
• EnclaveOptionsRequest
• EventInformation
• Explanation
• ExportImageTask
• ExportTask
• ExportTaskS3Location
• ExportTaskS3LocationRequest
• ExportToS3Task
• ExportToS3TaskSpecification
• FailedCapacityReservationFleetCancellationResult
• FailedQueuedPurchaseDeletion
• FastLaunchLaunchTemplateSpecificationRequest
• FastLaunchLaunchTemplateSpecificationResponse
• FastLaunchSnapshotConfigurationRequest
• FastLaunchSnapshotConfigurationResponse
• FederatedAuthentication
• FederatedAuthenticationRequest
• Filter
• FilterPortRange
• FirewallStatefulRule
• FirewallStatelessRule
• FleetCapacityReservation
- FleetData
- FleetLaunchTemplateConfig
- FleetLaunchTemplateConfigRequest
- FleetLaunchTemplateOverrides
- FleetLaunchTemplateOverridesRequest
- FleetLaunchTemplateSpecification
- FleetLaunchTemplateSpecificationRequest
- FleetSpotCapacityRebalance
- FleetSpotCapacityRebalanceRequest
- FleetSpotMaintenanceStrategies
- FleetSpotMaintenanceStrategiesRequest
- FlowLog
- FpgaDeviceInfo
- FpgaDeviceMemoryInfo
- FpgaImage
- FpgaImageAttribute
- FpgaImageState
- FpgaInfo
- GpuDeviceInfo
- GpuDeviceMemoryInfo
- GpuInfo
- GroupIdentifier
- HibernationOptions
- HibernationOptionsRequest
- HistoryRecord
- HistoryRecordEntry
- Host
- HostInstance
- HostOffering
- HostProperties
- HostReservation
- IamInstanceProfile
- IamInstanceProfileAssociation
- IamInstanceProfileSpecification
- IcmpTypeCode
- IdFormat
- IKEVersionsListValue
- IKEVersionsRequestListValue
- Image
- ImageDiskContainer
- ImageRecycleBinInfo
- ImportImageLicenseConfigurationRequest
- ImportImageLicenseConfigurationResponse
- ImportImageTask
- ImportInstanceLaunchSpecification
- ImportInstanceTaskDetails
- ImportInstanceVolumeDetailItem
- ImportSnapshotTask
- ImportVolumeTaskDetails
- InferenceAcceleratorInfo
- InferenceDeviceInfo
- InferenceDeviceMemoryInfo
- Instance
- InstanceAttachmentEnaSrdSpecification
- InstanceAttachmentEnaSrdUdpSpecification
- InstanceBlockDeviceMapping
- InstanceBlockDeviceMappingSpecification
- InstanceCapacity
- InstanceCount
- InstanceCreditSpecification
- InstanceCreditSpecificationRequest
- InstanceEventWindow
- InstanceEventWindowAssociationRequest
- InstanceEventWindowAssociationTarget
- InstanceEventWindowDisassociationRequest
- InstanceEventWindowStateChange
- InstanceEventWindowTimeRange
- InstanceEventWindowTimeRangeRequest
- InstanceExportDetails
- InstanceFamilyCreditSpecification
- InstanceIpv4Prefix
- InstanceIpv6Address
- InstanceIpv6AddressRequest
- InstanceIpv6Prefix
- InstanceMaintenanceOptions
- InstanceMaintenanceOptionsRequest
- InstanceMarketOptionsRequest
- InstanceMetadataOptionsRequest
- InstanceMetadataOptionsResponse
- InstanceMonitoring
- InstanceNetworkInterface
- InstanceNetworkInterfaceAssociation
- InstanceNetworkInterfaceAttachment
- InstanceNetworkInterfaceSpecification
- InstancePrivateIpAddress
- InstanceRequirements
- InstanceRequirementsRequest
- InstanceRequirementsWithMetadataRequest
- InstanceSpecification
- InstanceState
- InstanceStateChange
- InstanceStatus
- InstanceStatusDetails
- InstanceStatusEvent
- InstanceStatusSummary
- InstanceStorageInfo
- InstanceTagNotificationAttribute
- InstanceTopology
- InstanceTypeInfo
- InstanceTypeInfoFromInstanceRequirements
- InstanceTypeOffering
- InstanceUsage
- IntegrateServices
- InternetGateway
- InternetGatewayAttachment
- Ipam
  - IpamAddressHistoryRecord
  - IpamCidrAuthorizationContext
  - IpamDiscoveredAccount
  - IpamDiscoveredPublicAddress
  - IpamDiscoveredResourceCidr
  - IpamDiscoveryFailureReason
  - IpamOperatingRegion
- IpamPool
  - IpamPoolAllocation
  - IpamPoolCidr
  - IpamPoolCidrFailureReason
  - IpamPoolSourceResource
  - IpamPoolSourceResourceRequest
  - IpamPublicAddressSecurityGroup
- IpamPublicAddressTag
- IpamPublicAddressTags
- IpamResourceCidr
- IpamResourceDiscovery
- IpamResourceDiscoveryAssociation
- IpamResourceTag
- IpamScope
- IpPermission
- IpRange
- Ipv4PrefixSpecification
- Ipv4PrefixSpecificationRequest
- Ipv4PrefixSpecificationResponse
- Ipv6CidrAssociation
- Ipv6CidrBlock
- Ipv6Pool
- Ipv6PrefixSpecification
- Ipv6PrefixSpecificationRequest
- Ipv6PrefixSpecificationResponse
- Ipv6Range
- KeyPairInfo
- LastError
- LaunchPermission
- LaunchPermissionModifications
- LaunchSpecification
- LaunchTemplate
- LaunchTemplateAndOverridesResponse
- LaunchTemplateBlockDeviceMapping
- LaunchTemplateBlockDeviceMappingRequest
- LaunchTemplateCapacityReservationSpecificationRequest
- LaunchTemplateCapacityReservationSpecificationResponse
- LaunchTemplateConfig
- LaunchTemplateCpuOptions
- LaunchTemplateCpuOptionsRequest
- LaunchTemplateEbsBlockDevice
- LaunchTemplateEbsBlockDeviceRequest
- LaunchTemplateElasticInferenceAccelerator
- LaunchTemplateElasticInferenceAcceleratorResponse
- LaunchTemplateEnaSrdSpecification
- LaunchTemplateEnaSrdUdpSpecification
- LaunchTemplateEnclaveOptions
- LaunchTemplateEnclaveOptionsRequest
- LaunchTemplateHibernationOptions
- LaunchTemplateHibernationOptionsRequest
- LaunchTemplateIamInstanceProfileSpecification
- LaunchTemplateIamInstanceProfileSpecificationRequest
- LaunchTemplateInstanceMaintenanceOptions
- LaunchTemplateInstanceMaintenanceOptionsRequest
- LaunchTemplateInstanceMarketOptions
- LaunchTemplateInstanceMarketOptionsRequest
- LaunchTemplateInstanceMetadataOptions
- LaunchTemplateInstanceMetadataOptionsRequest
- LaunchTemplateInstanceNetworkInterfaceSpecification
- LaunchTemplateInstanceNetworkInterfaceSpecificationRequest
- LaunchTemplateLicenseConfiguration
- LaunchTemplateLicenseConfigurationRequest
- LaunchTemplateOverrides
- LaunchTemplatePlacement
- LaunchTemplatePlacementRequest
- LaunchTemplatePrivateDnsNameOptions
- LaunchTemplatePrivateDnsNameOptionsRequest
• LaunchTemplatesMonitoring
• LaunchTemplatesMonitoringRequest
• LaunchTemplateSpecification
• LaunchTemplateSpotMarketOptions
• LaunchTemplateSpotMarketOptionsRequest
• LaunchTemplateTagSpecification
• LaunchTemplateTagSpecificationRequest
• LaunchTemplateVersion
• LicenseConfiguration
• LicenseConfigurationRequest
• LoadBalancersConfig
• LoadPermission
• LoadPermissionModifications
• LoadPermissionRequest
• LocalGateway
• LocalGatewayRoute
• LocalGatewayRouteTable
• LocalGatewayRouteTableVirtualInterfaceGroupAssociation
• LocalGatewayRouteTableVpcAssociation
• LocalGatewayVirtualInterface
• LocalGatewayVirtualInterfaceGroup
• LockedSnapshotsInfo
• MaintenanceDetails
• ManagedPrefixList
• MemoryGiBPerVCpu
• MemoryGiBPerVCpuRequest
• MemoryInfo
• MemoryMiB
• MemoryMiBRequest
• MetricPoint
• ModifyTransitGatewayOptions
• ModifyTransitGatewayVpcAttachmentRequestOptions
• ModifyVerifiedAccessEndpointEniOptions
• ModifyVerifiedAccessEndpointLoadBalancerOptions
• ModifyVerifiedAccessTrustProviderDeviceOptions
• ModifyVerifiedAccessTrustProviderOidcOptions
• ModifyVpnTunnelOptionsSpecification

• Monitoring
• MovingAddressStatus
• NatGateway
• NatGatewayAddress
• NetworkAcl
• NetworkAclAssociation
• NetworkAclEntry
• NetworkBandwidthGbps
• NetworkBandwidthGbpsRequest
• NetworkCardInfo
• NetworkInfo
• NetworkInsightsAccessScope
• NetworkInsightsAccessScopeAnalysis
• NetworkInsightsAccessScopeContent
• NetworkInsightsAnalysis
• NetworkInsightsPath
• NetworkInterface
• NetworkInterfaceAssociation
• NetworkInterfaceAttachment
• NetworkInterfaceAttachmentChanges
• NetworkInterfaceCount
• NetworkInterfaceCountRequest
• NetworkInterfaceIpv6Address
- NetworkInterfacePermission
- NetworkInterfacePermissionState
- NetworkInterfacePrivateIpAddress
- NewDhcpConfiguration
- NitroTpmInfo
- OidcOptions
- OnDemandOptions
- OnDemandOptionsRequest
- PacketHeaderStatement
- PacketHeaderStatementRequest
- PathComponent
- PathFilter
- PathRequestFilter
- PathStatement
- PathStatementRequest
- Pcid
- PeeringAttachmentStatus
- PeeringConnectionOptions
- PeeringConnectionOptionsRequest
- PeeringTgwInfo
- Phase1DHGroupNumbersListValue
- Phase1DHGroupNumbersRequestListValue
- Phase1EncryptionAlgorithmsListValue
- Phase1EncryptionAlgorithmsRequestListValue
- Phase1IntegrityAlgorithmsListValue
- Phase1IntegrityAlgorithmsRequestListValue
- Phase2DHGroupNumbersListValue
- Phase2DHGroupNumbersRequestListValue
- Phase2EncryptionAlgorithmsListValue
- Phase2EncryptionAlgorithmsRequestListValue
- Phase2IntegrityAlgorithmsListValue
- Phase2IntegrityAlgorithmsRequestListValue
- Placement
- PlacementGroup
- PlacementGroupInfo
- PlacementResponse
- PoolCidrBlock
- PortRange
- PrefixList
- PrefixListAssociation
- PrefixListEntry
- PrefixListId
- PriceSchedule
- PriceScheduleSpecification
- PricingDetail
- PrincipalIdFormat
- PrivateDnsDetails
- PrivateDnsNameConfiguration
- PrivateDnsNameOptionsOnLaunch
- PrivateDnsNameOptionsRequest
- PrivateDnsNameOptionsResponse
- PrivateIpAddressSpecification
- ProcessorInfo
- ProductCode
- PropagatingVgw
- ProvisionedBandwidth
- PtrUpdateStatus
- PublicIpv4Pool
- PublicIpv4PoolRange
- Purchase
• PurchaseRequest
• RecurringCharge
• ReferencedSecurityGroup
• Region
• RegisterInstanceStateTagAttributeRequest
• RemoveIpamOperatingRegion
• RemovePrefixListEntry
• ReplaceRootVolumeTask
• RequestFilterPortRange
• RequestIpamResourceTag
• RequestLaunchTemplateData
• RequestSpotLaunchSpecification
• Reservation
• ReservationFleetInstanceSpecification
• ReservationValue
• ReservedInstanceLimitPrice
• ReservedInstanceReservationValue
• ReservedInstances
• ReservedInstancesConfiguration
• ReservedInstancesId
• ReservedInstancesListing
• ReservedInstancesModification
• ReservedInstancesModificationResult
• ReservedInstancesOffering
• ResourceStatement
• ResourceStatementRequest
• ResponseError
• ResponseLaunchTemplateData
• Route
• RouteTable
- RouteTableAssociation
- RouteTableAssociationState
- RuleGroupRuleOptionsPair
- RuleGroupTypePair
- RuleOption
- RunInstancesMonitoringEnabled
- S3ObjectTag
- S3Storage
- ScheduledInstance
- ScheduledInstanceAvailability
- ScheduledInstanceRecurrence
- ScheduledInstanceRecurrenceRequest
- ScheduledInstancesBlockDeviceMapping
- ScheduledInstancesEbs
- ScheduledInstancesIamInstanceProfile
- ScheduledInstancesIpv6Address
- ScheduledInstancesLaunchSpecification
- ScheduledInstancesMonitoring
- ScheduledInstancesNetworkInterface
- ScheduledInstancesPlacement
- ScheduledInstancesPrivatIpAddressConfig
- SecurityGroup
- SecurityGroupForVpc
- SecurityGroupIdentifier
- SecurityGroupReference
- SecurityGroupRule
- SecurityGroupRuleDescription
- SecurityGroupRuleRequest
- SecurityGroupRuleUpdate
- ServiceConfiguration
• ServiceDetail
• ServiceTypeDetail
• SlotDateTimeRangeRequest
• SlotStartTimeRangeRequest
• Snapshot
• SnapshotDetail
• SnapshotDiskContainer
• SnapshotInfo
• SnapshotRecycleBinInfo
• SnapshotTaskDetail
• SnapshotTierStatus
• SpotCapacityRebalance
• SpotDatafeedSubscription
• SpotFleetLaunchSpecification
• SpotFleetMonitoring
• SpotFleetRequestConfig
• SpotFleetRequestConfigData
• SpotFleetTagSpecification
• SpotInstanceRequest
• SpotInstanceStateFault
• SpotInstanceStatus
• SpotMaintenanceStrategies
• SpotMarketOptions
• SpotOptions
• SpotOptionsRequest
• SpotPlacement
• SpotPlacementScore
• SpotPrice
• StaleIpPermission
• StaleSecurityGroup
• **StateReason**
• **Storage**
• **StorageLocation**
• **StoreImageTaskResult**
• **Subnet**
• **SubnetAssociation**
• **SubnetCidrBlockState**
• **SubnetCidrReservation**
• **SubnetConfiguration**
• **SubnetIpv6CidrBlockAssociation**
• **Subscription**
• **SuccessfulInstanceCreditSpecificationItem**
• **SuccessfulQueuedPurchaseDeletion**
• **Tag**
• **TagDescription**
• **TagSpecification**
• **TargetCapacitySpecification**
• **TargetCapacitySpecificationRequest**
• **TargetConfiguration**
• **TargetConfigurationRequest**
• **TargetGroup**
• **TargetGroupsConfig**
• **TargetNetwork**
• **TargetReservationValue**
• **TerminateConnectionStatus**
• **ThroughResourcesStatement**
• **ThroughResourcesStatementRequest**
• **TotalLocalStorageGB**
• **TotalLocalStorageGBRequest**
• **TrafficMirrorFilter**
- TrafficMirrorFilterRule
- TrafficMirrorPortRange
- TrafficMirrorPortRangeRequest
- TrafficMirrorSession
- TrafficMirrorTarget
- TransitGateway
- TransitGatewayAssociation
- TransitGatewayAttachment
- TransitGatewayAttachmentAssociation
- TransitGatewayAttachmentBgpConfiguration
- TransitGatewayAttachmentPropagation
- TransitGatewayConnect
- TransitGatewayConnectOptions
- TransitGatewayConnectPeer
- TransitGatewayConnectPeerConfiguration
- TransitGatewayConnectRequestBgpOptions
- TransitGatewayMulticastDeregisteredGroupMembers
- TransitGatewayMulticastDeregisteredGroupSources
- TransitGatewayMulticastDomain
- TransitGatewayMulticastDomainAssociation
- TransitGatewayMulticastDomainAssociations
- TransitGatewayMulticastDomainOptions
- TransitGatewayMulticastGroup
- TransitGatewayMulticastRegisteredGroupMembers
- TransitGatewayMulticastRegisteredGroupSources
- TransitGatewayOptions
- TransitGatewayPeeringAttachment
- TransitGatewayPeeringAttachmentOptions
- TransitGatewayPolicyRule
- TransitGatewayPolicyRuleMetaData
- TransitGatewayPolicyTable
- TransitGatewayPolicyTableAssociation
- TransitGatewayPolicyTableEntry
- TransitGatewayPrefixListAttachment
- TransitGatewayPrefixListReference
- TransitGatewayPropagation
- TransitGatewayRequestOptions
- TransitGatewayRoute
- TransitGatewayRouteAttachment
- TransitGatewayRouteTable
- TransitGatewayRouteTableAnnouncement
- TransitGatewayRouteTableAssociation
- TransitGatewayRouteTablePropagation
- TransitGatewayRouteTableRoute
- TransitGatewayVpcAttachment
- TransitGatewayVpcAttachmentOptions
- TrunkInterfaceAssociation
- TunnelOption
- UnsuccessfulInstanceCreditSpecificationItem
- UnsuccessfulInstanceCreditSpecificationItemError
- UnsuccessfulItem
- UnsuccessfulItemError
- UserBucket
- UserBucketDetails
- UserData
- UserIdGroupPair
- ValidationError
- ValidationWarning
- VCpuCountRange
- VCpuCountRangeRequest
• VCpuInfo
• VerifiedAccessEndpoint
• VerifiedAccessEndpointEniOptions
• VerifiedAccessEndpointLoadBalancerOptions
• VerifiedAccessEndpointStatus
• VerifiedAccessGroup
• VerifiedAccessInstance
• VerifiedAccessInstanceLoggingConfiguration
• VerifiedAccessLogCloudWatchLogsDestination
• VerifiedAccessLogCloudWatchLogsDestinationOptions
• VerifiedAccessLogDeliveryStatus
• VerifiedAccessLogKinesisDataFirehoseDestination
• VerifiedAccessLogKinesisDataFirehoseDestinationOptions
• VerifiedAccessLogOptions
• VerifiedAccessLogs
• VerifiedAccessLogS3Destination
• VerifiedAccessLogS3DestinationOptions
• VerifiedAccessSseSpecificationRequest
• VerifiedAccessSseSpecificationResponse
• VerifiedAccessTrustProvider
• VerifiedAccessTrustProviderCondensed
• VgwTelemetry
• Volume
• VolumeAttachment
• VolumeDetail
• VolumeModification
• VolumeStatusAction
• VolumeStatusAttachmentStatus
• VolumeStatusDetails
• VolumeStatusEvent
• VolumeStatusInfo
• VolumeStatusItem
• Vpc
• VpcAttachment
• VpcCidrBlockAssociation
• VpcCidrBlockState
• VpcClassicLink
• VpcEndpoint
• VpcEndpointConnection
• VpcIpv6CidrBlockAssociation
• VpcPeeringConnection
• VpcPeeringConnectionOptionsDescription
• VpcPeeringConnectionStateReason
• VpcPeeringConnectionVpcInfo
• VpnConnection
• VpnConnectionDeviceType
• VpnConnectionOptions
• VpnConnectionOptionsSpecification
• VpnGateway
• VpnStaticRoute
• VpnTunnelLogOptions
• VpnTunnelLogOptionsSpecification
• VpnTunnelOptionsSpecification
AcceleratorCount

The minimum and maximum number of accelerators (GPUs, FPGAs, or AWS Inferentia chips) on an instance.

Contents

Max (request), max (response)

The maximum number of accelerators. If this parameter is not specified, there is no maximum limit.

Type: Integer

Required: No

Min (request), min (response)

The minimum number of accelerators. If this parameter is not specified, there is no minimum limit.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
**AcceleratorCountRequest**

The minimum and maximum number of accelerators (GPUs, FPGAs, or AWS Inferentia chips) on an instance. To exclude accelerator-enabled instance types, set Max to 0.

**Contents**

**Max**

The maximum number of accelerators. To specify no maximum limit, omit this parameter. To exclude accelerator-enabled instance types, set Max to 0.

Type: Integer

Required: No

**Min**

The minimum number of accelerators. To specify no minimum limit, omit this parameter.

Type: Integer

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://github.com/aws/aws-sdk-go)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)

AcceleratorTotalMemoryMiB

The minimum and maximum amount of total accelerator memory, in MiB.

Contents

Max (request), max (response)

The maximum amount of accelerator memory, in MiB. If this parameter is not specified, there is no maximum limit.

Type: Integer

Required: No

Min (request), min (response)

The minimum amount of accelerator memory, in MiB. If this parameter is not specified, there is no minimum limit.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AcceleratorTotalMemoryMiBRequest

The minimum and maximum amount of total accelerator memory, in MiB.

Contents

Max

The maximum amount of accelerator memory, in MiB. To specify no maximum limit, omit this parameter.

Type: Integer

Required: No

Min

The minimum amount of accelerator memory, in MiB. To specify no minimum limit, omit this parameter.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AccessScopeAnalysisFinding

Describes a finding for a Network Access Scope.

Contents

**findingComponentSet**

The finding components.

Type: Array of [PathComponent](#) objects

Required: No

**findingId**

The ID of the finding.

Type: String

Required: No

**networkInsightsAccessScopeAnalysisId**

The ID of the Network Access Scope analysis.

Type: String

Required: No

**networkInsightsAccessScopeId**

The ID of the Network Access Scope.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
AccessScopePath

Describes a path.

Contents

destination

The destination.

Type: PathStatement object

Required: No

source

The source.

Type: PathStatement object

Required: No

throughResourceSet

The through resources.

Type: Array of ThroughResourcesStatement objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AccessScopePathRequest

Describes a path.

Contents

Destination

The destination.

Type: PathStatementRequest object

Required: No

Source

The source.

Type: PathStatementRequest object

Required: No

ThroughResources

The through resources.

Type: Array of ThroughResourcesStatementRequest objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AccountAttribute

Describes an account attribute.

Contents

attributeName

The name of the account attribute.

Type: String

Required: No

attributeValueSet

The values for the account attribute.

Type: Array of AccountAttributeValue objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AccountAttributeValue

Describes a value of an account attribute.

Contents

attributeValue

The value of the attribute.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ActiveInstance

Describes a running instance in a Spot Fleet.

Contents

instanceHealth

The health status of the instance. If the status of either the instance status check or the system status check is impaired, the health status of the instance is unhealthy. Otherwise, the health status is healthy.

Type: String

Valid Values: healthy | unhealthy

Required: No

instanceId

The ID of the instance.

Type: String

Required: No

instanceType

The instance type.

Type: String

Required: No

spotInstanceRequestId

The ID of the Spot Instance request.

Type: String

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
AddedPrincipal

Describes a principal.

Contents

principal

The Amazon Resource Name (ARN) of the principal.

Type: String

Required: No

principalType

The type of principal.

Type: String

Valid Values: All | Service | OrganizationUnit | Account | User | Role

Required: No

serviceId

The ID of the service.

Type: String

Required: No

servicePermissionId

The ID of the service permission.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• **AWS SDK for C++**
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for Ruby V3**
AddIpamOperatingRegion

Add an operating Region to an IPAM. Operating Regions are AWS Regions where the IPAM is allowed to manage IP address CIDRs. IPAM only discovers and monitors resources in the AWS Regions you select as operating Regions.

For more information about operating Regions, see Create an IPAM in the Amazon VPC IPAM User Guide.

Contents

RegionName

The name of the operating Region.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AdditionalDetail

Describes an additional detail for a path analysis. For more information, see Reachability Analyzer additional detail codes.

Contents

additionalDetailType

The additional detail code.

Type: String

Required: No

component

The path component.

Type: AnalysisComponent object

Required: No

loadBalancerSet

The load balancers.

Type: Array of AnalysisComponent objects

Required: No

ruleGroupRuleOptionsPairSet

The rule options.

Type: Array of RuleGroupRuleOptionsPair objects

Required: No

ruleGroupTypePairSet

The rule group type.

Type: Array of RuleGroupTypePair objects

Required: No
ruleOptionSet

The rule options.

Type: Array of RuleOption objects

Required: No

serviceName

The name of the VPC endpoint service.

Type: String

Required: No

vpcEndpointService

The VPC endpoint service.

Type: AnalysisComponent object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AddPrefixListEntry

An entry for a prefix list.

Contents

Cidr

The CIDR block.

Type: String

Required: Yes

Description

A description for the entry.

Constraints: Up to 255 characters in length.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Address

Describes an Elastic IP address, or a carrier IP address.

Contents

**allocationId**

The ID representing the allocation of the address.

Type: String

Required: No

**associationId**

The ID representing the association of the address with an instance.

Type: String

Required: No

**carrierIp**

The carrier IP address associated. This option is only available for network interfaces which reside in a subnet in a Wavelength Zone (for example an EC2 instance).

Type: String

Required: No

**customerOwnedIp**

The customer-owned IP address.

Type: String

Required: No

**customerOwnedIpv4Pool**

The ID of the customer-owned address pool.

Type: String

Required: No
**domain**

The network (vpc).

Type: String

Valid Values: vpc | standard

Required: No

**instanceId**

The ID of the instance that the address is associated with (if any).

Type: String

Required: No

**networkBorderGroup**

The name of the unique set of Availability Zones, Local Zones, or Wavelength Zones from which AWS advertises IP addresses.

Type: String

Required: No

**networkInterfaceId**

The ID of the network interface.

Type: String

Required: No

**networkInterfaceOwnerId**

The ID of the AWS account that owns the network interface.

Type: String

Required: No

**privateIpAddress**

The private IP address associated with the Elastic IP address.
Type: String
Required: No

**publicIp**

The Elastic IP address.

Type: String
Required: No

**publicIpv4Pool**

The ID of an address pool.

Type: String
Required: No

**tagSet**

Any tags assigned to the Elastic IP address.

Type: Array of [Tag](#) objects
Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
AddressAttribute

The attributes associated with an Elastic IP address.

Contents

allocationId

[EC2-VPC] The allocation ID.

Type: String

Required: No

ptrRecord

The pointer (PTR) record for the IP address.

Type: String

Required: No

ptrRecordUpdate

The updated PTR record for the IP address.

Type: \texttt{PtrUpdateStatus} object

Required: No

publicIp

The public IP address.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for Ruby V3**
AddressTransfer

Details on the Elastic IP address transfer. For more information, see Transfer Elastic IP addresses in the Amazon Virtual Private Cloud User Guide.

Contents

addressTransferStatus

The Elastic IP address transfer status.

Type: String

Valid Values: pending | disabled | accepted

Required: No

allocationId

The allocation ID of an Elastic IP address.

Type: String

Required: No

publicIp

The Elastic IP address being transferred.

Type: String

Required: No

transferAccountId

The ID of the account that you want to transfer the Elastic IP address to.

Type: String

Required: No

transferOfferAcceptedTimestamp

The timestamp when the Elastic IP address transfer was accepted.

Type: Timestamp
transferOfferExpirationTimestamp

The timestamp when the Elastic IP address transfer expired. When the source account starts the transfer, the transfer account has seven hours to allocate the Elastic IP address to complete the transfer, or the Elastic IP address will return to its original owner.

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AllowedPrincipal

Describes a principal.

Contents

principal

The Amazon Resource Name (ARN) of the principal.

Type: String

Required: No

principalType

The type of principal.

Type: String

Valid Values: All | Service | OrganizationUnit | Account | User | Role

Required: No

serviceId

The ID of the service.

Type: String

Required: No

servicePermissionId

The ID of the service permission.

Type: String

Required: No

tagSet

The tags.

Type: Array of Tag objects
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
AlternatePathHint

Describes an potential intermediate component of a feasible path.

Contents

componentArn

The Amazon Resource Name (ARN) of the component.

Type: String

Required: No

componentId

The ID of the component.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
AnalysisAclRule

Describes a network access control (ACL) rule.

Contents

cidr

The IPv4 address range, in CIDR notation.

Type: String

Required: No

egress

Indicates whether the rule is an outbound rule.

Type: Boolean

Required: No

portRange

The range of ports.

Type: **PortRange** object

Required: No

protocol

The protocol.

Type: String

Required: No

ruleAction

Indicates whether to allow or deny traffic that matches the rule.

Type: String

Required: No
**ruleNumber**

The rule number.

Type: Integer

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
AnalysisComponent

Describes a path component.

Contents

arn

The Amazon Resource Name (ARN) of the component.

Type: String

Required: No

id

The ID of the component.

Type: String

Required: No

name

The name of the analysis component.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AnalysisLoadBalancerListener

Describes a load balancer listener.

Contents

instancePort

[Classic Load Balancers] The back-end port for the listener.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 65535.

Required: No

loadBalancerPort

The port on which the load balancer is listening.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 65535.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AnalysisLoadBalancerTarget

Describes a load balancer target.

Contents

address

The IP address.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 15.

Pattern: ^([0-9]{1,3}.){3}[0-9]{1,3}$

Required: No

availabilityZone

The Availability Zone.

Type: String

Required: No

instance

Information about the instance.

Type: AnalysisComponent object

Required: No

port

The port on which the target is listening.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 65535.

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AnalysisPacketHeader

Describes a header. Reflects any changes made by a component as traffic passes through. The fields of an inbound header are null except for the first component of a path.

Contents

destinationAddressSet

The destination addresses.

Type: Array of strings

Length Constraints: Minimum length of 0. Maximum length of 15.

Pattern: ^([0-9]{1,3}\.){3}[0-9]{1,3}$

Required: No

destinationPortRangeSet

The destination port ranges.

Type: Array of PortRange objects

Required: No

protocol

The protocol.

Type: String

Required: No

sourceAddressSet

The source addresses.

Type: Array of strings

Length Constraints: Minimum length of 0. Maximum length of 15.

Pattern: ^([0-9]{1,3}\.){3}[0-9]{1,3}$
Required: No

**sourcePortRangeSet**

The source port ranges.

Type: Array of [PortRange](#) objects

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
AnalysisRouteTableRoute

Describes a route table route.

Contents

carrierGatewayId

The ID of a carrier gateway.

Type: String

Required: No

coreNetworkArn

The Amazon Resource Name (ARN) of a core network.

Type: String


Required: No

destinationCidr

The destination IPv4 address, in CIDR notation.

Type: String

Required: No

destinationPrefixListId

The prefix of the AWS service.

Type: String

Required: No

egressOnlyInternetGatewayId

The ID of an egress-only internet gateway.

Type: String
**gatewayId**

The ID of the gateway, such as an internet gateway or virtual private gateway.

Type: String

Required: No

**instanceId**

The ID of the instance, such as a NAT instance.

Type: String

Required: No

**localGatewayId**

The ID of a local gateway.

Type: String

Required: No

**natGatewayId**

The ID of a NAT gateway.

Type: String

Required: No

**networkInterfaceId**

The ID of a network interface.

Type: String

Required: No

**origin**

Describes how the route was created. The following are the possible values:

- CreateRouteTable - The route was automatically created when the route table was created.
- CreateRoute - The route was manually added to the route table.
• EnableVgwRoutePropagation - The route was propagated by route propagation.

  Type: String

  Required: No

**state**

  The state. The following are the possible values:
  • active
  • blackhole

  Type: String

  Required: No

**transitGatewayId**

  The ID of a transit gateway.

  Type: String

  Required: No

**vpcPeeringConnectionId**

  The ID of a VPC peering connection.

  Type: String

  Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

• [AWS SDK for C++](#)
• [AWS SDK for Go](#)
• [AWS SDK for Java V2](#)
• [AWS SDK for Ruby V3](#)
AnalysisSecurityGroupRule

Describes a security group rule.

Contents

cidr

The IPv4 address range, in CIDR notation.

Type: String

Required: No

direction

The direction. The following are the possible values:

- egress
- ingress

Type: String

Required: No

portRange

The port range.

Type: PortRange object

Required: No

prefixListId

The prefix list ID.

Type: String

Required: No

protocol

The protocol name.

Type: String
securityGroupId

The security group ID.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AsnAssociation

An Autonomous System Number (ASN) and BYOIP CIDR association.

Contents

asn

The association's ASN.

Type: String

Required: No

cidr

The association's CIDR.

Type: String

Required: No

state

The association's state.

Type: String

Valid Values: disassociated | failed-disassociation | failed-association | pending-disassociation | pending-association | associated

Required: No

statusMessage

The association's status message.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
AsnAuthorizationContext

Provides authorization for Amazon to bring an Autonomous System Number (ASN) to a specific AWS account using bring your own ASN (BYOASN). For details on the format of the message and signature, see Tutorial: Bring your ASN to IPAM in the Amazon VPC IPAM guide.

Contents

Message

The authorization context's message.

Type: String

Required: Yes

Signature

The authorization context's signature.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AssignedPrivateIpAddress

Describes the private IP addresses assigned to a network interface.

Contents

privateIpAddress

The private IP address assigned to the network interface.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
AssociatedRole

Information about the associated IAM roles.

Contents

associatedRoleArn

The ARN of the associated IAM role.

Type: String


Required: No

certificateS3BucketName

The name of the Amazon S3 bucket in which the Amazon S3 object is stored.

Type: String

Required: No

certificateS3ObjectKey

The key of the Amazon S3 object where the certificate, certificate chain, and encrypted private key bundle is stored. The object key is formatted as follows: role_arn/certificate_arn.

Type: String

Required: No

encryptionKmsKeyId

The ID of the KMS customer master key (CMK) used to encrypt the private key.

Type: String

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AssociatedTargetNetwork

Describes a target network that is associated with a Client VPN endpoint. A target network is a subnet in a VPC.

Contents

**networkId**

The ID of the subnet.

Type: String

Required: No

**networkType**

The target network type.

Type: String

Valid Values: vpc

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
AssociationStatus

Describes the state of a target network association.

Contents

code

The state of the target network association.

Type: String

Valid Values: associating | associated | association-failed | disassociating | disassociated

Required: No

message

A message about the status of the target network association, if applicable.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AthenaIntegration

Describes integration options for Amazon Athena.

Contents

IntegrationResultS3DestinationArn

The location in Amazon S3 to store the generated CloudFormation template.

Type: String

Required: Yes

PartitionLoadFrequency

The schedule for adding new partitions to the table.

Type: String

Valid Values: none | daily | weekly | monthly

Required: Yes

PartitionEndDate

The end date for the partition.

Type: Timestamp

Required: No

PartitionStartDate

The start date for the partition.

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• **AWS SDK for C++**
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for Ruby V3**
AttachmentEnaSrdSpecification

ENA Express uses AWS Scalable Reliable Datagram (SRD) technology to increase the maximum bandwidth used per stream and minimize tail latency of network traffic between EC2 instances. With ENA Express, you can communicate between two EC2 instances in the same subnet within the same account, or in different accounts. Both sending and receiving instances must have ENA Express enabled.

To improve the reliability of network packet delivery, ENA Express reorders network packets on the receiving end by default. However, some UDP-based applications are designed to handle network packets that are out of order to reduce the overhead for packet delivery at the network layer. When ENA Express is enabled, you can specify whether UDP network traffic uses it.

Contents

enaSrdEnabled

Indicates whether ENA Express is enabled for the network interface.

Type: Boolean

Required: No

enaSrdUdpSpecification

Configures ENA Express for UDP network traffic.

Type: AttachmentEnaSrdUdpSpecification object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AttachmentEnaSrdUdpSpecification

ENA Express is compatible with both TCP and UDP transport protocols. When it's enabled, TCP traffic automatically uses it. However, some UDP-based applications are designed to handle network packets that are out of order, without a need for retransmission, such as live video broadcasting or other near-real-time applications. For UDP traffic, you can specify whether to use ENA Express, based on your application environment needs.

Contents

enaSrdUdpEnabled

Indicates whether UDP traffic to and from the instance uses ENA Express. To specify this setting, you must first enable ENA Express.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AttributeBooleanValue

Describes a value for a resource attribute that is a Boolean value.

Contents

Value (request), value (response)

The attribute value. The valid values are true or false.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AttributeValue

Describes a value for a resource attribute that is a String.

Contents

Value (request), value (response)

The attribute value. The value is case-sensitive.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AuthorizationRule

Information about an authorization rule.

Contents

accessAll

Indicates whether the authorization rule grants access to all clients.

Type: Boolean

Required: No

clientVpnEndpointId

The ID of the Client VPN endpoint with which the authorization rule is associated.

Type: String

Required: No

description

A brief description of the authorization rule.

Type: String

Required: No

destinationCidr

The IPv4 address range, in CIDR notation, of the network to which the authorization rule applies.

Type: String

Required: No

groupId

The ID of the Active Directory group to which the authorization rule grants access.

Type: String

Required: No
status

The current state of the authorization rule.

Type: `ClientVpnAuthorizationRuleStatus` object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
**AvailabilityZone**

Describes Availability Zones, Local Zones, and Wavelength Zones.

**Contents**

**groupName**

For Availability Zones, this parameter has the same value as the Region name.

For Local Zones, the name of the associated group, for example `us-west-2-lax-1`.

For Wavelength Zones, the name of the associated group, for example `us-east-1-wl1-bos-wlz-1`.

Type: String

Required: No

**messageSet**

Any messages about the Availability Zone, Local Zone, or Wavelength Zone.

Type: Array of [AvailabilityZoneMessage](#) objects

Required: No

**networkBorderGroup**

The name of the network border group.

Type: String

Required: No

**optInStatus**

For Availability Zones, this parameter always has the value of `opt-in-not-required`.

For Local Zones and Wavelength Zones, this parameter is the opt-in status. The possible values are `opted-in`, and `not-opted-in`.

Type: String

Valid Values: opt-in-not-required | opted-in | not-opted-in
Required: No

**parentZoneId**

The ID of the zone that handles some of the Local Zone or Wavelength Zone control plane operations, such as API calls.

Type: String

Required: No

**parentZoneName**

The name of the zone that handles some of the Local Zone or Wavelength Zone control plane operations, such as API calls.

Type: String

Required: No

**regionName**

The name of the Region.

Type: String

Required: No

**zoneId**

The ID of the Availability Zone, Local Zone, or Wavelength Zone.

Type: String

Required: No

**zoneName**

The name of the Availability Zone, Local Zone, or Wavelength Zone.

Type: String

Required: No

**zoneState**

The state of the Availability Zone, Local Zone, or Wavelength Zone. This value is always available.
Type: String

Valid Values: available | information | impaired | unavailable

Required: No

zoneType

The type of zone. The valid values are availability-zone, local-zone, and wavelength-zone.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AvailabilityZoneMessage

Describes a message about an Availability Zone, Local Zone, or Wavelength Zone.

Contents

message

The message about the Availability Zone, Local Zone, or Wavelength Zone.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
AvailableCapacity

The capacity information for instances that can be launched onto the Dedicated Host.

Contents

availableInstanceCapacity

The number of instances that can be launched onto the Dedicated Host depending on the host's available capacity. For Dedicated Hosts that support multiple instance types, this parameter represents the number of instances for each instance size that is supported on the host.

Type: Array of InstanceCapacity objects

Required: No

availableVCpus

The number of vCPUs available for launching instances onto the Dedicated Host.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
BaselineEbsBandwidthMbps

The minimum and maximum baseline bandwidth to Amazon EBS, in Mbps. For more information, see [Amazon EBS–optimized instances](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/amazon-ebs-optimized.html) in the *Amazon EC2 User Guide*.

## Contents

**Max (request), max (response)**

The maximum baseline bandwidth, in Mbps. If this parameter is not specified, there is no maximum limit.

- Type: Integer
- Required: No

**Min (request), min (response)**

The minimum baseline bandwidth, in Mbps. If this parameter is not specified, there is no minimum limit.

- Type: Integer
- Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://docs.aws.amazon.com/AmazonS3/latest/API/index.html)
- [AWS SDK for Go](https://docs.aws.amazon.com/AmazonS3/latest/API/index.html)
- [AWS SDK for Java V2](https://docs.aws.amazon.com/AmazonS3/latest/API/index.html)
- [AWS SDK for Ruby V3](https://docs.aws.amazon.com/AmazonS3/latest/API/index.html)
BaselineEbsBandwidthMbpsRequest

The minimum and maximum baseline bandwidth to Amazon EBS, in Mbps. For more information, see Amazon EBS–optimized instances in the Amazon EC2 User Guide.

Contents

Max

The maximum baseline bandwidth, in Mbps. To specify no maximum limit, omit this parameter.

Type: Integer

Required: No

Min

The minimum baseline bandwidth, in Mbps. To specify no minimum limit, omit this parameter.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
BlobAttributeValue

Describes Base64-encoded binary data.

Contents

Value

The value of the data.

Type: Base64-encoded binary data

Required: No
BlockDeviceMapping

Describes a block device mapping, which defines the EBS volumes and instance store volumes to attach to an instance at launch.

Contents

**DeviceName** (request), **deviceName** (response)

The device name (for example, /dev/sdh or xvdh).

Type: String

Required: No

**Ebs** (request), **ebs** (response)

Parameters used to automatically set up EBS volumes when the instance is launched.

Type: [EbsBlockDevice](#) object

Required: No

**NoDevice** (request), **noDevice** (response)

To omit the device from the block device mapping, specify an empty string. When this property is specified, the device is removed from the block device mapping regardless of the assigned value.

Type: String

Required: No

**VirtualName** (request), **virtualName** (response)

The virtual device name (ephemeralN). Instance store volumes are numbered starting from 0. An instance type with 2 available instance store volumes can specify mappings for ephemeral0 and ephemeral1. The number of available instance store volumes depends on the instance type. After you connect to the instance, you must mount the volume.

NVMe instance store volumes are automatically enumerated and assigned a device name. Including them in your block device mapping has no effect.
Constraints: For M3 instances, you must specify instance store volumes in the block device mapping for the instance. When you launch an M3 instance, we ignore any instance store volumes specified in the block device mapping for the AMI.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
BundleTask

Describes a bundle task.

Contents

bundleId

The ID of the bundle task.

Type: String

Required: No

error

If the task fails, a description of the error.

Type: BundleTaskError object

Required: No

instanceId

The ID of the instance associated with this bundle task.

Type: String

Required: No

progress

The level of task completion, as a percent (for example, 20%).

Type: String

Required: No

startTime

The time this task started.

Type: Timestamp

Required: No
state

The state of the task.

Type: String

Valid Values: pending | waiting-for-shutdown | bundling | storing | cancelling | complete | failed

Required: No

storage

The Amazon S3 storage locations.

Type: Storage object

Required: No

updateTime

The time of the most recent update for the task.

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
BundleTaskError

Describes an error for BundleInstance.

Contents

code

The error code.

Type: String

Required: No

message

The error message.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Byoasn

The Autonomous System Number (ASN) and BYOIP CIDR association.

Contents

asn

A public 2-byte or 4-byte ASN.

Type: String

Required: No

ipamId

An IPAM ID.

Type: String

Required: No

state

The provisioning state of the BYOASN.

Type: String

Valid Values: deprovisioned | failed-deprovision | failed-provision | pending-deprovision | pending-provision | provisioned

Required: No

statusMessage

The status message.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
ByoipCidr

Information about an address range that is provisioned for use with your AWS resources through bring your own IP addresses (BYOIP).

Contents

asnAssociationSet

The BYOIP CIDR associations with ASNs.

Type: Array of AsnAssociation objects

Required: No

cidr

The address range, in CIDR notation.

Type: String

Required: No

description

The description of the address range.

Type: String

Required: No

networkBorderGroup

If you have Local Zones enabled, you can choose a network border group for Local Zones when you provision and advertise a BYOIPv4 CIDR. Choose the network border group carefully as the EIP and the AWS resource it is associated with must reside in the same network border group.

You can provision BYOIP address ranges to and advertise them in the following Local Zone network border groups:

- us-east-1-dfw-2
- us-west-2-lax-1
- us-west-2-phx-2
You cannot provision or advertise BYOIPv6 address ranges in Local Zones at this time.

Type: String
Required: No

state

The state of the address pool.

Type: String

Valid Values: advertised | deprovisioned | failed-deprovision | failed-provision | pending-deprovision | pending-provision | provisioned | provisioned-not-publicly-advertisable

Required: No

statusMessage

Upon success, contains the ID of the address pool. Otherwise, contains an error message.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CancelCapacityReservationFleetError

Describes a Capacity Reservation Fleet cancellation error.

Contents

code

The error code.

Type: String

Required: No

message

The error message.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
CancelledSpotInstanceRequest

Describes a request to cancel a Spot Instance.

Contents

spotInstanceRequestId

The ID of the Spot Instance request.

Type: String

Required: No

state

The state of the Spot Instance request.

Type: String

Valid Values: active | open | closed | cancelled | completed

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CancelSpotFleetRequestsError

Describes a Spot Fleet error.

Contents

code

The error code.

Type: String

Valid Values: fleetRequestIdDoesNotExist | fleetRequestIdMalformed | fleetRequestNotInCancellableState | unexpectedError

Required: No

message

The description for the error code.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CancelSpotFleetRequestsErrorItem

Describes a Spot Fleet request that was not successfully canceled.

Contents

error

The error.

Type: CancelSpotFleetRequestsError object

Required: No

spotFleetRequestId

The ID of the Spot Fleet request.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CancelSpotFleetRequestsSuccessItem

Describes a Spot Fleet request that was successfully canceled.

Contents

currentSpotFleetRequestState

The current state of the Spot Fleet request.

Type: String

Valid Values: submitted | active | cancelled | failed | cancelled_running | cancelled_terminating | modifying

Required: No

previousSpotFleetRequestState

The previous state of the Spot Fleet request.

Type: String

Valid Values: submitted | active | cancelled | failed | cancelled_running | cancelled_terminating | modifying

Required: No

spotFleetRequestId

The ID of the Spot Fleet request.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
CapacityAllocation

Information about instance capacity usage for a Capacity Reservation.

Contents

allocationType

The usage type. used indicates that the instance capacity is in use by instances that are running in the Capacity Reservation.

Type: String

Valid Values: used

Required: No

count

The amount of instance capacity associated with the usage. For example a value of 4 indicates that instance capacity for 4 instances is currently in use.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++]
- [AWS SDK for Go]
- [AWS SDK for Java V2]
- [AWS SDK for Ruby V3]
CapacityBlockOffering

The recommended Capacity Block that fits your search requirements.

Contents

availabilityZone

The Availability Zone of the Capacity Block offering.

Type: String

Required: No

capacityBlockDurationHours

The amount of time of the Capacity Block reservation in hours.

Type: Integer

Required: No

capacityBlockOfferingId

The ID of the Capacity Block offering.

Type: String

Required: No

currencyCode

The currency of the payment for the Capacity Block.

Type: String

Required: No

endDate

The end date of the Capacity Block offering.

Type: Timestamp

Required: No
instanceCount

The number of instances in the Capacity Block offering.

Type: Integer

Required: No

instanceType

The instance type of the Capacity Block offering.

Type: String

Required: No

startDate

The start date of the Capacity Block offering.

Type: Timestamp

Required: No

tenancy

The tenancy of the Capacity Block.

Type: String

Valid Values: default | dedicated

Required: No

upfrontFee

The total price to be paid up front.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
CapacityReservation

Describes a Capacity Reservation.

Contents

availabilityZone

The Availability Zone in which the capacity is reserved.

Type: String

Required: No

availabilityZoneId

The Availability Zone ID of the Capacity Reservation.

Type: String

Required: No

availableInstanceCount

The remaining capacity. Indicates the number of instances that can be launched in the Capacity Reservation.

Type: Integer

Required: No

capacityAllocationSet

Information about instance capacity usage.

Type: Array of CapacityAllocation objects

Required: No

capacityReservationArn

The Amazon Resource Name (ARN) of the Capacity Reservation.

Type: String

Required: No
capacityReservationFleetId

The ID of the Capacity Reservation Fleet to which the Capacity Reservation belongs. Only valid for Capacity Reservations that were created by a Capacity Reservation Fleet.

Type: String
Required: No

capacityReservationId

The ID of the Capacity Reservation.

Type: String
Required: No

createDate

The date and time at which the Capacity Reservation was created.

Type: Timestamp
Required: No

ebsOptimized

Indicates whether the Capacity Reservation supports EBS-optimized instances. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS-optimized instance.

Type: Boolean
Required: No

endDate

The date and time at which the Capacity Reservation expires. When a Capacity Reservation expires, the reserved capacity is released and you can no longer launch instances into it. The Capacity Reservation's state changes to expired when it reaches its end date and time.

Type: Timestamp
Required: No
endDateType

Indicates the way in which the Capacity Reservation ends. A Capacity Reservation can have one of the following end types:

- unlimited - The Capacity Reservation remains active until you explicitly cancel it.
- limited - The Capacity Reservation expires automatically at a specified date and time.

Type: String

Valid Values: unlimited | limited

Required: No

ephemeralStorage

Deprecated.

Type: Boolean

Required: No

instanceMatchCriteria

Indicates the type of instance launches that the Capacity Reservation accepts. The options include:

- open - The Capacity Reservation accepts all instances that have matching attributes (instance type, platform, and Availability Zone). Instances that have matching attributes launch into the Capacity Reservation automatically without specifying any additional parameters.
- targeted - The Capacity Reservation only accepts instances that have matching attributes (instance type, platform, and Availability Zone), and explicitly target the Capacity Reservation. This ensures that only permitted instances can use the reserved capacity.

Type: String

Valid Values: open | targeted

Required: No

instancePlatform

The type of operating system for which the Capacity Reservation reserves capacity.

Type: String

Required: No

**instanceType**

The type of instance for which the Capacity Reservation reserves capacity.

Type: String

Required: No

**outpostArn**

The Amazon Resource Name (ARN) of the Outpost on which the Capacity Reservation was created.

Type: String

Pattern: ^arn:aws([a-z-]+)?:outposts:[a-z\d-]+:\d{12}:outpost/op-[a-f0-9]{17}$

Required: No

**ownerId**

The ID of the AWS account that owns the Capacity Reservation.

Type: String

Required: No

**placementGroupArn**

The Amazon Resource Name (ARN) of the cluster placement group in which the Capacity Reservation was created. For more information, see  [Capacity Reservations for cluster placement groups](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/capacity-reservations.html) in the *Amazon EC2 User Guide*. 
Type: String

Pattern: ^arn:aws([a-z-]+):ec2:[a-z\d-]+:\d{12}:placement-group/\.{1,255}$

Required: No

reservationType

The type of Capacity Reservation.

Type: String

Valid Values: default | capacity-block

Required: No

startDate

The date and time at which the Capacity Reservation was started.

Type: Timestamp

Required: No

state

The current state of the Capacity Reservation. A Capacity Reservation can be in one of the following states:

- active - The Capacity Reservation is active and the capacity is available for your use.
- expired - The Capacity Reservation expired automatically at the date and time specified in your request. The reserved capacity is no longer available for your use.
- cancelled - The Capacity Reservation was cancelled. The reserved capacity is no longer available for your use.
- pending - The Capacity Reservation request was successful but the capacity provisioning is still pending.
- failed - The Capacity Reservation request has failed. A request might fail due to invalid request parameters, capacity constraints, or instance limit constraints. Failed requests are retained for 60 minutes.

Type: String

Valid Values: active | expired | cancelled | pending | failed | scheduled | payment-pending | payment-failed
tagSet

Any tags assigned to the Capacity Reservation.

Type: Array of Tag objects

Required: No

tenancy

Indicates the tenancy of the Capacity Reservation. A Capacity Reservation can have one of the following tenancy settings:

- default - The Capacity Reservation is created on hardware that is shared with other AWS accounts.
- dedicated - The Capacity Reservation is created on single-tenant hardware that is dedicated to a single AWS account.

Type: String

Valid Values: default | dedicated

Required: No

totalInstanceCount

The total number of instances for which the Capacity Reservation reserves capacity.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
CapacityReservationFleet

Information about a Capacity Reservation Fleet.

Contents

allocationStrategy

The strategy used by the Capacity Reservation Fleet to determine which of the specified instance types to use. For more information, see Allocation strategy in the Amazon EC2 User Guide.

Type: String
Required: No

capacityReservationFleetArn

The ARN of the Capacity Reservation Fleet.

Type: String
Required: No

capacityReservationFleetId

The ID of the Capacity Reservation Fleet.

Type: String
Required: No

createTime

The date and time at which the Capacity Reservation Fleet was created.

Type: Timestamp
Required: No

date

The date and time at which the Capacity Reservation Fleet expires.

Type: Timestamp
instanceMatchCriteria

Indicates the type of instance launches that the Capacity Reservation Fleet accepts. All Capacity Reservations in the Fleet inherit this instance matching criteria.

Currently, Capacity Reservation Fleets support open instance matching criteria only. This means that instances that have matching attributes (instance type, platform, and Availability Zone) run in the Capacity Reservations automatically. Instances do not need to explicitly target a Capacity Reservation Fleet to use its reserved capacity.

Type: String

Valid Values: open

state

The state of the Capacity Reservation Fleet. Possible states include:

• submitted - The Capacity Reservation Fleet request has been submitted and Amazon Elastic Compute Cloud is preparing to create the Capacity Reservations.

• modifying - The Capacity Reservation Fleet is being modified. The Fleet remains in this state until the modification is complete.

• active - The Capacity Reservation Fleet has fulfilled its total target capacity and it is attempting to maintain this capacity. The Fleet remains in this state until it is modified or deleted.

• partially_fulfilled - The Capacity Reservation Fleet has partially fulfilled its total target capacity. There is insufficient Amazon EC2 to fulfill the total target capacity. The Fleet is attempting to asynchronously fulfill its total target capacity.

• expiring - The Capacity Reservation Fleet has reach its end date and it is in the process of expiring. One or more of its Capacity reservations might still be active.
- **expired** - The Capacity Reservation Fleet has reach its end date. The Fleet and its Capacity Reservations are expired. The Fleet can't create new Capacity Reservations.

- **cancelling** - The Capacity Reservation Fleet is in the process of being cancelled. One or more of its Capacity reservations might still be active.

- **cancelled** - The Capacity Reservation Fleet has been manually cancelled. The Fleet and its Capacity Reservations are cancelled and the Fleet can't create new Capacity Reservations.

- **failed** - The Capacity Reservation Fleet failed to reserve capacity for the specified instance types.

  Type: String

  Valid Values: submitted | modifying | active | partially_fulfilled | expiring | expired | cancelling | cancelled | failed

  Required: No

**tagSet**

The tags assigned to the Capacity Reservation Fleet.

Type: Array of [Tag](#) objects

Required: No

**tenancy**

The tenancy of the Capacity Reservation Fleet. Tenancies include:

- **default** - The Capacity Reservation Fleet is created on hardware that is shared with other AWS accounts.

- **dedicated** - The Capacity Reservation Fleet is created on single-tenant hardware that is dedicated to a single AWS account.

  Type: String

  Valid Values: default

  Required: No

**totalFulfilledCapacity**

The capacity units that have been fulfilled.
Type: Double

Required: No

**totalTargetCapacity**

The total number of capacity units for which the Capacity Reservation Fleet reserves capacity. For more information, see [Total target capacity](#) in the Amazon EC2 User Guide.

Type: Integer

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
CapacityReservationFleetCancellationState

Describes a Capacity Reservation Fleet that was successfully cancelled.

Contents

capacityReservationFleetId

The ID of the Capacity Reservation Fleet that was successfully cancelled.

Type: String

Required: No

currentFleetState

The current state of the Capacity Reservation Fleet.

Type: String

Valid Values: submitted | modifying | active | partially_fulfilled | expiring | expired | cancelling | cancelled | failed

Required: No

previousFleetState

The previous state of the Capacity Reservation Fleet.

Type: String

Valid Values: submitted | modifying | active | partially_fulfilled | expiring | expired | cancelling | cancelled | failed

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for Ruby V3**
CapacityReservationGroup

Describes a resource group to which a Capacity Reservation has been added.

Contents

groupArn

The ARN of the resource group.

Type: String

Required: No

ownerId

The ID of the AWS account that owns the resource group.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
CapacityReservationOptions

Describes the strategy for using unused Capacity Reservations for fulfilling On-Demand capacity.

Note

This strategy can only be used if the EC2 Fleet is of type instant.

For more information about Capacity Reservations, see On-Demand Capacity Reservations in the Amazon EC2 User Guide. For examples of using Capacity Reservations in an EC2 Fleet, see EC2 Fleet example configurations in the Amazon EC2 User Guide.

Contents

usageStrategy

Indicates whether to use unused Capacity Reservations for fulfilling On-Demand capacity.

If you specify use-capacity-reservations-first, the fleet uses unused Capacity Reservations to fulfill On-Demand capacity up to the target On-Demand capacity. If multiple instance pools have unused Capacity Reservations, the On-Demand allocation strategy (lowest-price or prioritized) is applied. If the number of unused Capacity Reservations is less than the On-Demand target capacity, the remaining On-Demand target capacity is launched according to the On-Demand allocation strategy (lowest-price or prioritized).

If you do not specify a value, the fleet fulfils the On-Demand capacity according to the chosen On-Demand allocation strategy.

Type: String

Valid Values: use-capacity-reservations-first

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
See Also

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CapacityReservationOptionsRequest

Describes the strategy for using unused Capacity Reservations for fulfilling On-Demand capacity.

**Note**

This strategy can only be used if the EC2 Fleet is of type `instant`.


**Contents**

**UsageStrategy**

Indicates whether to use unused Capacity Reservations for fulfilling On-Demand capacity.

If you specify `use-capacity-reservations-first`, the fleet uses unused Capacity Reservations to fulfill On-Demand capacity up to the target On-Demand capacity. If multiple instance pools have unused Capacity Reservations, the On-Demand allocation strategy (lowest-price or prioritized) is applied. If the number of unused Capacity Reservations is less than the On-Demand target capacity, the remaining On-Demand target capacity is launched according to the On-Demand allocation strategy (lowest-price or prioritized).

If you do not specify a value, the fleet fulfils the On-Demand capacity according to the chosen On-Demand allocation strategy.

Type: String

Valid Values: `use-capacity-reservations-first`

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CapacityReservationSpecification

Describes an instance's Capacity Reservation targeting option. You can specify only one parameter at a time. If you specify CapacityReservationPreference and CapacityReservationTarget, the request fails.

Use the CapacityReservationPreference parameter to configure the instance to run as an On-Demand Instance or to run in any open Capacity Reservation that has matching attributes (instance type, platform, Availability Zone). Use the CapacityReservationTarget parameter to explicitly target a specific Capacity Reservation or a Capacity Reservation group.

Contents

CapacityReservationPreference

Indicates the instance's Capacity Reservation preferences. Possible preferences include:

- open - The instance can run in any open Capacity Reservation that has matching attributes (instance type, platform, Availability Zone).
- none - The instance avoids running in a Capacity Reservation even if one is available. The instance runs as an On-Demand Instance.

Type: String

Valid Values: open  |  none

Required: No

CapacityReservationTarget

Information about the target Capacity Reservation or Capacity Reservation group.

Type: CapacityReservationTarget object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
CapacityReservationSpecificationResponse

Describes the instance's Capacity Reservation targeting preferences. The action returns the capacityReservationPreference response element if the instance is configured to run in On-Demand capacity, or if it is configured in run in any open Capacity Reservation that has matching attributes (instance type, platform, Availability Zone). The action returns the capacityReservationTarget response element if the instance explicitly targets a specific Capacity Reservation or Capacity Reservation group.

Contents

capacityReservationPreference

Describes the instance's Capacity Reservation preferences. Possible preferences include:

- open - The instance can run in any open Capacity Reservation that has matching attributes (instance type, platform, Availability Zone).
- none - The instance avoids running in a Capacity Reservation even if one is available. The instance runs in On-Demand capacity.

Type: String

Valid Values: open | none

Required: No

capacityReservationTarget

Information about the targeted Capacity Reservation or Capacity Reservation group.

Type: CapacityReservationTargetResponse object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
• **AWS SDK for Java V2**
• **AWS SDK for Ruby V3**
CapacityReservationTarget

Describes a target Capacity Reservation or Capacity Reservation group.

Contents

CapacityReservationId

The ID of the Capacity Reservation in which to run the instance.

Type: String

Required: No

CapacityReservationResourceGroupArn

The ARN of the Capacity Reservation resource group in which to run the instance.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/cplusplus-sdk/)
- [AWS SDK for Go](https://aws.amazon.com/go-sdk/)
- [AWS SDK for Java V2](https://aws.amazon.com/java-sdk/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/ruby-sdk/)
CapacityReservationTargetResponse

Describes a target Capacity Reservation or Capacity Reservation group.

Contents

capacityReservationId

The ID of the targeted Capacity Reservation.

Type: String

Required: No

capacityReservationResourceGroupArn

The ARN of the targeted Capacity Reservation group.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CarrierGateway

Describes a carrier gateway.

Contents

carrierGatewayId

The ID of the carrier gateway.

Type: String

Required: No

ownerId

The AWS account ID of the owner of the carrier gateway.

Type: String

Required: No

state

The state of the carrier gateway.

Type: String

Valid Values: pending | available | deleting | deleted

Required: No

tagSet

The tags assigned to the carrier gateway.

Type: Array of Tag objects

Required: No

vpcId

The ID of the VPC associated with the carrier gateway.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CertificateAuthentication

Information about the client certificate used for authentication.

Contents

clientRootCertificateChain

   The ARN of the client certificate.

   Type: String

   Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CertificateAuthenticationRequest

Information about the client certificate to be used for authentication.

Contents

ClientRootCertificateChainArn

  The ARN of the client certificate. The certificate must be signed by a certificate authority (CA) and it must be provisioned in AWS Certificate Manager (ACM).

  Type: String

  Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CidrAuthorizationContext

Provides authorization for Amazon to bring a specific IP address range to a specific AWS account using bring your own IP addresses (BYOIP). For more information, see Configuring your BYOIP address range in the Amazon Elastic Compute Cloud User Guide.

Contents

Message

The plain-text authorization message for the prefix and account.

Type: String

Required: Yes

Signature

The signed authorization message for the prefix and account.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CidrBlock

Describes an IPv4 CIDR block.

Contents

cidrBlock

The IPv4 CIDR block.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ClassicLinkDnsSupport

Note

Deprecated.

Describes the ClassicLink DNS support status of a VPC.

Contents

classicLinkDnsSupported

Indicates whether ClassicLink DNS support is enabled for the VPC.

Type: Boolean

Required: No

vpcId

The ID of the VPC.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ClassicLinkInstance

Note

Deprecated.

Describes a linked EC2-Classic instance.

Contents

groupSet

The security groups.

Type: Array of GroupIdentifier objects

Required: No

instanceId

The ID of the instance.

Type: String

Required: No

tagSet

Any tags assigned to the instance.

Type: Array of Tag objects

Required: No

eipAddress

The ID of the EIP.

Type: String

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ClassicLoadBalancer

Describes a Classic Load Balancer.

Contents

**Name** (request), **name** (response)

The name of the load balancer.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ClassicalLoadBalancersConfig

Describes the Classic Load Balancers to attach to a Spot Fleet. Spot Fleet registers the running Spot Instances with these Classic Load Balancers.

Contents

ClassicalLoadBalancers (request), classicalLoadBalancers (response)

One or more Classic Load Balancers.

Type: Array of ClassicalLoadBalancer objects

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ClientCertificateRevocationListStatus

Describes the state of a client certificate revocation list.

Contents

code

The state of the client certificate revocation list.

Type: String

Valid Values: pending | active

Required: No

message

A message about the status of the client certificate revocation list, if applicable.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ClientConnectOptions

The options for managing connection authorization for new client connections.

Contents

Enabled

Indicates whether client connect options are enabled. The default is false (not enabled).

Type: Boolean

Required: No

LambdaFunctionArn

The Amazon Resource Name (ARN) of the Lambda function used for connection authorization.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ClientConnectResponseOptions

The options for managing connection authorization for new client connections.

Contents

enabled

Indicates whether client connect options are enabled.

Type: Boolean

Required: No

lambdaFunctionArn

The Amazon Resource Name (ARN) of the Lambda function used for connection authorization.

Type: String

Required: No

status

The status of any updates to the client connect options.

Type: ClientVpnEndpointAttributeStatus object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ClientData

Describes the client-specific data.

Contents

Comment

A user-defined comment about the disk upload.

Type: String

Required: No

UploadEnd

The time that the disk upload ends.

Type: Timestamp

Required: No

UploadSize

The size of the uploaded disk image, in GiB.

Type: Double

Required: No

UploadStart

The time that the disk upload starts.

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for Ruby V3**
ClientLoginBannerOptions

Options for enabling a customizable text banner that will be displayed on AWS provided clients when a VPN session is established.

Contents

BannerText

Customizable text that will be displayed in a banner on AWS provided clients when a VPN session is established. UTF-8 encoded characters only. Maximum of 1400 characters.

Type: String
Required: No

Enabled

Enable or disable a customizable text banner that will be displayed on AWS provided clients when a VPN session is established.

Valid values: true | false
Default value: false

Type: Boolean
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ClientLoginBannerResponseOptions

Current state of options for customizable text banner that will be displayed on AWS provided clients when a VPN session is established.

Contents

**bannerText**

Customizable text that will be displayed in a banner on AWS provided clients when a VPN session is established. UTF-8 encoded characters only. Maximum of 1400 characters.

Type: String

Required: No

**enabled**

Current state of text banner feature.

Valid values: true | false

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ClientVpnAuthentication

Describes the authentication methods used by a Client VPN endpoint. For more information, see Authentication in the AWS Client VPN Administrator Guide.

Contents

activeDirectory

Information about the Active Directory, if applicable.

Type: DirectoryServiceAuthentication object

Required: No

federatedAuthentication

Information about the IAM SAML identity provider, if applicable.

Type: FederatedAuthentication object

Required: No

mutualAuthentication

Information about the authentication certificates, if applicable.

Type: CertificateAuthentication object

Required: No

type

The authentication type used.

Type: String

Valid Values: certificate-authentication | directory-service-authentication | federated-authentication

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ClientVpnAuthenticationRequest

Describes the authentication method to be used by a Client VPN endpoint. For more information, see [Authentication](#) in the [AWS Client VPN Administrator Guide](#).

## Contents

### ActiveDirectory

Information about the Active Directory to be used, if applicable. You must provide this information if `Type` is `directory-service-authentication`.

Type: `DirectoryServiceAuthenticationRequest` object

Required: No

### FederatedAuthentication

Information about the IAM SAML identity provider to be used, if applicable. You must provide this information if `Type` is `federated-authentication`.

Type: `FederatedAuthenticationRequest` object

Required: No

### MutualAuthentication

Information about the authentication certificates to be used, if applicable. You must provide this information if `Type` is `certificate-authentication`.

Type: `CertificateAuthenticationRequest` object

Required: No

### Type

The type of client authentication to be used.

Type: String

Valid Values: `certificate-authentication` | `directory-service-authentication` | `federated-authentication`

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ClientVpnAuthorizationRuleStatus

Describes the state of an authorization rule.

Contents

code

The state of the authorization rule.

Type: String

Valid Values: authorizing | active | failed | revoking

Required: No

message

A message about the status of the authorization rule, if applicable.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ClientVpnConnection

Describes a client connection.

Contents

clientIp

The IP address of the client.

Type: String

Required: No

clientVpnEndpointId

The ID of the Client VPN endpoint to which the client is connected.

Type: String

Required: No

commonName

The common name associated with the client. This is either the name of the client certificate, or the Active Directory user name.

Type: String

Required: No

connectionEndTime

The date and time the client connection was terminated.

Type: String

Required: No

connectionEstablishedTime

The date and time the client connection was established.

Type: String

Required: No
connectionId

The ID of the client connection.

Type: String

Required: No

egressBytes

The number of bytes received by the client.

Type: String

Required: No

egressPackets

The number of packets received by the client.

Type: String

Required: No

ingressBytes

The number of bytes sent by the client.

Type: String

Required: No

ingressPackets

The number of packets sent by the client.

Type: String

Required: No

postureComplianceStatusSet

The statuses returned by the client connect handler for posture compliance, if applicable.

Type: Array of strings

Required: No
status

The current state of the client connection.

Type: `ClientVpnConnectionStatus` object

Required: No

timestamp

The current date and time.

Type: String

Required: No

username

The username of the client who established the client connection. This information is only provided if Active Directory client authentication is used.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ClientVpnConnectionStatus

Describes the status of a client connection.

Contents

code

The state of the client connection.

Type: String

Valid Values: active | failed-to-terminate | terminating | terminated

Required: No

message

A message about the status of the client connection, if applicable.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ClientVpnEndpoint

Describes a Client VPN endpoint.

Contents

associatedTargetNetwork

*This member has been deprecated.*

Information about the associated target networks. A target network is a subnet in a VPC.

Type: Array of AssociatedTargetNetwork objects

Required: No

authenticationOptions

Information about the authentication method used by the Client VPN endpoint.

Type: Array of ClientVpnAuthentication objects

Required: No

clientCidrBlock

The IPv4 address range, in CIDR notation, from which client IP addresses are assigned.

Type: String

Required: No

clientConnectOptions

The options for managing connection authorization for new client connections.

Type: ClientConnectResponseOptions object

Required: No

clientLoginBannerOptions

Options for enabling a customizable text banner that will be displayed on AWS provided clients when a VPN session is established.
Type: `ClientLoginBannerResponseOptions` object

Required: No

clientVpnEndpointId

The ID of the Client VPN endpoint.

Type: String

Required: No

connectionLogOptions

Information about the client connection logging options for the Client VPN endpoint.

Type: `ConnectionLogResponseOptions` object

Required: No

creationTime

The date and time the Client VPN endpoint was created.

Type: String

Required: No

deletionTime

The date and time the Client VPN endpoint was deleted, if applicable.

Type: String

Required: No

description

A brief description of the endpoint.

Type: String

Required: No

dnsName

The DNS name to be used by clients when connecting to the Client VPN endpoint.
Type: String
Required: No
dnsServer
Information about the DNS servers to be used for DNS resolution.

Type: Array of strings
Required: No
securityGroupIdSet
The IDs of the security groups for the target network.

Type: Array of strings
Required: No
selfServicePortalUrl
The URL of the self-service portal.

Type: String
Required: No
serverCertificateArn
The ARN of the server certificate.

Type: String
Required: No
sessionTimeoutHours
The maximum VPN session duration time in hours.

Valid values: 8 | 10 | 12 | 24

Default value: 24

Type: Integer
Required: No
splitTunnel

Indicates whether split-tunnel is enabled in the AWS Client VPN endpoint.

For information about split-tunnel VPN endpoints, see Split-Tunnel AWS Client VPN endpoint in the AWS Client VPN Administrator Guide.

Type: Boolean

Required: No

status

The current state of the Client VPN endpoint.

Type: ClientVpnEndpointStatus object

Required: No

tagSet

Any tags assigned to the Client VPN endpoint.

Type: Array of Tag objects

Required: No

transportProtocol

The transport protocol used by the Client VPN endpoint.

Type: String

Valid Values: tcp | udp

Required: No

vpcId

The ID of the VPC.

Type: String

Required: No

vpnPort

The port number for the Client VPN endpoint.
Type: Integer

Required: No

**vpnProtocol**

The protocol used by the VPN session.

Type: String

Valid Values: openvpn

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ClientVpnEndpointAttributeStatus

Describes the status of the Client VPN endpoint attribute.

Contents

code

The status code.

Type: String

Valid Values: applying | applied

Required: No

message

The status message.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ClientVpnEndpointStatus

Describes the state of a Client VPN endpoint.

Contents

code

The state of the Client VPN endpoint. Possible states include:

- pending-associate - The Client VPN endpoint has been created but no target networks have been associated. The Client VPN endpoint cannot accept connections.
- available - The Client VPN endpoint has been created and a target network has been associated. The Client VPN endpoint can accept connections.
- deleting - The Client VPN endpoint is being deleted. The Client VPN endpoint cannot accept connections.
- deleted - The Client VPN endpoint has been deleted. The Client VPN endpoint cannot accept connections.

Type: String

Valid Values: pending-associate | available | deleting | deleted

Required: No

message

A message about the status of the Client VPN endpoint.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
ClientVpnRoute

Information about a Client VPN endpoint route.

Contents

clientVpnEndpointId

The ID of the Client VPN endpoint with which the route is associated.

Type: String

Required: No

description

A brief description of the route.

Type: String

Required: No

destinationCidr

The IPv4 address range, in CIDR notation, of the route destination.

Type: String

Required: No

origin

 Indicates how the route was associated with the Client VPN endpoint. associate indicates that the route was automatically added when the target network was associated with the Client VPN endpoint. add-route indicates that the route was manually added using the CreateClientVpnRoute action.

Type: String

Required: No

status

The current state of the route.
Type: **ClientVpnRouteStatus** object

Required: No

**targetSubnet**

The ID of the subnet through which traffic is routed.

Type: String

Required: No

**type**

The route type.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](link)
- [AWS SDK for Go](link)
- [AWS SDK for Java V2](link)
- [AWS SDK for Ruby V3](link)
ClientVpnRouteStatus

Describes the state of a Client VPN endpoint route.

Contents

code

The state of the Client VPN endpoint route.

Type: String

Valid Values: creating | active | failed | deleting

Required: No

message

A message about the status of the Client VPN endpoint route, if applicable.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CloudWatchLogOptions

Options for sending VPN tunnel logs to CloudWatch.

Contents

logEnabled

Status of VPN tunnel logging feature. Default value is False.

Valid values: True | False

Type: Boolean

Required: No

logGroupArn

The Amazon Resource Name (ARN) of the CloudWatch log group to send logs to.

Type: String

Required: No

logOutputFormat

Configured log format. Default format is json.

Valid values: json | text

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for Ruby V3
CloudWatchLogOptionsSpecification

Options for sending VPN tunnel logs to CloudWatch.

Contents

LogEnabled

Enable or disable VPN tunnel logging feature. Default value is False.

Valid values: True | False

Type: Boolean

Required: No

LogGroupArn

The Amazon Resource Name (ARN) of the CloudWatch log group to send logs to.

Type: String

Required: No

LogOutputFormat

Set log format. Default format is json.

Valid values: json | text

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• **AWS SDK for Ruby V3**
CoipAddressUsage

Describes address usage for a customer-owned address pool.

Contents

allocationId

The allocation ID of the address.

Type: String

Required: No

awsAccountId

The AWS account ID.

Type: String

Required: No

awsService

The AWS service.

Type: String

Required: No

coIp

The customer-owned IP address.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
CoipCidr

Information about a customer-owned IP address range.

Contents

cidr

An address range in a customer-owned IP address space.

Type: String

Required: No

coipPoolId

The ID of the address pool.

Type: String

Required: No

localGatewayRouteTableId

The ID of the local gateway route table.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
CoipPool

Describes a customer-owned address pool.

Contents

localGatewayRouteTableId

The ID of the local gateway route table.

Type: String

Required: No

poolArn

The ARN of the address pool.

Type: String


Required: No

poolCidrSet

The address ranges of the address pool.

Type: Array of strings

Required: No

poolId

The ID of the address pool.

Type: String

Required: No

tagSet

The tags.

Type: Array of Tag objects
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ConnectionLogOptions

Describes the client connection logging options for the Client VPN endpoint.

Contents

CloudwatchLogGroup

The name of the CloudWatch Logs log group. Required if connection logging is enabled.

Type: String

Required: No

CloudwatchLogStream

The name of the CloudWatch Logs log stream to which the connection data is published.

Type: String

Required: No

Enabled

Indicates whether connection logging is enabled.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ConnectionLogResponseOptions

Information about the client connection logging options for a Client VPN endpoint.

Contents

CloudwatchLogGroup

The name of the Amazon CloudWatch Logs log group to which connection logging data is published.

Type: String

Required: No

CloudwatchLogStream

The name of the Amazon CloudWatch Logs log stream to which connection logging data is published.

Type: String

Required: No

Enabled

Indicates whether client connection logging is enabled for the Client VPN endpoint.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ConnectionNotification

Describes a connection notification for a VPC endpoint or VPC endpoint service.

Contents

collectionEvents

The events for the notification. Valid values are Accept, Connect, Delete, and Reject.

Type: Array of strings

Required: No

collectionNotificationArn

The ARN of the SNS topic for the notification.

Type: String

Required: No

collectionNotificationId

The ID of the notification.

Type: String

Required: No

collectionNotificationState

The state of the notification.

Type: String

Valid Values: Enabled | Disabled

Required: No

collectionNotificationType

The type of notification.

Type: String
Valid Values: Topic

Required: No

**serviceld**

The ID of the endpoint service.

Type: String

Required: No

**vpcEndpointId**

The ID of the VPC endpoint.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ConnectionTrackingConfiguration

A security group connection tracking configuration that enables you to set the idle timeout for connection tracking on an Elastic network interface. For more information, see [Connection tracking timeouts](#) in the *Amazon Elastic Compute Cloud User Guide*.

**Contents**

**tcpEstablishedTimeout**


Type: Integer

Required: No

**udpStreamTimeout**

Timeout (in seconds) for idle UDP flows classified as streams which have seen more than one request-response transaction. Min: 60 seconds. Max: 180 seconds (3 minutes). Default: 180 seconds.

Type: Integer

Required: No

**udpTimeout**

Timeout (in seconds) for idle UDP flows that have seen traffic only in a single direction or a single request-response transaction. Min: 30 seconds. Max: 60 seconds. Default: 30 seconds.

Type: Integer

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
See Also

- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ConnectionTrackingSpecification

A security group connection tracking specification that enables you to set the idle timeout for connection tracking on an Elastic network interface. For more information, see Connection tracking timeouts in the Amazon Elastic Compute Cloud User Guide.

Contents

tcpEstablishedTimeout


Type: Integer

Required: No

udpStreamTimeout

Timeout (in seconds) for idle UDP flows classified as streams which have seen more than one request-response transaction. Min: 60 seconds. Max: 180 seconds (3 minutes). Default: 180 seconds.

Type: Integer

Required: No

udpTimeout

Timeout (in seconds) for idle UDP flows that have seen traffic only in a single direction or a single request-response transaction. Min: 30 seconds. Max: 60 seconds. Default: 30 seconds.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for Ruby V3**
ConnectionTrackingSpecificationRequest

A security group connection tracking specification request that enables you to set the idle timeout for connection tracking on an Elastic network interface. For more information, see Connection tracking timeouts in the Amazon Elastic Compute Cloud User Guide.

Contents

TcpEstablishedTimeout (request), TcpEstablishedTimeout (response)


Type: Integer

Required: No

UdpStreamTimeout (request), UdpStreamTimeout (response)

Timeout (in seconds) for idle UDP flows classified as streams which have seen more than one request-response transaction. Min: 60 seconds. Max: 180 seconds (3 minutes). Default: 180 seconds.

Type: Integer

Required: No

UdpTimeout (request), UdpTimeout (response)

Timeout (in seconds) for idle UDP flows that have seen traffic only in a single direction or a single request-response transaction. Min: 30 seconds. Max: 60 seconds. Default: 30 seconds.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
ConnectionTrackingSpecificationResponse

A security group connection tracking specification response that enables you to set the idle timeout for connection tracking on an Elastic network interface. For more information, see Connection tracking timeouts in the Amazon Elastic Compute Cloud User Guide.

Contents

tcpEstablishedTimeout


Type: Integer
Required: No

udpStreamTimeout

Timeout (in seconds) for idle UDP flows classified as streams which have seen more than one request-response transaction. Min: 60 seconds. Max: 180 seconds (3 minutes). Default: 180 seconds.

Type: Integer
Required: No

udpTimeout

Timeout (in seconds) for idle UDP flows that have seen traffic only in a single direction or a single request-response transaction. Min: 30 seconds. Max: 60 seconds. Default: 30 seconds.

Type: Integer
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
See Also

- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ConversionTask

Describes a conversion task.

Contents

conversionTaskId

The ID of the conversion task.

Type: String

Required: No

expirationTime

The time when the task expires. If the upload isn't complete before the expiration time, we automatically cancel the task.

Type: String

Required: No

importInstance

If the task is for importing an instance, this contains information about the import instance task.

Type: ImportInstanceTaskDetails object

Required: No

importVolume

If the task is for importing a volume, this contains information about the import volume task.

Type: ImportVolumeTaskDetails object

Required: No

state

The state of the conversion task.

Type: String
Valid Values: active | cancelling | cancelled | completed

Required: No

**statusMessage**

The status message related to the conversion task.

Type: String

Required: No

**tagSet**

Any tags assigned to the task.

Type: Array of Tag objects

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
CpuOptions

The CPU options for the instance.

Contents

**amdSevSnp**

Indicates whether the instance is enabled for AMD SEV-SNP. For more information, see [AMD SEV-SNP](#).

Type: String

Valid Values: enabled | disabled

Required: No

**coreCount**

The number of CPU cores for the instance.

Type: Integer

Required: No

**threadsPerCore**

The number of threads per CPU core.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
• AWS SDK for Ruby V3
CpuOptionsRequest

The CPU options for the instance. Both the core count and threads per core must be specified in the request.

Contents

AmdSevSnp

Indicates whether to enable the instance for AMD SEV-SNP. AMD SEV-SNP is supported with M6a, R6a, and C6a instance types only. For more information, see AMD SEV-SNP.

Type: String

Valid Values: enabled | disabled

Required: No

CoreCount

The number of CPU cores for the instance.

Type: Integer

Required: No

ThreadsPerCore

The number of threads per CPU core. To disable multithreading for the instance, specify a value of 1. Otherwise, specify the default value of 2.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
• **AWS SDK for Java V2**
• **AWS SDK for Ruby V3**
CreateFleetError

Describes the instances that could not be launched by the fleet.

Contents

errorCode

The error code that indicates why the instance could not be launched. For more information about error codes, see Error codes.

Type: String

Required: No

errorMessage

The error message that describes why the instance could not be launched. For more information about error messages, see Error codes.

Type: String

Required: No

launchTemplateAndOverrides

The launch templates and overrides that were used for launching the instances. The values that you specify in the Overrides replace the values in the launch template.

Type: LaunchTemplateAndOverridesResponse object

Required: No

lifecycle

Indicates if the instance that could not be launched was a Spot Instance or On-Demand Instance.

Type: String

Valid Values: spot | on-demand

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
CreateFleetInstance

Describes the instances that were launched by the fleet.

Contents

instanceIds

The IDs of the instances.

Type: Array of strings

Required: No

instanceType

The instance type.

Type: String

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.large | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metal | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5d.metal | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c5n.9xlarge | c5n.18xlarge | c5n.metal | c6g.medium | c6g.large | c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.metal | c6gd.medium | c6gd.large | c6gd.xlarge | c6gd.2xlarge | c6gd.4xlarge | c6gd.8xlarge | c6gd.12xlarge | c6gd.16xlarge | c6i.large | c6i.xlarge | c6i.2xlarge | c6i.4xlarge | c6i.8xlarge | c6i.12xlarge | c6i.16xlarge | c6i.24xlarge | c6i.32xlarge | c6i.metal | cc1.4xlarge | cc2.8xlarge | cg1.4xlarge | cr1.8xlarge
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Required: No

**launchTemplateAndOverrides**

The launch templates and overrides that were used for launching the instances. The values that you specify in the Overrides replace the values in the launch template.

Type: `LaunchTemplateAndOverridesResponse` object

Required: No

**lifecycle**

Indicates if the instance that was launched is a Spot Instance or On-Demand Instance.

Type: String

Valid Values: `spot | on-demand`

Required: No

**platform**

The value is `Windows` for Windows instances. Otherwise, the value is blank.

Type: String

Valid Values: `Windows`

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
CreateTransitGatewayConnectRequestOptions

The options for a Connect attachment.

Contents

Protocol

The tunnel protocol.

Type: String

Valid Values: gre

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CreateTransitGatewayMulticastDomainRequestOptions

The options for the transit gateway multicast domain.

Contents

AutoAcceptSharedAssociations

Indicates whether to automatically accept cross-account subnet associations that are associated with the transit gateway multicast domain.

Type: String

Valid Values: enable | disable

Required: No

Igmpv2Support

Specify whether to enable Internet Group Management Protocol (IGMP) version 2 for the transit gateway multicast domain.

Type: String

Valid Values: enable | disable

Required: No

StaticSourcesSupport

Specify whether to enable support for statically configuring multicast group sources for a domain.

Type: String

Valid Values: enable | disable

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
CreateTransitGatewayPeeringAttachmentRequestOptions

Describes whether dynamic routing is enabled or disabled for the transit gateway peering request.

Contents

DynamicRouting

Indicates whether dynamic routing is enabled or disabled.

Type: String

Valid Values: enable | disable

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
CreateTransitGatewayVpcAttachmentRequestOptions

Describes the options for a VPC attachment.

Contents

ApplianceModeSupport

Enable or disable support for appliance mode. If enabled, a traffic flow between a source and destination uses the same Availability Zone for the VPC attachment for the lifetime of that flow. The default is disable.

Type: String

Valid Values: enable | disable

Required: No

DnsSupport

Enable or disable DNS support. The default is enable.

Type: String

Valid Values: enable | disable

Required: No

Ipv6Support

Enable or disable IPv6 support. The default is disable.

Type: String

Valid Values: enable | disable

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
CreateVerifiedAccessEndpointEniOptions

Describes the network interface options when creating an AWS Verified Access endpoint using the network-interface type.

Contents

NetworkInterfaceId

The ID of the network interface.

Type: String

Required: No

Port

The IP port number.

Type: Integer


Required: No

Protocol

The IP protocol.

Type: String

Valid Values: http | https

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CreateVerifiedAccessEndpointLoadBalancerOptions

Describes the load balancer options when creating an AWS Verified Access endpoint using the load-balancer type.

Contents

LoadBalancerArn

The ARN of the load balancer.

Type: String

Required: No

Port

The IP port number.

Type: Integer


Required: No

Protocol

The IP protocol.

Type: String

Valid Values: http  |  https

Required: No

SubnetIds

The IDs of the subnets.

Type: Array of strings

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
CreateVerifiedAccessTrustProviderDeviceOptions

Describes the options when creating an AWS Verified Access trust provider using the device type.

Contents

PublicSigningKeyUrl

The URL AWS Verified Access will use to verify the authenticity of the device tokens.

Type: String

Required: No

TenantId

The ID of the tenant application with the device-identity provider.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CreateVerifiedAccessTrustProviderOidcOptions

Describes the options when creating an AWS Verified Access trust provider using the user type.

Contents

AuthorizationEndpoint

The OIDC authorization endpoint.

Type: String

Required: No

ClientID

The client identifier.

Type: String

Required: No

ClientSecret

The client secret.

Type: String

Required: No

Issuer

The OIDC issuer.

Type: String

Required: No

Scope

OpenID Connect (OIDC) scopes are used by an application during authentication to authorize access to a user's details. Each scope returns a specific set of user attributes.

Type: String

Required: No
**TokenEndpoint**

The OIDC token endpoint.

Type: String

Required: No

**UserInfoEndpoint**

The OIDC user info endpoint.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
CreateVolumePermission

Describes the user or group to be added or removed from the list of create volume permissions for a volume.

Contents

**Group** (request), **group** (response)

The group to be added or removed. The possible value is `all`.

Type: String

Valid Values: all

Required: No

**UserId** (request), **userId** (response)

The ID of the AWS account to be added or removed.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
CreateVolumePermissionModifications

Describes modifications to the list of create volume permissions for a volume.

Contents

Add

Adds the specified AWS account ID or group to the list.

Type: Array of CreateVolumePermission objects

Required: No

Remove

Removes the specified AWS account ID or group from the list.

Type: Array of CreateVolumePermission objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CreditSpecification

Describes the credit option for CPU usage of a T instance.

Contents

cpuCredits

The credit option for CPU usage of a T instance.

Valid values: standard | unlimited

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CreditSpecificationRequest

The credit option for CPU usage of a T instance.

Contents

CpuCredits

  The credit option for CPU usage of a T instance.

  Valid values: standard | unlimited

  Type: String

  Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CustomerGateway

Describes a customer gateway.

Contents

bgpAsn

The customer gateway's Border Gateway Protocol (BGP) Autonomous System Number (ASN).

Type: String

Required: No

certificateArn

The Amazon Resource Name (ARN) for the customer gateway certificate.

Type: String

Required: No

customerGatewayId

The ID of the customer gateway.

Type: String

Required: No

deviceName

The name of customer gateway device.

Type: String

Required: No

ipAddress

The IP address of the customer gateway device's outside interface.

Type: String

Required: No
**state**

The current state of the customer gateway (pending | available | deleting | deleted).

Type: String

Required: No

**tagSet**

Any tags assigned to the customer gateway.

Type: Array of Tag objects

Required: No

**type**

The type of VPN connection the customer gateway supports (ipsec.1).

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
DataQuery

A query used for retrieving network health data.

Contents

Destination

The Region or Availability Zone that's the target for the data query. For example, eu-north-1.

Type: String

Required: No

Id

A user-defined ID associated with a data query that's returned in the dataResponse identifying the query. For example, if you set the Id to MyQuery01 in the query, the dataResponse identifies the query as MyQuery01.

Type: String

Required: No

Metric

The metric, aggregation-latency, indicating that network latency is aggregated for the query. This is the only supported metric.

Type: String

Valid Values: aggregate-latency

Required: No

Period

The aggregation period used for the data query.

Type: String

Valid Values: five-minutes | fifteen-minutes | one-hour | three-hours | one-day | one-week
Required: No

Source

The Region or Availability Zone that's the source for the data query. For example, us-east-1.

Type: String

Required: No

Statistic

The metric data aggregation period, p50, between the specified startDate and endDate. For example, a metric of five_minutes is the median of all the data points gathered within those five minutes. p50 is the only supported metric.

Type: String

Valid Values: p50

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DataResponse

The response to a DataQuery.

Contents

destination

The Region or Availability Zone that's the destination for the data query. For example, eu-west-1.

Type: String

Required: No

id

The ID passed in the DataQuery.

Type: String

Required: No

metric

The metric used for the network performance request. Only aggregate-latency is supported, which shows network latency during a specified period.

Type: String

Valid Values: aggregate-latency

Required: No

metricPointSet

A list of MetricPoint objects.

Type: Array of MetricPoint objects

Required: No

period

The period used for the network performance request.
Type: String

Valid Values: five-minutes | fifteen-minutes | one-hour | three-hours | one-day | one-week

Required: No

source

The Region or Availability Zone that's the source for the data query. For example, us-east-1.

Type: String

Required: No

statistic

The statistic used for the network performance request.

Type: String

Valid Values: p50

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DeleteFleetError

Describes an EC2 Fleet error.

Contents

code

The error code.

Type: String

Valid Values: fleetIdDoesNotExist | fleetIdMalformed | fleetNotInDeletableState | unexpectedError

Required: No

message

The description for the error code.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DeleteFleetErrorItem

Describes an EC2 Fleet that was not successfully deleted.

Contents

error

The error.

Type: DeleteFleetError object

Required: No

fleetId

The ID of the EC2 Fleet.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DeleteFleetSuccessItem

Describes an EC2 Fleet that was successfully deleted.

Contents

currentFleetState

The current state of the EC2 Fleet.

Type: String

Valid Values: submitted | active | deleted | failed | deleted_running | deleted_terminating | modifying

Required: No

fleetId

The ID of the EC2 Fleet.

Type: String

Required: No

previousFleetState

The previous state of the EC2 Fleet.

Type: String

Valid Values: submitted | active | deleted | failed | deleted_running | deleted_terminating | modifying

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
DeleteLaunchTemplateVersionsResponseErrorItem

Describes a launch template version that could not be deleted.

**Contents**

**launchTemplateId**

The ID of the launch template.

Type: String

Required: No

**launchTemplateName**

The name of the launch template.

Type: String

Required: No

**responseError**

Information about the error.

Type: [ResponseError](#) object

Required: No

**versionNumber**

The version number of the launch template.

Type: Long

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
See Also

- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DeleteLaunchTemplateVersionsResponseSuccessItem

Describes a launch template version that was successfully deleted.

Contents

launchTemplateId

The ID of the launch template.

Type: String

Required: No

launchTemplateName

The name of the launch template.

Type: String

Required: No

versionNumber

The version number of the launch template.

Type: Long

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DeleteQueuedReservedInstancesError

Describes the error for a Reserved Instance whose queued purchase could not be deleted.

Contents

**code**

The error code.

Type: String

Valid Values: `reserved-instances-id-invalid | reserved-instances-not-in-queued-state | unexpected-error`

Required: No

**message**

The error message.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
DeregisterInstanceTagAttributeRequest

Information about the tag keys to deregister for the current Region. You can either specify individual tag keys or deregister all tag keys in the current Region. You must specify either `IncludeAllTagsOfInstance` or `InstanceTagKeys` in the request.

Contents

IncludeAllTagsOfInstance

Indicates whether to deregister all tag keys in the current Region. Specify `false` to deregister all tag keys.

Type: Boolean

Required: No

InstanceTagKeys

Information about the tag keys to deregister.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
DescribeFastLaunchImagesSuccessItem

Describe details about a Windows image with Windows fast launch enabled that meets the requested criteria. Criteria are defined by the DescribeFastLaunchImages action filters.

Contents

imageId

The image ID that identifies the Windows fast launch enabled image.

Type: String

Required: No

launchTemplate

The launch template that the Windows fast launch enabled AMI uses when it launches Windows instances from pre-provisioned snapshots.

Type: FastLaunchLaunchTemplateSpecificationResponse object

Required: No

maxParallelLaunches

The maximum number of instances that Amazon EC2 can launch at the same time to create pre-provisioned snapshots for Windows fast launch.

Type: Integer

Required: No

ownerId

The owner ID for the Windows fast launch enabled AMI.

Type: String

Required: No

resourceType

The resource type that Amazon EC2 uses for pre-provisioning the Windows AMI. Supported values include: snapshot.
Type: String

Valid Values: snapshot

Required: No

**snapshotConfiguration**

A group of parameters that are used for pre-provisioning the associated Windows AMI using snapshots.

Type: [FastLaunchSnapshotConfigurationResponse](#) object

Required: No

**state**

The current state of Windows fast launch for the specified Windows AMI.

Type: String

Valid Values: enabling | enabling-failed | enabled | enabled-failed | disabling | disabling-failed

Required: No

**stateTransitionReason**

The reason that Windows fast launch for the AMI changed to the current state.

Type: String

Required: No

**stateTransitionTime**

The time that Windows fast launch for the AMI changed to the current state.

Type: Timestamp

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
See Also

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
**DescribeFastSnapshotRestoreSuccessItem**

Describes fast snapshot restores for a snapshot.

**Contents**

**availabilityZone**

The Availability Zone.

Type: String

Required: No

**disabledTime**

The time at which fast snapshot restores entered the disabled state.

Type: Timestamp

Required: No

**disablingTime**

The time at which fast snapshot restores entered the disabling state.

Type: Timestamp

Required: No

**enabledTime**

The time at which fast snapshot restores entered the enabled state.

Type: Timestamp

Required: No

**enablingTime**

The time at which fast snapshot restores entered the enabling state.

Type: Timestamp

Required: No
optimizingTime

The time at which fast snapshot restores entered the optimizing state.

Type: Timestamp

Required: No

ownerAlias

The AWS owner alias that enabled fast snapshot restores on the snapshot. This is intended for future use.

Type: String

Required: No

ownerId

The ID of the AWS account that enabled fast snapshot restores on the snapshot.

Type: String

Required: No

snapshotId

The ID of the snapshot.

Type: String

Required: No

state

The state of fast snapshot restores.

Type: String

Valid Values: enabling | optimizing | enabled | disabling | disabled

Required: No

stateTransitionReason

The reason for the state transition. The possible values are as follows:
• Client.UserInitiated - The state successfully transitioned to enabling or disabling.
• Client.UserInitiated - Lifecycle state transition - The state successfully transitioned to optimizing, enabled, or disabled.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

• [AWS SDK for C++](#)
• [AWS SDK for Go](#)
• [AWS SDK for Java V2](#)
• [AWS SDK for Ruby V3](#)
DescribeFleetError

Describes the instances that could not be launched by the fleet.

Contents

errorCode

The error code that indicates why the instance could not be launched. For more information about error codes, see Error codes.

Type: String

Required: No

eerrorMessage

The error message that describes why the instance could not be launched. For more information about error messages, see Error codes.

Type: String

Required: No

launchTemplateAndOverrides

The launch templates and overrides that were used for launching the instances. The values that you specify in the Overrides replace the values in the launch template.

Type: LaunchTemplateAndOverridesResponse object

Required: No

lifecycle

Indicates if the instance that could not be launched was a Spot Instance or On-Demand Instance.

Type: String

Valid Values: spot | on-demand

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DescribeFleetsInstances

Describes the instances that were launched by the fleet.

Contents

instanceIds

The IDs of the instances.

Type: Array of strings

Required: No

instanceType

The instance type.

Type: String

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.large | c1.xlarge | c1.2xlarge | c1.4xlarge | c3.8xlarge | c3.xlarge | c3.2xlarge | c3.4xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metal | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.1large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5d.4xlarge | c5d.8xlarge | c5d.12xlarge | c5d.24xlarge | c5d.4xlarge | c5d.8xlarge | c5d.12xlarge | c5d.24xlarge | c5d.4xlarge | c5d.8xlarge | c5d.12xlarge | c5d.24xlarge | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c5n.9xlarge | c5n.18xlarge | c5n.metal | c6g.medium | c6g.large | c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6i.large | c6i.xlarge | c6i.2xlarge | c6i.4xlarge | c6i.8xlarge | c6i.12xlarge | c6i.16xlarge | c6i.24xlarge | c6i.32xlarge | c6i.4xlarge | c6i.8xlarge | c6i.12xlarge | c6i.16xlarge | c6i.24xlarge | c6i.32xlarge | c6i.4xlarge | cc1.4xlarge | cc2.8xlarge | cg1.4xlarge | cr1.8xlarge
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<tr>
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<td>r7iz.metal-32x1</td>
<td></td>
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</tr>
</tbody>
</table>
Required: No

**launchTemplateAndOverrides**

The launch templates and overrides that were used for launching the instances. The values that you specify in the Overrides replace the values in the launch template.

Type: [LaunchTemplateAndOverridesResponse](#) object

Required: No

**lifecycle**

Indicates if the instance that was launched is a Spot Instance or On-Demand Instance.

Type: String

Valid Values: spot | on-demand

Required: No

**platform**

The value is Windows for Windows instances. Otherwise, the value is blank.

Type: String

Valid Values: Windows

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
DestinationOptionsRequest

Describes the destination options for a flow log.

Contents

FileFormat

The format for the flow log. The default is `plain-text`.

Type: String

Valid Values: `plain-text` | `parquet`

Required: No

HiveCompatiblePartitions

Indicates whether to use Hive-compatible prefixes for flow logs stored in Amazon S3. The default is `false`.

Type: Boolean

Required: No

PerHourPartition

Indicates whether to partition the flow log per hour. This reduces the cost and response time for queries. The default is `false`.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• **AWS SDK for Ruby V3**
DestinationOptionsResponse

Describes the destination options for a flow log.

Contents

fileFormat

The format for the flow log.

Type: String

Valid Values: plain-text | parquet

Required: No

hiveCompatiblePartitions

Indicates whether to use Hive-compatible prefixes for flow logs stored in Amazon S3.

Type: Boolean

Required: No

perHourPartition

Indicates whether to partition the flow log per hour.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
DeviceOptions

Describes the options for an AWS Verified Access device-identity based trust provider.

Contents

publicSigningKeyUrl

The URL AWS Verified Access will use to verify the authenticity of the device tokens.

Type: String

Required: No

tenantId

The ID of the tenant application with the device-identity provider.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DhcpConfiguration

Describes a DHCP configuration option.

Contents

key

The name of a DHCP option.

Type: String

Required: No

valueSet

The values for the DHCP option.

Type: Array of AttributeValue objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DhcpOptions

The set of DHCP options.

Contents

dhcpConfigurationSet

The DHCP options in the set.

Type: Array of DhcpConfiguration objects

Required: No

dhcpOptionsId

The ID of the set of DHCP options.

Type: String

Required: No

ownerId

The ID of the AWS account that owns the DHCP options set.

Type: String

Required: No

tagSet

Any tags assigned to the DHCP options set.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

• AWS SDK for C++
See Also

- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DirectoryServiceAuthentication

Describes an Active Directory.

Contents

directoryId

The ID of the Active Directory used for authentication.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DirectoryServiceAuthenticationRequest

Describes the Active Directory to be used for client authentication.

Contents

DirectoryId

The ID of the Active Directory to be used for authentication.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DisableFastSnapshotRestoreErrorItem

Contains information about the errors that occurred when disabling fast snapshot restores.

Contents

fastSnapshotRestoreStateErrorSet

The errors.

Type: Array of DisableFastSnapshotRestoreStateErrorItem objects

Required: No

snapshotId

The ID of the snapshot.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DisableFastSnapshotRestoreStateError

Describes an error that occurred when disabling fast snapshot restores.

Contents

code

The error code.
Type: String
Required: No

message

The error message.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DisableFastSnapshotRestoreStateErrorItem

Contains information about an error that occurred when disabling fast snapshot restores.

Contents

availabilityZone

The Availability Zone.

Type: String

Required: No

error

The error.

Type: DisableFastSnapshotRestoreStateError object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DisableFastSnapshotRestoreSuccessItem

Describes fast snapshot restores that were successfully disabled.

Contents

availabilityZone

The Availability Zone.

Type: String

Required: No

disabledTime

The time at which fast snapshot restores entered the disabled state.

Type: Timestamp

Required: No

disablingTime

The time at which fast snapshot restores entered the disabling state.

Type: Timestamp

Required: No

enabledTime

The time at which fast snapshot restores entered the enabled state.

Type: Timestamp

Required: No

enablingTime

The time at which fast snapshot restores entered the enabling state.

Type: Timestamp

Required: No
optimizingTime

The time at which fast snapshot restores entered the optimizing state.

Type: Timestamp
Required: No

ownerAlias

The AWS owner alias that enabled fast snapshot restores on the snapshot. This is intended for future use.

Type: String
Required: No

ownerId

The ID of the AWS account that enabled fast snapshot restores on the snapshot.

Type: String
Required: No

snapshotId

The ID of the snapshot.

Type: String
Required: No

state

The state of fast snapshot restores for the snapshot.

Type: String
Valid Values: enabling | optimizing | enabled | disabling | disabled
Required: No

stateTransitionReason

The reason for the state transition. The possible values are as follows:
• Client.UserInitiated - The state successfully transitioned to enabling or disabling.
• Client.UserInitiated - Lifecycle state transition - The state successfully transitioned to optimizing, enabled, or disabled.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

• [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
• [AWS SDK for Go](https://aws.amazon.com/sdk-for-golang/)
• [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java-v2/)
• [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby-v3/)
DiskImage

Describes a disk image.

Contents

Description

A description of the disk image.

Type: String

Required: No

Image

Information about the disk image.

Type: DiskImageDetail object

Required: No

Volume

Information about the volume.

Type: VolumeDetail object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DiskImageDescription

Describes a disk image.

Contents

checksum

The checksum computed for the disk image.

Type: String

Required: No

format

The disk image format.

Type: String

Valid Values: VMDK | RAW | VHD

Required: No

importManifestUrl

A presigned URL for the import manifest stored in Amazon S3. For information about creating a presigned URL for an Amazon S3 object, read the "Query String Request Authentication Alternative" section of the Authenticating REST Requests topic in the Amazon Simple Storage Service Developer Guide.

For information about the import manifest referenced by this API action, see VM Import Manifest.

Type: String

Required: No

size

The size of the disk image, in GiB.

Type: Long
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
DiskImageDetail

Describes a disk image.

Contents

Bytes

The size of the disk image, in GiB.

Type: Long

Required: Yes

Format

The disk image format.

Type: String

Valid Values: VMDK | RAW | VHD

Required: Yes

ImportManifestUrl

A presigned URL for the import manifest stored in Amazon S3 and presented here as an Amazon S3 presigned URL. For information about creating a presigned URL for an Amazon S3 object, read the "Query String Request Authentication Alternative" section of the Authenticating REST Requests topic in the Amazon Simple Storage Service Developer Guide.

For information about the import manifest referenced by this API action, see VM Import Manifest.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
DiskImageVolumeDescription

Describes a disk image volume.

Contents

id

The volume identifier.

Type: String

Required: No

size

The size of the volume, in GiB.

Type: Long

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DiskInfo

Describes a disk.

Contents

count

The number of disks with this configuration.

Type: Integer

Required: No

sizeInGB

The size of the disk in GB.

Type: Long

Required: No

type

The type of disk.

Type: String

Valid Values: hdd | ssd

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
DnsEntry

Describes a DNS entry.

Contents

dnsName

The DNS name.

Type: String

Required: No

hostedZoneId

The ID of the private hosted zone.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DnsOptions

Describes the DNS options for an endpoint.

Contents

dnsRecordIpType

The DNS records created for the endpoint.

Type: String

Valid Values: ipv4 | dualstack | ipv6 | service-defined

Required: No

privateDnsOnlyForInboundResolverEndpoint

Indicates whether to enable private DNS only for inbound endpoints.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DnsOptionsSpecification

Describes the DNS options for an endpoint.

Contents

DnsRecordIpType

The DNS records created for the endpoint.

Type: String

Valid Values: ipv4 | dualstack | ipv6 | service-defined

Required: No

PrivateDnsOnlyForInboundResolverEndpoint

Indicates whether to enable private DNS only for inbound endpoints. This option is available only for services that support both gateway and interface endpoints. It routes traffic that originates from the VPC to the gateway endpoint and traffic that originates from on-premises to the interface endpoint.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DnsServersOptionsModifyStructure

Information about the DNS server to be used.

Contents

CustomDnsServers

The IPv4 address range, in CIDR notation, of the DNS servers to be used. You can specify up to two DNS servers. Ensure that the DNS servers can be reached by the clients. The specified values overwrite the existing values.

Type: Array of strings

Required: No

Enabled

Indicates whether DNS servers should be used. Specify false to delete the existing DNS servers.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
EbsBlockDevice

Describes a block device for an EBS volume.

Contents

DeleteOnTermination (request), deleteOnTermination (response)

Indicates whether the EBS volume is deleted on instance termination. For more information, see Preserving Amazon EBS volumes on instance termination in the Amazon EC2 User Guide.

Type: Boolean

Required: No

Encrypted (request), encrypted (response)

Indicates whether the encryption state of an EBS volume is changed while being restored from a backing snapshot. The effect of setting the encryption state to true depends on the volume origin (new or from a snapshot), starting encryption state, ownership, and whether encryption by default is enabled. For more information, see Amazon EBS encryption in the Amazon EC2 User Guide.

In no case can you remove encryption from an encrypted volume.

Encrypted volumes can only be attached to instances that support Amazon EBS encryption. For more information, see Supported instance types.

This parameter is not returned by DescribeImageAttribute.

For CreateImage and RegisterImage, whether you can include this parameter, and the allowed values differ depending on the type of block device mapping you are creating.

• If you are creating a block device mapping for a new (empty) volume, you can include this parameter, and specify either true for an encrypted volume, or false for an unencrypted volume. If you omit this parameter, it defaults to false (unencrypted).

• If you are creating a block device mapping from an existing encrypted or unencrypted snapshot, you must omit this parameter. If you include this parameter, the request will fail, regardless of the value that you specify.

• If you are creating a block device mapping from an existing unencrypted volume, you can include this parameter, but you must specify false. If you specify true, the request will fail. In this case, we recommend that you omit the parameter.
• If you are creating a block device mapping from an existing encrypted volume, you can include this parameter, and specify either true or false. However, if you specify false, the parameter is ignored and the block device mapping is always encrypted. In this case, we recommend that you omit the parameter.

Type: Boolean

Required: No

**iops (request), iops (response)**

The number of I/O operations per second (IOPS). For gp3, io1, and io2 volumes, this represents the number of IOPS that are provisioned for the volume. For gp2 volumes, this represents the baseline performance of the volume and the rate at which the volume accumulates I/O credits for bursting.

The following are the supported values for each volume type:

- gp3: 3,000 - 16,000 IOPS
- io1: 100 - 64,000 IOPS
- io2: 100 - 256,000 IOPS

For io2 volumes, you can achieve up to 256,000 IOPS on instances built on the Nitro System. On other instances, you can achieve performance up to 32,000 IOPS.

This parameter is required for io1 and io2 volumes. The default for gp3 volumes is 3,000 IOPS.

Type: Integer

Required: No

**KmsKeyId (request), kmsKeyId (response)**

Identifier (key ID, key alias, ID ARN, or alias ARN) for a customer managed CMK under which the EBS volume is encrypted.

This parameter is only supported on BlockDeviceMapping objects called by RunInstances, RequestSpotFleet, and RequestSpotInstances.

Type: String

Required: No
OutpostArn (request), outpostArn (response)

The ARN of the Outpost on which the snapshot is stored.

This parameter is not supported when using CreateImage.

Type: String

Required: No

SnapshotId (request), snapshotId (response)

The ID of the snapshot.

Type: String

Required: No

Throughput (request), throughput (response)

The throughput that the volume supports, in MiB/s.

This parameter is valid only for gp3 volumes.

Valid Range: Minimum value of 125. Maximum value of 1000.

Type: Integer

Required: No

VolumeSize (request), volumeSize (response)

The size of the volume, in GiBs. You must specify either a snapshot ID or a volume size. If you specify a snapshot, the default is the snapshot size. You can specify a volume size that is equal to or larger than the snapshot size.

The following are the supported sizes for each volume type:

- gp2 and gp3: 1 - 16,384 GiB
- io1: 4 - 16,384 GiB
- io2: 4 - 65,536 GiB
- st1 and sc1: 125 - 16,384 GiB
- standard: 1 - 1024 GiB
Type: Integer

Required: No

**VolumeType** (request), **volumeType** (response)

The volume type. For more information, see [Amazon EBS volume types](https://docs.aws.amazon.com/AmazonEBS/latest/UserGuide/) in the *Amazon EC2 User Guide*.

Type: String

Valid Values: standard | io1 | io2 | gp2 | sc1 | st1 | gp3

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://docs.aws.amazon.com/sdk-for-cpp/v1/developer-guide/api-reference.html)
- [AWS SDK for Go](https://docs.aws.amazon.com/sdk-for-go/v1/developer-guide/api-reference.html)
- [AWS SDK for Java V2](https://docs.aws.amazon.com/sdk-for-java/v2/developer-guide/api-reference.html)
EbsInfo

Describes the Amazon EBS features supported by the instance type.

Contents

ebsOptimizedInfo

Describes the optimized EBS performance for the instance type.

Type: EbsOptimizedInfo object

Required: No

ebsOptimizedSupport

Indicates whether the instance type is Amazon EBS-optimized. For more information, see Amazon EBS-optimized instances in Amazon EC2 User Guide.

Type: String

Valid Values: unsupported | supported | default

Required: No

crciationSupport

Indicates whether Amazon EBS encryption is supported.

Type: String

Valid Values: unsupported | supported

Required: No

nvmeSupport

Indicates whether non-volatile memory express (NVMe) is supported.

Type: String

Valid Values: unsupported | supported | required

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
EbsInstanceBlockDevice

Describes a parameter used to set up an EBS volume in a block device mapping.

Contents

attachTime

The time stamp when the attachment initiated.

Type: Timestamp

Required: No

deleteOnTermination

Indicates whether the volume is deleted on instance termination.

Type: Boolean

Required: No

status

The attachment state.

Type: String

Valid Values: attaching | attached | detaching | detached

Required: No

volumeId

The ID of the EBS volume.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
**EbsInstanceBlockDeviceSpecification**

Describes information used to set up an EBS volume specified in a block device mapping.

**Contents**

**DeleteOnTermination**

Indicates whether the volume is deleted on instance termination.

Type: Boolean

Required: No

**VolumeId**

The ID of the EBS volume.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
EbsOptimizedInfo

Describes the optimized EBS performance for supported instance types.

Contents

baselineBandwidthInMbps

The baseline bandwidth performance for an EBS-optimized instance type, in Mbps.

Type: Integer

Required: No

baselineIops

The baseline input/output storage operations per seconds for an EBS-optimized instance type.

Type: Integer

Required: No

baselineThroughputInMBps

The baseline throughput performance for an EBS-optimized instance type, in MB/s.

Type: Double

Required: No

maximumBandwidthInMbps

The maximum bandwidth performance for an EBS-optimized instance type, in Mbps.

Type: Integer

Required: No

maximumIops

The maximum input/output storage operations per second for an EBS-optimized instance type.

Type: Integer

Required: No
maximumThroughputInMBps

The maximum throughput performance for an EBS-optimized instance type, in MB/s.

Type: Double

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Ec2InstanceConnectEndpoint

The EC2 Instance Connect Endpoint.

Contents

availabilityZone

The Availability Zone of the EC2 Instance Connect Endpoint.

Type: String

Required: No

createdAt

The date and time that the EC2 Instance Connect Endpoint was created.

Type: Timestamp

Required: No

dnsName

The DNS name of the EC2 Instance Connect Endpoint.

Type: String

Required: No

fipsDnsName

Type: String

Required: No

instanceConnectEndpointArn

The Amazon Resource Name (ARN) of the EC2 Instance Connect Endpoint.

Type: String


Required: No
**instanceConnectEndpointId**

The ID of the EC2 Instance Connect Endpoint.

Type: String

Required: No

**networkInterfaceIdSet**

The ID of the elastic network interface that Amazon EC2 automatically created when creating the EC2 Instance Connect Endpoint.

Type: Array of strings

Required: No

**ownerId**

The ID of the AWS account that created the EC2 Instance Connect Endpoint.

Type: String

Required: No

**preserveClientIp**

Indicates whether your client's IP address is preserved as the source. The value is `true` or `false`.

- If `true`, your client's IP address is used when you connect to a resource.
- If `false`, the elastic network interface IP address is used when you connect to a resource.

Default: `true`

Type: Boolean

Required: No

**securityGroupIdSet**

The security groups associated with the endpoint. If you didn't specify a security group, the default security group for your VPC is associated with the endpoint.

Type: Array of strings
state

The current state of the EC2 Instance Connect Endpoint.

Type: String

Valid Values: create-in-progress | create-complete | create-failed | delete-in-progress | delete-complete | delete-failed

stateMessage

The message for the current state of the EC2 Instance Connect Endpoint. Can include a failure message.

Type: String

Required: No

subnetId

The ID of the subnet in which the EC2 Instance Connect Endpoint was created.

Type: String

Required: No

tagSet

The tags assigned to the EC2 Instance Connect Endpoint.

Type: Array of Tag objects

Required: No

vpcId

The ID of the VPC in which the EC2 Instance Connect Endpoint was created.

Type: String

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++]
- [AWS SDK for Go]
- [AWS SDK for Java V2]
- [AWS SDK for Ruby V3]
EfaInfo

Describes the Elastic Fabric Adapters for the instance type.

Contents

maximumEfaInterfaces

The maximum number of Elastic Fabric Adapters for the instance type.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
EgressOnlyInternetGateway

Describes an egress-only internet gateway.

Contents

attachmentSet

Information about the attachment of the egress-only internet gateway.

Type: Array of InternetGatewayAttachment objects

Required: No

egressOnlyInternetGatewayId

The ID of the egress-only internet gateway.

Type: String

Required: No

tagSet

The tags assigned to the egress-only internet gateway.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ElasticGpuAssociation

Describes the association between an instance and an Elastic Graphics accelerator.

Contents

elasticGpuAssociationId

The ID of the association.

Type: String

Required: No

elasticGpuAssociationState

The state of the association between the instance and the Elastic Graphics accelerator.

Type: String

Required: No

elasticGpuAssociationTime

The time the Elastic Graphics accelerator was associated with the instance.

Type: String

Required: No

elasticGpuId

The ID of the Elastic Graphics accelerator.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
ElasticGpuHealth

Describes the status of an Elastic Graphics accelerator.

Contents

status

The health status.

Type: String

Valid Values: OK | IMPAIRED

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ElasticGpus

Describes an Elastic Graphics accelerator.

Contents

availabilityZone

The Availability Zone in which the Elastic Graphics accelerator resides.

Type: String

Required: No

elasticGpuHealth

The status of the Elastic Graphics accelerator.

Type: ElasticGpuHealth object

Required: No

elasticGpuId

The ID of the Elastic Graphics accelerator.

Type: String

Required: No

elasticGpuState

The state of the Elastic Graphics accelerator.

Type: String

Valid Values: ATTACHED

Required: No

elasticGpuType

The type of Elastic Graphics accelerator.

Type: String
Required: No

**instanceId**

The ID of the instance to which the Elastic Graphics accelerator is attached.

Type: String

Required: No

**tagSet**

The tags assigned to the Elastic Graphics accelerator.

Type: Array of [Tag](#) objects

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ElasticGpuSpecification

A specification for an Elastic Graphics accelerator.

Contents

Type

The type of Elastic Graphics accelerator. For more information about the values to specify for Type, see Elastic Graphics Basics, specifically the Elastic Graphics accelerator column, in the Amazon Elastic Compute Cloud User Guide for Windows Instances.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ElasticGpuSpecificationResponse

Describes an elastic GPU.

Contents

type

The elastic GPU type.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ElasticInferenceAccelerator

Describes an elastic inference accelerator.

Contents

Type

The type of elastic inference accelerator. The possible values are eia1.medium, eia1.large, eia1.xlarge, eia2.medium, eia2.large, and eia2.xlarge.

Type: String

Required: Yes

Count

The number of elastic inference accelerators to attach to the instance.

Default: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ElasticInferenceAcceleratorAssociation

Describes the association between an instance and an elastic inference accelerator.

Contents

elasticInferenceAcceleratorArn

The Amazon Resource Name (ARN) of the elastic inference accelerator.

Type: String
Required: No

elasticInferenceAcceleratorAssociationId

The ID of the association.

Type: String
Required: No

elasticInferenceAcceleratorAssociationState

The state of the elastic inference accelerator.

Type: String
Required: No

elasticInferenceAcceleratorAssociationTime

The time at which the elastic inference accelerator is associated with an instance.

Type: Timestamp
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for Ruby V3**
EnableFastSnapshotRestoreErrorItem

Contains information about the errors that occurred when enabling fast snapshot restores.

Contents

fastSnapshotRestoreStateErrorSet

The errors.

Type: Array of EnableFastSnapshotRestoreStateErrorItem objects

Required: No

ersnapshotId

The ID of the snapshot.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
EnableFastSnapshotRestoreStateError

Describes an error that occurred when enabling fast snapshot restores.

Contents

code

The error code.

Type: String

Required: No

message

The error message.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
EnableFastSnapshotRestoreStateErrorItem

Contains information about an error that occurred when enabling fast snapshot restores.

Contents

availabilityZone

The Availability Zone.

Type: String

Required: No

error

The error.

Type: EnableFastSnapshotRestoreStateError object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
EnableFastSnapshotRestoreSuccessItem

Describes fast snapshot restores that were successfully enabled.

Contents

**availabilityZone**

The Availability Zone.

Type: String

Required: No

**disabledTime**

The time at which fast snapshot restores entered the disabled state.

Type: Timestamp

Required: No

**disablingTime**

The time at which fast snapshot restores entered the disabling state.

Type: Timestamp

Required: No

**enabledTime**

The time at which fast snapshot restores entered the enabled state.

Type: Timestamp

Required: No

**enablingTime**

The time at which fast snapshot restores entered the enabling state.

Type: Timestamp

Required: No
**optimizingTime**

The time at which fast snapshot restores entered the optimizing state.

Type: Timestamp

Required: No

**ownerAlias**

The AWS owner alias that enabled fast snapshot restores on the snapshot. This is intended for future use.

Type: String

Required: No

**ownerId**

The ID of the AWS account that enabled fast snapshot restores on the snapshot.

Type: String

Required: No

**snapshotId**

The ID of the snapshot.

Type: String

Required: No

**state**

The state of fast snapshot restores.

Type: String

Valid Values: enabling | optimizing | enabled | disabling | disabled

Required: No

**stateTransitionReason**

The reason for the state transition. The possible values are as follows:
• Client.UserInitiated - The state successfully transitioned to enabling or disabling.
• Client.UserInitiated - Lifecycle state transition - The state successfully transitioned to optimizing, enabled, or disabled.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
EnaSrdSpecification

ENA Express uses AWS Scalable Reliable Datagram (SRD) technology to increase the maximum bandwidth used per stream and minimize tail latency of network traffic between EC2 instances. With ENA Express, you can communicate between two EC2 instances in the same subnet within the same account, or in different accounts. Both sending and receiving instances must have ENA Express enabled.

To improve the reliability of network packet delivery, ENA Express reorders network packets on the receiving end by default. However, some UDP-based applications are designed to handle network packets that are out of order to reduce the overhead for packet delivery at the network layer. When ENA Express is enabled, you can specify whether UDP network traffic uses it.

Contents

EnaSrdEnabled

Indicates whether ENA Express is enabled for the network interface.

Type: Boolean

Required: No

EnaSrdUdpSpecification

Configures ENA Express for UDP network traffic.

Type: EnaSrdUdpSpecification object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
EnaSrdSpecificationRequest

Launch instances with ENA Express settings configured from your launch template.

Contents

EnaSrdEnabled (request), EnaSrdEnabled (response)

Specifies whether ENA Express is enabled for the network interface when you launch an instance from your launch template.

Type: Boolean

Required: No

EnaSrdUdpSpecification (request), EnaSrdUdpSpecification (response)

Contains ENA Express settings for UDP network traffic in your launch template.

Type: EnaSrdUdpSpecificationRequest object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ENA Express is compatible with both TCP and UDP transport protocols. When it's enabled, TCP traffic automatically uses it. However, some UDP-based applications are designed to handle network packets that are out of order, without a need for retransmission, such as live video broadcasting or other near-real-time applications. For UDP traffic, you can specify whether to use ENA Express, based on your application environment needs.

Contents

EnaSrdUdpEnabled

   Indicates whether UDP traffic to and from the instance uses ENA Express. To specify this setting, you must first enable ENA Express.

   Type: Boolean
   Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://github.com/aws/aws-sdk-go)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)
EnaSrdUdpSpecificationRequest

Configures ENA Express for UDP network traffic from your launch template.

Contents

EnaSrdUdpEnabled (request), EnaSrdUdpEnabled (response)

Indicates whether UDP traffic uses ENA Express for your instance. To ensure that UDP traffic can use ENA Express when you launch an instance, you must also set EnaSrdEnabled in the EnaSrdSpecificationRequest to true in your launch template.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
EnclaveOptions

Indicates whether the instance is enabled for AWS Nitro Enclaves.

Contents

enabled

If this parameter is set to `true`, the instance is enabled for AWS Nitro Enclaves; otherwise, it is not enabled for AWS Nitro Enclaves.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
EnclaveOptionsRequest

Indicates whether the instance is enabled for AWS Nitro Enclaves. For more information, see What is AWS Nitro Enclaves? in the AWS Nitro Enclaves User Guide.

Contents

Enabled

To enable the instance for AWS Nitro Enclaves, set this parameter to true.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
EventInformation

Describes an EC2 Fleet or Spot Fleet event.

Contents

eventDescription

The description of the event.

Type: String

Required: No

eventSubType

The event.

error events:

- iamFleetRoleInvalid - The EC2 Fleet or Spot Fleet does not have the required permissions either to launch or terminate an instance.
- allLaunchSpecsTemporarilyBlacklisted - None of the configurations are valid, and several attempts to launch instances have failed. For more information, see the description of the event.
- spotInstanceCountLimitExceeded - You've reached the limit on the number of Spot Instances that you can launch.
- spotFleetRequestConfigurationInvalid - The configuration is not valid. For more information, see the description of the event.

fleetRequestChange events:

- active - The EC2 Fleet or Spot Fleet request has been validated and Amazon EC2 is attempting to maintain the target number of running instances.
- deleted (EC2 Fleet) / cancelled (Spot Fleet) - The EC2 Fleet is deleted or the Spot Fleet request is canceled and has no running instances. The EC2 Fleet or Spot Fleet will be deleted two days after its instances are terminated.
- deleted_running (EC2 Fleet) / cancelled_running (Spot Fleet) - The EC2 Fleet is deleted or the Spot Fleet request is canceled and does not launch additional instances. Its existing instances continue to run until they are interrupted or terminated. The request remains in this state until all instances are interrupted or terminated.
• deleted_terminating (EC2 Fleet) / cancelled_terminating (Spot Fleet) - The EC2 Fleet is deleted or the Spot Fleet request is canceled and its instances are terminating. The request remains in this state until all instances are terminated.

• expired - The EC2 Fleet or Spot Fleet request has expired. If the request was created with TerminateInstancesWithExpiration set, a subsequent terminated event indicates that the instances are terminated.

• modify_in_progress - The EC2 Fleet or Spot Fleet request is being modified. The request remains in this state until the modification is fully processed.

• modify_succeeded - The EC2 Fleet or Spot Fleet request was modified.

• submitted - The EC2 Fleet or Spot Fleet request is being evaluated and Amazon EC2 is preparing to launch the target number of instances.

• progress - The EC2 Fleet or Spot Fleet request is in the process of being fulfilled.

instanceChange events:

• launched - A new instance was launched.

• terminated - An instance was terminated by the user.

• termination_notified - An instance termination notification was sent when a Spot Instance was terminated by Amazon EC2 during scale-down, when the target capacity of the fleet was modified down, for example, from a target capacity of 4 to a target capacity of 3.

Information events:

• fleetProgressHalted - The price in every launch specification is not valid because it is below the Spot price (all the launch specifications have produced launchSpecUnusable events). A launch specification might become valid if the Spot price changes.

• launchSpecTemporarilyBlacklisted - The configuration is not valid and several attempts to launch instances have failed. For more information, see the description of the event.

• launchSpecUnusable - The price in a launch specification is not valid because it is below the Spot price.

• registerWithLoadBalancersFailed - An attempt to register instances with load balancers failed. For more information, see the description of the event.

Type: String

Required: No
**instanceId**

The ID of the instance. This information is available only for instanceChange events.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
Explanation

Describes an explanation code for an unreachable path. For more information, seeReachability Analyzer explanation codes.

Contents

acl

The network ACL.

Type: AnalysisComponent object

Required: No

aclRule

The network ACL rule.

Type: AnalysisAclRule object

Required: No

address

The IPv4 address, in CIDR notation.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 15.

Pattern: ^(\[0-9]{1,3}.){3}\[0-9]{1,3}$

Required: No

addressSet

The IPv4 addresses, in CIDR notation.

Type: Array of strings

Length Constraints: Minimum length of 0. Maximum length of 15.

Pattern: ^\(([0-9]{1,3}\.){3}[0-9]{1,3}$
attachedTo

The resource to which the component is attached.

Type: `AnalysisComponent` object

Required: No

availabilityZoneSet

The Availability Zones.

Type: Array of strings

Required: No

cidrSet

The CIDR ranges.

Type: Array of strings

Required: No

classicLoadBalancerListener

The listener for a Classic Load Balancer.

Type: `AnalysisLoadBalancerListener` object

Required: No

component

The component.

Type: `AnalysisComponent` object

Required: No

componentAccount

The AWS account for the component.

Type: String
Pattern: \d{12}
Required: No

currentRegion
The Region for the component.
Type: String
Pattern: [a-z]{2}\-[a-z]+[1-9]+
Required: No

customerGateway
The customer gateway.
Type: AnalysisComponent object
Required: No

destination
The destination.
Type: AnalysisComponent object
Required: No

destinationVpc
The destination VPC.
Type: AnalysisComponent object
Required: No

direction
The direction. The following are the possible values:
• egress
• ingress
Type: String
Required: No
elasticLoadBalancerListener

The load balancer listener.

Type: `AnalysisComponent` object

Required: No

explanationCode

The explanation code.

Type: String

Required: No

firewallStatefulRule

The Network Firewall stateful rule.

Type: `FirewallStatefulRule` object

Required: No

firewallStatelessRule

The Network Firewall stateless rule.

Type: `FirewallStatelessRule` object

Required: No

ingressRouteTable

The route table.

Type: `AnalysisComponent` object

Required: No

internetGateway

The internet gateway.

Type: `AnalysisComponent` object

Required: No
loadBalancerArn

The Amazon Resource Name (ARN) of the load balancer.

Type: String


Required: No

loadBalancerListenerPort

The listener port of the load balancer.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 65535.

Required: No

loadBalancerTarget

The target.

Type: AnalysisLoadBalancerTarget object

Required: No

loadBalancerTargetGroup

The target group.

Type: AnalysisComponent object

Required: No

loadBalancerTargetGroupSet

The target groups.

Type: Array of AnalysisComponent objects

Required: No

loadBalancerTargetPort

The target port.
Type: Integer

Valid Range: Minimum value of 0. Maximum value of 65535.

Required: No

**missingComponent**

The missing component.

Type: String

Required: No

**natGateway**

The NAT gateway.

Type: [AnalysisComponent](#) object

Required: No

**networkInterface**

The network interface.

Type: [AnalysisComponent](#) object

Required: No

**packetField**

The packet field.

Type: String

Required: No

**port**

The port.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 65535.

Required: No
**portRangeSet**

The port ranges.

Type: Array of [PortRange](#) objects

Required: No

**prefixList**

The prefix list.

Type: [AnalysisComponent](#) object

Required: No

**protocolSet**

The protocols.

Type: Array of strings

Required: No

**routeTable**

The route table.

Type: [AnalysisComponent](#) object

Required: No

**routeTableRoute**

The route table route.

Type: [AnalysisRouteTableRoute](#) object

Required: No

**securityGroup**

The security group.

Type: [AnalysisComponent](#) object

Required: No
securityGroupRule

The security group rule.

Type: `AnalysisSecurityGroupRule` object

Required: No

securityGroupSet

The security groups.

Type: Array of `AnalysisComponent` objects

Required: No

sourceVpc

The source VPC.

Type: `AnalysisComponent` object

Required: No

state

The state.

Type: String

Required: No

subnet

The subnet.

Type: `AnalysisComponent` object

Required: No

subnetRouteTable

The route table for the subnet.

Type: `AnalysisComponent` object

Required: No
transitGateway

The transit gateway.

Type: AnalysisComponent object

Required: No

transitGatewayAttachment

The transit gateway attachment.

Type: AnalysisComponent object

Required: No

transitGatewayRouteTable

The transit gateway route table.

Type: AnalysisComponent object

Required: No

transitGatewayRouteTableRoute

The transit gateway route table route.

Type: TransitGatewayRouteTableRoute object

Required: No

vpc

The component VPC.

Type: AnalysisComponent object

Required: No

vpcEndpoint

The VPC endpoint.

Type: AnalysisComponent object

Required: No
vpcPeeringConnection

The VPC peering connection.

Type: `AnalysisComponent` object

Required: No

vpnConnection

The VPN connection.

Type: `AnalysisComponent` object

Required: No

vpnGateway

The VPN gateway.

Type: `AnalysisComponent` object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://docs.aws.amazon.com/sdk-for-cpp/v1/)
- [AWS SDK for Go](https://docs.aws.amazon.com/sdk-for-golang/v1/)
- [AWS SDK for Java V2](https://docs.aws.amazon.com/sdk-for-java/v2/)
- [AWS SDK for Ruby V3](https://docs.aws.amazon.com/sdk-for-ruby/v3/)

See Also
ExportImageTask

Describes an export image task.

Contents

description

A description of the image being exported.

Type: String

Required: No

exportImageTaskId

The ID of the export image task.

Type: String

Required: No

imageId

The ID of the image.

Type: String

Required: No

progress

The percent complete of the export image task.

Type: String

Required: No

s3ExportLocation

Information about the destination Amazon S3 bucket.

Type: ExportTaskS3Location object

Required: No
**status**

The status of the export image task. The possible values are active, completed, deleting, and deleted.

Type: String

Required: No

**statusMessage**

The status message for the export image task.

Type: String

Required: No

**tagSet**

Any tags assigned to the export image task.

Type: Array of [Tag](#) objects

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ExportTask

Describes an export instance task.

Contents

description

A description of the resource being exported.

Type: String

Required: No

exportTaskId

The ID of the export task.

Type: String

Required: No

exportToS3

Information about the export task.

Type: ExportToS3Task object

Required: No

instanceExport

Information about the instance to export.

Type: InstanceExportDetails object

Required: No

state

The state of the export task.

Type: String

Valid Values: active | cancelling | cancelled | completed
statusMessage

The status message related to the export task.

Type: String

Required: No

tagSet

The tags for the export task.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ExportTaskS3Location

Describes the destination for an export image task.

Contents

s3Bucket

The destination Amazon S3 bucket.

Type: String

Required: No

s3Prefix

The prefix (logical hierarchy) in the bucket.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ExportTaskS3LocationRequest

Describes the destination for an export image task.

Contents

S3Bucket

The destination Amazon S3 bucket.

Type: String

Required: Yes

S3Prefix

The prefix (logical hierarchy) in the bucket.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ExportToS3Task

Describes the format and location for the export task.

Contents

containerFormat

The container format used to combine disk images with metadata (such as OVF). If absent, only the disk image is exported.

Type: String

Valid Values: ova

Required: No

diskImageFormat

The format for the exported image.

Type: String

Valid Values: VMDK  |  RAW  |  VHD

Required: No

s3Bucket

The Amazon S3 bucket for the destination image. The destination bucket must exist and have an access control list (ACL) attached that specifies the Region-specific canonical account ID for the Grantee. For more information about the ACL to your S3 bucket, see Prerequisites in the VM Import/Export User Guide.

Type: String

Required: No

s3Key

The encryption key for your S3 bucket.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ExportToS3TaskSpecification

Describes an export instance task.

Contents

ContainerFormat

The container format used to combine disk images with metadata (such as OVF). If absent, only the disk image is exported.

Type: String
Valid Values: ova
Required: No

DiskImageFormat

The format for the exported image.

Type: String
Valid Values: VMDK | RAW | VHD
Required: No

S3Bucket

The Amazon S3 bucket for the destination image. The destination bucket must exist and have an access control list (ACL) attached that specifies the Region-specific canonical account ID for the Grantee. For more information about the ACL to your S3 bucket, see Prerequisites in the VM Import/Export User Guide.

Type: String
Required: No

S3Prefix

The image is written to a single object in the Amazon S3 bucket at the S3 key s3prefix + exportTaskId + '.' + diskImageFormat.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
FailedCapacityReservationFleetCancellationResult

Describes a Capacity Reservation Fleet that could not be cancelled.

Contents

cancelCapacityReservationFleetError

Information about the Capacity Reservation Fleet cancellation error.

Type: CancelCapacityReservationFleetError object

Required: No

capacityReservationFleetId

The ID of the Capacity Reservation Fleet that could not be cancelled.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
**FailedQueuedPurchaseDeletion**

Describes a Reserved Instance whose queued purchase was not deleted.

**Contents**

**error**

The error.

Type: [DeleteQueuedReservedInstancesError](#) object

Required: No

**reservedInstancesId**

The ID of the Reserved Instance.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
FastLaunchLaunchTemplateSpecificationRequest

Request to create a launch template for a Windows fast launch enabled AMI.

Note

- You can specify either the LaunchTemplateName or the LaunchTemplateId, but not both.

Contents

Version

Specify the version of the launch template that the AMI should use for Windows fast launch.

Type: String
Required: Yes

LaunchTemplateId

Specify the ID of the launch template that the AMI should use for Windows fast launch.

Type: String
Required: No

LaunchTemplateName

Specify the name of the launch template that the AMI should use for Windows fast launch.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
FastLaunchLaunchTemplateSpecificationResponse

Identifies the launch template that the AMI uses for Windows fast launch.

Contents

launchTemplateId

The ID of the launch template that the AMI uses for Windows fast launch.

Type: String

Required: No

launchTemplateName

The name of the launch template that the AMI uses for Windows fast launch.

Type: String

Required: No

version

The version of the launch template that the AMI uses for Windows fast launch.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
FastLaunchSnapshotConfigurationRequest

Configuration settings for creating and managing pre-provisioned snapshots for a Windows fast launch enabled AMI.

Contents

TargetResourceCount

The number of pre-provisioned snapshots to keep on hand for a Windows fast launch enabled AMI.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
FastLaunchSnapshotConfigurationResponse

Configuration settings for creating and managing pre-provisioned snapshots for a Windows fast launch enabled Windows AMI.

Contents

targetResourceCount

The number of pre-provisioned snapshots requested to keep on hand for a Windows fast launch enabled AMI.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
FederatedAuthentication

Describes the IAM SAML identity providers used for federated authentication.

Contents

samlProviderArn

The Amazon Resource Name (ARN) of the IAM SAML identity provider.

Type: String

Required: No

selfServiceSamlProviderArn

The Amazon Resource Name (ARN) of the IAM SAML identity provider for the self-service portal.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
FederatedAuthenticationRequest

The IAM SAML identity provider used for federated authentication.

Contents

SAMLProviderArn

The Amazon Resource Name (ARN) of the IAM SAML identity provider.

Type: String

Required: No

SelfServiceSAMLProviderArn

The Amazon Resource Name (ARN) of the IAM SAML identity provider for the self-service portal.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Filter

A filter name and value pair that is used to return a more specific list of results from a describe operation. Filters can be used to match a set of resources by specific criteria, such as tags, attributes, or IDs.

If you specify multiple filters, the filters are joined with an AND, and the request returns only results that match all of the specified filters.

The filters supported by a describe operation are documented with the describe operation. For example:

- DescribeAvailabilityZones
- DescribeImages
- DescribeInstances
- DescribeKeyPairs
- DescribeSecurityGroups
- DescribeSnapshots
- DescribeSubnets
- DescribeTags
- DescribeVolumes
- DescribeVpcs

Contents

Name

The name of the filter. Filter names are case-sensitive.

Type: String

Required: No

Values

The filter values. Filter values are case-sensitive. If you specify multiple values for a filter, the values are joined with an OR, and the request returns all results that match any of the specified values.
Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
FilterPortRange

Describes a port range.

Contents

fromPort

The first port in the range.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 65535.

Required: No

toPort

The last port in the range.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 65535.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
FirewallStatefulRule

Describes a stateful rule.

Contents

destinationPortSet

The destination ports.

Type: Array of PortRange objects

Required: No

destinationSet

The destination IP addresses, in CIDR notation.

Type: Array of strings

Required: No

direction

The direction. The possible values are FORWARD and ANY.

Type: String

Required: No

protocol

The protocol.

Type: String

Required: No

ruleAction

The rule action. The possible values are pass, drop, and alert.

Type: String

Required: No
ruleGroupArn

The ARN of the stateful rule group.

Type: String


Required: No

sourcePortSet

The source ports.

Type: Array of PortRange objects

Required: No

sourceSet

The source IP addresses, in CIDR notation.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
FirewallStatelessRule

Describes a stateless rule.

Contents

destinationPortSet

The destination ports.

Type: Array of PortRange objects

Required: No

destinationSet

The destination IP addresses, in CIDR notation.

Type: Array of strings

Required: No

priority

The rule priority.

Type: Integer


Required: No

protocolSet

The protocols.

Type: Array of integers

Valid Range: Minimum value of 0. Maximum value of 255.

Required: No

ruleAction

The rule action. The possible values are pass, drop, and forward_to_site.
Type: String
Required: No

**ruleGroupArn**

The ARN of the stateless rule group.
Type: String
Required: No

**sourcePortSet**

The source ports.
Type: Array of [PortRange objects](#)
Required: No

**sourceSet**

The source IP addresses, in CIDR notation.
Type: Array of strings
Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
FleetCapacityReservation

Information about a Capacity Reservation in a Capacity Reservation Fleet.

Contents

availabilityZone

The Availability Zone in which the Capacity Reservation reserves capacity.

Type: String

Required: No

availabilityZoneId

The ID of the Availability Zone in which the Capacity Reservation reserves capacity.

Type: String

Required: No

capacityReservationId

The ID of the Capacity Reservation.

Type: String

Required: No

createDate

The date and time at which the Capacity Reservation was created.

Type: Timestamp

Required: No

ebsOptimized

Indicates whether the Capacity Reservation reserves capacity for EBS-optimized instance types.

Type: Boolean

Required: No
fulfilledCapacity

The number of capacity units fulfilled by the Capacity Reservation. For more information, see Total target capacity in the Amazon EC2 User Guide.

Type: Double

Required: No

instancePlatform

The type of operating system for which the Capacity Reservation reserves capacity.

Type: String


Required: No

instanceType

The instance type for which the Capacity Reservation reserves capacity.

Type: String

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.meta | c5a.1large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5d.meta | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge |
| m5ad.12xlarge | m5ad.16xlarge | m5ad.24xlarge | m5d.large | m5d.xlarge |
| m5d.2xlarge | m5d.4xlarge | m5d.8xlarge | m5d.12xlarge | m5d.16xlarge |
| m5d.24xlarge | m5d.metal | m5dn.large | m5dn.xlarge | m5dn.2xlarge |
| m5dn.4xlarge | m5dn.8xlarge | m5dn.12xlarge | m5dn.16xlarge | m5n.2xlarge |
| m5n.4xlarge | m5n.8xlarge | m5n.12xlarge | m5n.16xlarge | m5n.2xlarge |
| m5n.metal | m5zn.large | m5zn.xlarge | m5zn.2xlarge | m5zn.3xlarge |
| m5zn.6xlarge | m5zn.12xlarge | m5zn.metal | m6a.large | m6a.xlarge |
| m6a.2xlarge | m6a.4xlarge | m6a.8xlarge | m6a.12xlarge | m6a.16xlarge |
| m6a.24xlarge | m6a.32xlarge | m6a.48xlarge | m6g.medium | m6g.large |
| m6g.large | m6g.xlarge | m6g.2xlarge | m6g.4xlarge | m6g.8xlarge |
| m6g.12xlarge | m6g.16xlarge | m6g.metal | m6gd.medium | m6gd.large |
| m6gd.large | m6gd.xlarge | m6gd.2xlarge | m6gd.4xlarge | m6gd.8xlarge |
| m6gd.12xlarge | m6i.large | m6i.xlarge | m6i.2xlarge | m6i.4xlarge |
| m6i.8xlarge | m6i.12xlarge | m6i.16xlarge | m6i.24xlarge | m6i.32xlarge |
| m6i.metal | mac1.metal | p2.xlarge | p2.8xlarge | p2.16xlarge |
| p3.2xlarge | p3.8xlarge | p3.16xlarge | p3dn.24xlarge | p4d.24xlarge |
| r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge |
| r4.xlarge | r4.2xlarge | r4.4xlarge | r4.8xlarge | r4.16xlarge |
| r5.large | r5.xlarge | r5.2xlarge | r5.4xlarge | r5.8xlarge |
| r5.12xlarge | r5.16xlarge | r5.24xlarge | r5.d.large | r5.d.xlarge |
| r5d.large | r5d.xlarge | r5d.2xlarge | r5d.4xlarge | r5d.8xlarge |
| r5d.12xlarge | r5d.16xlarge | r5d.24xlarge | r5d.metal | r5d.xlarge |
| r5dn.large | r5dn.xlarge | r5dn.2xlarge | r5dn.4xlarge | r5dn.8xlarge |
| r5dn.12xlarge | r5dn.16xlarge | r5dn.24xlarge | r5dn.metal | r5n.large |
| r5n.large | r5n.xlarge | r5n.2xlarge | r5n.4xlarge | r5n.8xlarge |
| r5n.12xlarge | r5n.16xlarge | r5n.24xlarge | r5n.metal | r6g.medium |
| r6g.medium | r6g.large | r6g.xlarge | r6g.2xlarge | r6g.4xlarge |
| r6g.8xlarge | r6g.12xlarge | r6g.16xlarge | r6gd.large | r6gd.xlarge |
| r6gd.2xlarge | r6gd.4xlarge | r6gd.8xlarge | r6gd.12xlarge | r6gd.16xlarge |
| r6gd.metal | r6i.large | r6i.xlarge | r6i.2xlarge | r6i.4xlarge |
r6i.8xlarge | r6i.12xlarge | r6i.16xlarge | r6i.24xlarge | r6i.32xlarge | r6i.48xlarge | r6i.meta | t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | t3.nano | t3.micro | t3.small | t3.medium | t3.large | t3.xlarge | t3.2xlarge | t3a.nano | t3a.micro | t3a.small | t3a.medium | t3a.large | t3a.xlarge | t3a.2xlarge | t4g.nano | t4g.micro | t4g.small | t4g.medium | t4g.large | t4g.xlarge | t4g.2xlarge | u-6tb1.56xlarge | u-6tb1.112xlarge | u-9tb1.112xlarge | u-12tb1.112xlarge | u-6tb1.meta | u-9tb1.meta | u-12tb1.meta | u-18tb1.meta | u-24tb1.meta | vt1.3xlarge | vt1.6xlarge | vt1.24xlarge | x1.16xlarge | x1.32xlarge | x1e.xlarge | x1e.2xlarge | x1e.4xlarge | x1e.8xlarge | x1e.16xlarge | x1e.32xlarge | x2iezn.2xlarge | x2iezn.4xlarge | x2iezn.6xlarge | x2iezn.8xlarge | x2iezn.12xlarge | x2iezn.meta | x2gd.medium | x2gd.large | x2gd.xlarge | x2gd.2xlarge | x2gd.4xlarge | x2gd.8xlarge | x2gd.12xlarge | x2gd.16xlarge | x2gd.meta | z1d.large | z1d.xlarge | z1d.2xlarge | z1d.3xlarge | z1d.6xlarge | z1d.12xlarge | z1d.meta | x2idn.16xlarge | x2idn.24xlarge | x2idn.32xlarge | x2iedn.xlarge | x2iedn.2xlarge | x2iedn.4xlarge | x2iedn.8xlarge | x2iedn.16xlarge | x2iedn.24xlarge | x2iedn.32xlarge | c6a.large | c6a.xlarge | c6a.2xlarge | c6a.4xlarge | c6a.8xlarge | c6a.12xlarge | c6a.16xlarge | c6a.24xlarge | c6a.32xlarge | c6a.48xlarge | c6a.meta | m6a.meta | i4i.large | i4i.xlarge | i4i.2xlarge | i4i.4xlarge | i4i.8xlarge | i4i.16xlarge | i4i.32xlarge | i4i.meta | x2idn.meta | x2iedn.meta | c7g.medium | c7g.large | c7g.xlarge | c7g.2xlarge | c7g.4xlarge | c7g.8xlarge | c7g.12xlarge | c7g.16xlarge | mac2.meta | c6id.large | c6id.xlarge | c6id.2xlarge | c6id.4xlarge | c6id.8xlarge | c6id.12xlarge | c6id.16xlarge | c6id.24xlarge | c6id.32xlarge | c6id.meta | m6id.large | m6id.xlarge | m6id.2xlarge | m6id.4xlarge | m6id.8xlarge | m6id.12xlarge | m6id.16xlarge | m6id.24xlarge | m6id.32xlarge | m6id.meta | r6id.large | r6id.xlarge | r6id.2xlarge | r6id.4xlarge | r6id.8xlarge | r6id.12xlarge | r6id.16xlarge | r6id.24xlarge | r6id.32xlarge | r6id.meta | r6a.large | r6a.xlarge | r6a.2xlarge | r6a.4xlarge | r6a.8xlarge | r6a.12xlarge | r6a.16xlarge | r6a.24xlarge | r6a.32xlarge | r6a.48xlarge | r6a.meta | p4de.24xlarge | u-3tb1.56xlarge | u-18tb1.112xlarge | u-24tb1.112xlarge | trn1.2xlarge | trn1.32xlarge | hpc6id.32xlarge | c6in.large | c6in.xlarge | c6in.2xlarge | c6in.4xlarge | c6in.8xlarge
| c6in.12xlarge | c6in.16xlarge | c6in.24xlarge | c6in.32xlarge |
| m6in.large | m6in.xlarge | m6in.2xlarge | m6in.4xlarge |
| m6in.12xlarge | m6in.16xlarge | m6in.24xlarge | m6in.32xlarge |
| m6in.8xlarge | m6in.12xlarge | m6in.16xlarge | m6in.24xlarge |
| m6in.32xlarge | r6in.large | r6in.xlarge | r6in.2xlarge |
| r6in.8xlarge | r6in.12xlarge | r6in.16xlarge | r6in.24xlarge |
| m6idn.large | m6idn.xlarge | m6idn.2xlarge | m6idn.4xlarge |
| m6idn.8xlarge | m6idn.12xlarge | m6idn.16xlarge | m6idn.24xlarge |
| m6idn.32xlarge | r6idn.large | r6idn.xlarge | r6idn.2xlarge |
| r6idn.4xlarge | r6idn.8xlarge | r6idn.12xlarge | r6idn.16xlarge |
| r6idn.24xlarge | r6idn.32xlarge | c7g.metal | m7g.medium | m7g.large |
| m7g.xlarge | m7g.2xlarge | m7g.4xlarge | m7g.8xlarge |
| m7g.16xlarge | m7g.metal | r7g.medium | r7g.large | r7g.xlarge |
| r7g.2xlarge | r7g.4xlarge | r7g.8xlarge | r7g.12xlarge | r7g.16xlarge |
| r7g.metal | c6in.metal | m6in.metal | m6idn.metal |
| r6idn.metal | inf2.xlarge | inf2.8xlarge | inf2.4xlarge |
| inf2.24xlarge | inf2.48xlarge |
| trn1n.32xlarge | i4g.large | i4g.xlarge | i4g.2xlarge |
| i4g.4xlarge | i4g.8xlarge | i4g.16xlarge | hpc7g.4xlarge |
| hpc7g.8xlarge | hpc7g.16xlarge | c7g.medium | c7g.large |
| c7g.xlarge | c7g.4xlarge | c7g.8xlarge | c7g.12xlarge |
| c7g.16xlarge | p5.48xlarge | m7i.large | m7i.xlarge | m7i.2xlarge |
| m7i.4xlarge | m7i.8xlarge | m7i.12xlarge | m7i.16xlarge |
| m7i.24xlarge | m7i.48xlarge |
| m7i-flex.large | m7i-flex.xlarge | m7i-flex.2xlarge | m7i-flex.4xlarge |
| m7i-flex.8xlarge | m7a.medium | m7a.large | m7a.xlarge |
| m7a.2xlarge | m7a.4xlarge | m7a.8xlarge | m7a.12xlarge |
| m7a.16xlarge | m7a.24xlarge |
| m7a.32xlarge | m7a.48xlarge | m7a.metal-48x1 | hpc7a.12xlarge |
| hpc7a.24xlarge | hpc7a.48xlarge | hpc7a.96xlarge | c7gd.medium |
| c7gd.large | c7gd.xlarge | c7gd.2xlarge | c7gd.4xlarge |
| c7gd.8xlarge | c7gd.12xlarge | c7gd.16xlarge | m7gd.medium |
| m7gd.large | m7gd.1large | m7gd.xlarge |
| m7gd.2xlarge | m7gd.4xlarge | m7gd.8xlarge | m7gd.12xlarge |
| m7gd.16xlarge | r7gd.medium | r7gd.large | r7gd.xlarge |
| r7gd.2xlarge | r7gd.4xlarge | r7gd.8xlarge | r7gd.12large |
| r7gd.16large | r7a.medium | r7a.large | r7a.xlarge |
| r7a.2xlarge | r7a.4xlarge | r7a.8xlarge | r7a.12xlarge |
| r7a.16xlarge | r7a.24xlarge | r7a.32xlarge | r7a.48xlarge |
| c7i.large | c7i.xlarge | c7i.2xlarge | c7i.4xlarge |
| c7i.8xlarge | c7i.12xlarge | c7i.16xlarge | c7i.24xlarge |
| c7i.48xlarge | mac2-m2pro.metal | r7iz.large | r7iz.xlarge | r7iz.2xlarge | r7iz.4xlarge |
| r7iz.8xlarge | r7iz.12xlarge | r7iz.16xlarge | r7iz.32xlarge |
| c7a.medium | c7a.large | c7a.xlarge | c7a.2xlarge | c7a.4xlarge |
| c7a.8xlarge | c7a.12xlarge | c7a.16xlarge | c7a.24xlarge | c7a.32xlarge |
| c7a.48xlarge | c7a.metal-48x1 | r7a.metal-48x1 | r7i.large |
| r7i.xlarge | r7i.2xlarge | r7i.4xlarge | r7i.8xlarge | r7i.12xlarge |
| r7i.16xlarge | r7i.24xlarge | r7i.48xlarge | dl2q.24xlarge | mac2-
m2.metal | i4i.12xlarge | i4i.24xlarge | c7i.metal-24x1 | c7i.metal-48x1 |
| m7i.metal-24x1 | m7i.metal-48x1 | r7i.metal-24x1 | r7i.metal-48x1 | r7iz.metal-16x1 | r7iz.metal-32x1

**Required:** No

**priority**

The priority of the instance type in the Capacity Reservation Fleet. For more information, see [Instance type priority](#) in the Amazon EC2 User Guide.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

**totalInstanceCount**

The total number of instances for which the Capacity Reservation reserves capacity.

Type: Integer

Required: No

**weight**

The weight of the instance type in the Capacity Reservation Fleet. For more information, see [Instance type weight](#) in the Amazon EC2 User Guide.

Type: Double

Valid Range: Minimum value of 0.001. Maximum value of 99.999.

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
FleetData

Describes an EC2 Fleet.

Contents

activityStatus

The progress of the EC2 Fleet. If there is an error, the status is error. After all requests are placed, the status is pending_fulfillment. If the size of the EC2 Fleet is equal to or greater than its target capacity, the status is fulfilled. If the size of the EC2 Fleet is decreased, the status is pending_termination while instances are terminating.

Type: String

Valid Values: error | pending_fulfillment | pending_termination | fulfilled

Required: No

clientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see Ensuring idempotency.

Constraints: Maximum 64 ASCII characters

Type: String

Required: No

context

Reserved.

Type: String

Required: No

createTime

The creation date and time of the EC2 Fleet.

Type: Timestamp
errorSet

Information about the instances that could not be launched by the fleet. Valid only when Type is set to instant.

Type: Array of DescribeFleetError objects

excessCapacityTerminationPolicy

Indicates whether running instances should be terminated if the target capacity of the EC2 Fleet is decreased below the current size of the EC2 Fleet.

Supported only for fleets of type maintain.

Type: String

Valid Values: no-termination | termination

fleetId

The ID of the EC2 Fleet.

Type: String

Required: No

fleetInstanceSet

Information about the instances that were launched by the fleet. Valid only when Type is set to instant.

Type: Array of DescribeFleetsInstances objects

Required: No

fleetState

The state of the EC2 Fleet.

Type: String
Valid Values: submitted | active | deleted | failed | deleted_running | deleted_terminating | modifying

Required: No

**fulfilledCapacity**

The number of units fulfilled by this request compared to the set target capacity.

Type: Double

Required: No

**fulfilledOnDemandCapacity**

The number of units fulfilled by this request compared to the set target On-Demand capacity.

Type: Double

Required: No

**launchTemplateConfigs**

The launch template and overrides.

Type: Array of FleetLaunchTemplateConfig objects

Required: No

**onDemandOptions**

The allocation strategy of On-Demand Instances in an EC2 Fleet.

Type: OnDemandOptions object

Required: No

**replaceUnhealthyInstances**

Indicates whether EC2 Fleet should replace unhealthy Spot Instances. Supported only for fleets of type maintain. For more information, see [EC2 Fleet health checks](https://docs.aws.amazon.com/AmazonECS/latest/developerguide/ec2-fleet-health-checks.html) in the *Amazon EC2 User Guide*.

Type: Boolean

Required: No
spotOptions

The configuration of Spot Instances in an EC2 Fleet.

Type: SpotOptions object

Required: No

tagSet

The tags for an EC2 Fleet resource.

Type: Array of Tag objects

Required: No

targetCapacitySpecification

The number of units to request. You can choose to set the target capacity in terms of instances or a performance characteristic that is important to your application workload, such as vCPUs, memory, or I/O. If the request type is maintain, you can specify a target capacity of 0 and add capacity later.

Type: TargetCapacitySpecification object

Required: No

terminateInstancesWithExpiration

Indicates whether running instances should be terminated when the EC2 Fleet expires.

Type: Boolean

Required: No

type

The type of request. Indicates whether the EC2 Fleet only requests the target capacity, or also attempts to maintain it. If you request a certain target capacity, EC2 Fleet only places the required requests; it does not attempt to replenish instances if capacity is diminished, and it does not submit requests in alternative capacity pools if capacity is unavailable. To maintain a certain target capacity, EC2 Fleet places the required requests to meet this target capacity. It also automatically replenishes any interrupted Spot Instances. Default: maintain.

Type: String
Valid Values: request | maintain | instant

Required: No

**validFrom**

The start date and time of the request, in UTC format (for example, `YYYY-MM-DDTHH:MM:SSZ`). The default is to start fulfilling the request immediately.

Type: Timestamp

Required: No

**validUntil**

The end date and time of the request, in UTC format (for example, `YYYY-MM-DDTHH:MM:SSZ`). At this point, no new instance requests are placed or able to fulfill the request. The default end date is 7 days from the current date.

Type: Timestamp

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
FleetLaunchTemplateConfig

Describes a launch template and overrides.

Contents

launchTemplateSpecification

The launch template.

Type: FleetLaunchTemplateSpecification object

Required: No

overrides

Any parameters that you specify override the same parameters in the launch template.

Type: Array of FleetLaunchTemplateOverrides objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
**FleetLaunchTemplateConfigRequest**

Describes a launch template and overrides.

**Contents**

**LaunchTemplateSpecification**

The launch template to use. You must specify either the launch template ID or launch template name in the request.

*Type: FleetLaunchTemplateSpecificationRequest object*

*Required: No*

**Overrides**

Any parameters that you specify override the same parameters in the launch template.

For fleets of type request and maintain, a maximum of 300 items is allowed across all launch templates.

*Type: Array of FleetLaunchTemplateOverridesRequest objects*

*Required: No*

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
FleetLaunchTemplateOverrides

Describes overrides for a launch template.

Contents

availabilityZone

The Availability Zone in which to launch the instances.

Type: String

Required: No

imageId

The ID of the AMI. An AMI is required to launch an instance. This parameter is only available for fleets of type instant. For fleets of type maintain and request, you must specify the AMI ID in the launch template.

Type: String

Required: No

instanceRequirements

The attributes for the instance types. When you specify instance attributes, Amazon EC2 will identify instance types with those attributes.

Note

If you specify InstanceRequirements, you can't specify InstanceType.

Type: InstanceRequirements object

Required: No

instanceType

The instance type.

mac1.metal is not supported as a launch template override.
**Note**

If you specify InstanceType, you can’t specify InstanceRequirements.

**Type:** String

**Valid Values:**
- a1.medium
- a1.large
- a1.xlarge
- a1.2xlarge
- a1.4xlarge
- a1.metal
- c1.medium
- c1.large
- c1.xlarge
- c2.xlarge
- c3.8xlarge
- c4.large
- c4.xlarge
- c4.2xlarge
- c4.4xlarge
- c4.8xlarge
- c5.large
- c5.xlarge
- c5.2xlarge
- c5.4xlarge
- c5.9xlarge
- c5.12xlarge
- c5.18xlarge
- c5.24xlarge
- c5.meta
- c5a.large
- c5a.xlarge
- c5a.2xlarge
- c5a.4xlarge
- c5a.8xlarge
- c5a.12xlarge
- c5a.16xlarge
- c5a.24xlarge
- c5d.1large
- c5d.xlarge
- c5d.2xlarge
- c5d.4xlarge
- c5d.9xlarge
- c5d.12xlarge
- c5d.18xlarge
- c5d.24xlarge
- c5d.meta
- c5n.large
- c5n.xlarge
- c5n.2xlarge
- c5n.4xlarge
- c5n.9xlarge
- c5n.18xlarge
- c5n.meta
- c6g.medium
- c6g.large
- c6g.xlarge
- c6g.2xlarge
- c6g.4xlarge
- c6g.8xlarge
- c6g.12xlarge
- c6g.16xlarge
- c6g.meta
- c6gd.medium
- c6gd.large
- c6gd.xlarge
- c6gd.2xlarge
- c6gd.4xlarge
- c6gd.8xlarge
- c6gd.12xlarge
- c6gd.16xlarge
- c6gd.meta
- c6gn.medium
- c6gn.large
- c6gn.xlarge
- c6gn.2xlarge
- c6gn.4xlarge
- c6gn.8xlarge
- c6gn.12xlarge
- c6gn.16xlarge
- c6i.large
- c6i.xlarge
- c6i.2xlarge
- c6i.4xlarge
- c6i.8xlarge
- c6i.12xlarge
- c6i.16xlarge
- c6i.24xlarge
- c6i.32xlarge
- c6i.meta
- cc1.4xlarge
- cc2.8xlarge
- cg1.4xlarge
- cr1.8xlarge
- d2.xlarge
- d2.2xlarge
- d2.4xlarge
- d2.8xlarge
- d3.xlarge
- d3.2xlarge
- d3.4xlarge
- d3.8xlarge
- d3en.xlarge
- d3en.2xlarge
- d3en.4xlarge
- d3en.6xlarge
- d3en.8xlarge
- d3en.12xlarge
- d11.24xlarge
- f1.2xlarge
- f1.4xlarge
- f1.16xlarge
- g2.2xlarge
- g2.8xlarge
- g3.4xlarge
- g3.8xlarge
- g3.16xlarge
- g3s.xlarge
- g4ad.xlarge
- g4ad.2xlarge
- g4ad.4xlarge
- g4ad.8xlarge
- g4ad.16xlarge
- g4adn.xlarge
- g4dn.2xlarge
- g4dn.4xlarge
- g4dn.8xlarge
- g4dn.12xlarge
- g4dn.16xlarge
- g4dn.meta
- g5.xlarge
- g5.2xlarge
- g5.4xlarge
- g5.8xlarge
- g5.12xlarge
- g5.16xlarge
- g5.24xlarge
- g5.48xlarge
- g5g.xlarge
- g5g.2xlarge
- g5g.4xlarge
- g5g.8xlarge
### Contents

| r5.large | r5.xlarge | r5.2xlarge | r5.4xlarge | r5.8xlarge |
| r5.12xlarge | r5.16xlarge | r5.24xlarge | r5.4xlarge | r5.8xlarge |
| r5a.large | r5a.xlarge | r5a.2xlarge | r5a.4xlarge | r5a.8xlarge |
| r5a.16xlarge | r5a.24xlarge | r5ad.large | r5ad.xlarge | r5ad.2xlarge |
| r5ad.4xlarge | r5ad.8xlarge | r5ad.12xlarge | r5ad.16xlarge |
| r5ad.24xlarge | r5b.large | r5b.xlarge | r5b.2xlarge | r5b.4xlarge |
| r5b.8xlarge | r5b.12xlarge | r5b.16xlarge | r5b.24xlarge | r5b.meta |
| r5d.large | r5d.xlarge | r5d.2xlarge | r5d.4xlarge | r5d.8xlarge |
| r5d.12xlarge | r5d.16xlarge | r5d.24xlarge | r5d.meta | r5dn.large |
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| r5dn.12xlarge | r5dn.24xlarge | r5dn.meta | r5n.large | r5n.xlarge |
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| r5n.24xlarge | r5n.meta | r6g.large | r6g.xlarge |
| r6g.2xlarge | r6g.4xlarge | r6g.8xlarge | r6g.12xlarge | r6g.16xlarge |
| r6g.meta | r6gd.medium | r6gd.large | r6gd.xlarge | r6gd.2xlarge |
| r6gd.4xlarge | r6gd.8xlarge | r6gd.12xlarge | r6gd.16xlarge |
| r6gd.meta | r6i.large | r6i.xlarge | r6i.2xlarge | r6i.4xlarge |
| r6i.8xlarge | r6i.12xlarge | r6i.16xlarge | r6i.24xlarge | r6i.32xlarge |
| r6i.meta | t1.micro | t2.nano | t2.micro | t2.small |
| t2.medium | t2.large | t2.xlarge | t2.2xlarge |
| t3.nano | t3.micro | t3.small | t3.medium |
| t3.large | t3.xlarge | t3.2xlarge | t3a.nano |
| t3a.micro | t3a.small | t3a.medium | t3a.large |
| t3a.xlarge | t3a.2xlarge | t4g.nano | t4g.micro |
| t4g.small | t4g.medium | t4g.large | t4g.xlarge |
| t4g.2xlarge | u-6tb1.56xlarge | u-6tb1.112xlarge | u-9tb1.112xlarge |
| u-12tb1.112xlarge | u-6tb1.meta | u-9tb1.meta | u-12tb1.meta |
| u-18tb1.meta | u-24tb1.meta | vt1.3xlarge | vt1.6xlarge |
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| x1e.2xlarge | x1e.4xlarge | x1e.8xlarge | x1e.16xlarge |
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| x2iezn.4xlarge | x2iezn.6xlarge | x2iezn.8xlarge | x2iezn.12xlarge |
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| x2gd.meta | z1d.large | z1d.xlarge | z1d.2xlarge |
| z1d.3xlarge | z1d.6xlarge | z1d.12xlarge | z1d.meta |
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| x2iedn.24xlarge | x2iedn.32xlarge | c6a.large | c6a.xlarge |
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| c6a.metal   | m6a.metal    | i4i.large   | i4i.xlarge  | i4i.2xlarge  |
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| x2idn.metal | x2iedn.metal | c7g.medium  | c7g.large   | c7g.xlarge   |
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| c6id.8xlarge | c6id.12xlarge | c6id.16xlarge | c6id.24xlarge | c6id.32xlarge |
| c6id.metal  | m6id.large  | m6id.xlarge | m6id.2xlarge | m6id.4xlarge |
| m6id.8xlarge | m6id.12xlarge | m6id.16xlarge | m6id.24xlarge | m6id.32xlarge |
| m6id.4xlarge | m6id.32xlarge | m6id.metal  | r6id.large  | r6id.xlarge  |
| r6id.2xlarge | r6id.4xlarge | r6id.8xlarge | r6id.12xlarge | r6id.16xlarge |
| r6id.24xlarge | r6id.32xlarge | r6id.4xlarge | r6id.metal  | r6a.large    |
| r6a.xlarge  | r6a.2xlarge  | r6a.4xlarge | r6a.8xlarge | r6a.12xlarge |
| r6a.16xlarge | r6a.24xlarge | r6a.32xlarge | r6a.48xlarge | r6a.metal    |
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| trn1.32xlarge | hpc6id.32xlarge | c6in.large  | c6in.xlarge | c6in.2xlarge |
| c6in.4xlarge | c6in.8xlarge | c6in.12xlarge | c6in.16xlarge | c6in.24xlarge |
| c6in.32xlarge | m6in.large  | m6in.xlarge | m6in.2xlarge | m6in.4xlarge |
| m6in.8xlarge | m6in.12xlarge | m6in.16xlarge | m6in.24xlarge | m6in.32xlarge |
| m6in.metal  | r6in.large  | r6in.xlarge | r6in.2xlarge | r6in.4xlarge |
| r6in.8xlarge | r6in.12xlarge | r6in.16xlarge | r6in.24xlarge | r6in.32xlarge |
| r6in.4xlarge | r6idn.large | r6idn.xlarge | r6idn.2xlarge | r6idn.4xlarge |
| r6idn.8xlarge | m6idn.12xlarge | m6idn.16xlarge | m6idn.24xlarge | m6idn.32xlarge |
| m6idn.metal | c7gn.large  | c7gn.xlarge | c7gn.2xlarge | c7gn.4xlarge |
| c7gn.8xlarge | c7gn.12xlarge | c7gn.16xlarge | c7gn.24xlarge | c7gn.32xlarge |
| c7gn.4xlarge | c7gn.8xlarge | c7gn.12xlarge | c7gn.16xlarge | c7gn.metal   |
| m7g.medium  | m7g.large   | m7g.xlarge  | m7g.2xlarge | m7g.4xlarge |
| m7g.8xlarge | m7g.12xlarge | m7g.16xlarge | m7g.metal   | r7g.medium  |
| r7g.large   | r7g.xlarge  | r7g.2xlarge | r7g.4xlarge | r7g.8xlarge |
| r7g.12xlarge | r7g.16xlarge | r7g.metal   | c6in.metal  | m6in.metal  |
| m6idn.metal | r6in.metal  | inf2.xlarge | inf2.8xlarge | inf2.24xlarge |
| inf2.48xlarge | trn1n.32xlarge | i4g.large  | i4g.xlarge  | i4g.2xlarge |
| i4g.4xlarge | i4g.8xlarge | i4g.16xlarge | hpc7g.4xlarge | hpc7g.8xlarge |
| hpc7g.16xlarge | c7gn.medium | c7gn.large  | c7gn.xlarge | c7gn.2xlarge |
| c7gn.4xlarge | c7gn.8xlarge | c7gn.12xlarge | c7gn.16xlarge |
maxPrice

The maximum price per unit hour that you are willing to pay for a Spot Instance. We do not recommend using this parameter because it can lead to increased interruptions. If you do not specify this parameter, you will pay the current Spot price.
Important

If you specify a maximum price, your instances will be interrupted more frequently than if you do not specify this parameter.

**Type:** String

**Required:** No

**placement**

The location where the instance launched, if applicable.

**Type:** PlacementResponse object

**Required:** No

**priority**

The priority for the launch template override. The highest priority is launched first.

If the On-Demand AllocationStrategy is set to prioritized, EC2 Fleet uses priority to determine which launch template override to use first in fulfilling On-Demand capacity.

If the Spot AllocationStrategy is set to capacity-optimized-prioritized, EC2 Fleet uses priority on a best-effort basis to determine which launch template override to use in fulfilling Spot capacity, but optimizes for capacity first.

Valid values are whole numbers starting at 0. The lower the number, the higher the priority. If no number is set, the override has the lowest priority. You can set the same priority for different launch template overrides.

**Type:** Double

**Required:** No

**subnetId**

The ID of the subnet in which to launch the instances.

**Type:** String

**Required:** No
**weightedCapacity**

The number of units provided by the specified instance type.

Type: Double

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
FleetLaunchTemplateOverridesRequest

Describes overrides for a launch template.

Contents

AvailabilityZone

The Availability Zone in which to launch the instances.

Type: String

Required: No

ImageId

The ID of the AMI. An AMI is required to launch an instance. This parameter is only available for fleets of type instant. For fleets of type maintain and request, you must specify the AMI ID in the launch template.

Type: String

Required: No

InstanceRequirements

The attributes for the instance types. When you specify instance attributes, Amazon EC2 will identify instance types with those attributes.

Type: InstanceRequirementsRequest object

Required: No

InstanceType

The instance type.

mac1.metal is not supported as a launch template override.
If you specify InstanceType, you can't specify InstanceRequirements.

Type: String

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metal | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5d.metal | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c5n.9xlarge | c5n.18xlarge | c5n.metal | c6g.medium | c6g.large | c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.metal | c6gd.medium | c6gd.large | c6gd.xlarge | c6gd.2xlarge | c6gd.4xlarge | c6gd.8xlarge | c6gd.12xlarge | c6gd.16xlarge | c6gd.metal | c6gn.medium | c6gn.large | c6gn.xlarge | c6gn.2xlarge | c6gn.4xlarge | c6gn.8xlarge | c6gn.12xlarge | c6gn.16xlarge | c6i.large | c6i.xlarge | c6i.2xlarge | c6i.4xlarge | c6i.8xlarge | c6i.12xlarge | c6i.16xlarge | c6i.24xlarge | c6i.32xlarge | c6i.metal | cc1.4xlarge | cc2.8xlarge | cg1.4xlarge | cr1.8xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | d3.xlarge | d3.2xlarge | d3.4xlarge | d3.8xlarge | d3en.xlarge | d3en.2xlarge | d3en.4xlarge | d3en.6xlarge | d3en.8xlarge | d3en.12xlarge | d11.24xlarge | f1.2xlarge | f1.4xlarge | f1.16xlarge | g2.2xlarge | g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | g3s.xlarge | g4ad.xlarge | g4ad.2xlarge | g4ad.4xlarge | g4ad.8xlarge | g4ad.16xlarge | g4dn.xlarge | g4dn.2xlarge | g4dn.4xlarge | g4dn.8xlarge | g4dn.12xlarge | g4dn.16xlarge | g4dn.metal | g5.xlarge | g5.2xlarge | g5.4xlarge | g5.8xlarge | g5.12xlarge | g5.16xlarge | g5.24xlarge | g5.48xlarge | g5g.xlarge | g5g.2xlarge | g5g.4xlarge | g5g.8xlarge |
Contents

API Version 2016-11-15 2587
| r5.large | r5.xlarge | r5.2xlarge | r5.4xlarge | r5.8xlarge |
| r5.12xlarge | r5.16xlarge | r5.24xlarge | r5.meta | r5a.large |
| r5a.xlarge | r5a.2xlarge | r5a.4xlarge | r5a.8xlarge | r5a.12xlarge |
| r5a.16xlarge | r5a.24xlarge | r5ad.large | r5ad.xlarge | r5ad.2xlarge |
| r5ad.4xlarge | r5ad.8xlarge | r5ad.12xlarge | r5ad.16xlarge | r5ad.24xlarge |
| r5b.large | r5b.xlarge | r5b.2xlarge | r5b.4xlarge |
| r5b.8xlarge | r5b.12xlarge | r5b.16xlarge | r5b.24xlarge | r5b.meta |
| r5d.large | r5d.xlarge | r5d.2xlarge | r5d.4xlarge | r5d.8xlarge |
| r5d.12xlarge | r5d.16xlarge | r5d.24xlarge | r5d.meta | r5dn.large |
| r5dn.xlarge | r5dn.2xlarge | r5dn.4xlarge | r5dn.8xlarge | r5dn.12xlarge |
| r5dn.16xlarge | r5dn.24xlarge | r5dn.meta | r5n.large | r5n.xlarge |
| r5n.2xlarge | r5n.4xlarge | r5n.8xlarge | r5n.12large | r5n.16xlarge |
| r5n.24xlarge | r5n.meta | r6g.medium | r6g.large | r6g.xlarge |
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| r6g.meta | r6gd.medium | r6gd.large | r6gd.xlarge | r6gd.2xlarge |
| r6gd.4xlarge | r6gd.8xlarge | r6gd.12large | r6gd.16xlarge | r6gd.meta |
| r6i.large | r6i.xlarge | r6i.2xlarge | r6i.4xlarge |
| r6i.8xlarge | r6i.12xlarge | r6i.16large | r6i.24large | r6i.32xlarge |
| r6i.meta | t1.micro | t2.nano | t2.micro | t2.small |
| t2.medium | t2.large | t2.xlarge | t2.2xlarge | t3.nano |
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| t3a.nano | t3a.micro | t3a.small | t3a.medium | t3a.large |
| t3a.xlarge | t3a.2xlarge | t4g.nano | t4g.micro | t4g.small |
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| u-12tb1.112xlarge | u-6tb1.meta | u-9tb1.meta | u-12tb1.meta |
| u-18tb1.meta | u-24tb1.meta | vt1.3xlarge | vt1.6xlarge | vt1.24xlarge |
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| x2iezn.4xlarge | x2iezn.6xlarge | x2iezn.8xlarge | x2iezn.12xlarge |
| x2iezn.meta | x2gd.medium | x2gd.large | x2gd.xlarge | x2gd.2xlarge |
| x2gd.4xlarge | x2gd.8xlarge | x2gd.12xlarge | x2gd.16xlarge | x2gd.meta |
| z1d.large | z1d.xlarge | z1d.2xlarge | z1d.3xlarge |
| z1d.6xlarge | z1d.12xlarge | z1d.meta | x2idn.16xlarge | x2idn.24xlarge |
| x2idn.32xlarge | x2iedn.xlarge | x2iedn.2xlarge | x2iedn.4xlarge |
| x2iedn.8xlarge | x2iedn.16xlarge | x2iedn.24xlarge | x2iedn.32xlarge |
| c6a.large | c6a.xlarge | c6a.2xlarge | c6a.4xlarge | c6a.8xlarge |
MaxPrice

The maximum price per unit hour that you are willing to pay for a Spot Instance. We do not recommend using this parameter because it can lead to increased interruptions. If you do not specify this parameter, you will pay the current Spot price.
Important

If you specify a maximum price, your instances will be interrupted more frequently than if you do not specify this parameter.

Type: String

Required: No

Placement

The location where the instance launched, if applicable.

Type: Placement object

Required: No

Priority

The priority for the launch template override. The highest priority is launched first.

If the On-Demand AllocationStrategy is set to prioritized, EC2 Fleet uses priority to determine which launch template override to use first in fulfilling On-Demand capacity.

If the Spot AllocationStrategy is set to capacity-optimized-prioritized, EC2 Fleet uses priority on a best-effort basis to determine which launch template override to use in fulfilling Spot capacity, but optimizes for capacity first.

Valid values are whole numbers starting at 0. The lower the number, the higher the priority. If no number is set, the launch template override has the lowest priority. You can set the same priority for different launch template overrides.

Type: Double

Required: No

SubnetId

The IDs of the subnets in which to launch the instances. Separate multiple subnet IDs using commas (for example, subnet-1234abcdeexample1, subnet-0987cdefexample2). A request of type instant can have only one subnet ID.

Type: String
Required: No

**WeightedCapacity**

The number of units provided by the specified instance type.

Type: Double

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
FleetLaunchTemplateSpecification

The Amazon EC2 launch template that can be used by a Spot Fleet to configure Amazon EC2 instances. You must specify either the ID or name of the launch template in the request, but not both.

For information about launch templates, see [Launch an instance from a launch template](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/Launch-an-instance-from-a-launch-template.html) in the *Amazon EC2 User Guide*.

## Contents

**LaunchTemplateId** *(request), launchTemplateId*(response)

The ID of the launch template.

You must specify the LaunchTemplateId or the LaunchTemplateName, but not both.

Type: String

Required: No

**LaunchTemplateName** *(request), launchTemplateName*(response)

The name of the launch template.

You must specify the LaunchTemplateName or the LaunchTemplateId, but not both.

Type: String


Pattern: [a-zA-Z0-9\((\)\:\.\-/\_]+

Required: No

**Version** *(request), version*(response)

The launch template version number, $Latest, or $Default. You must specify a value, otherwise the request fails.

If the value is $Latest, Amazon EC2 uses the latest version of the launch template.

If the value is $Default, Amazon EC2 uses the default version of the launch template.
Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
FleetLaunchTemplateSpecificationRequest

The Amazon EC2 launch template that can be used by an EC2 Fleet to configure Amazon EC2 instances. You must specify either the ID or name of the launch template in the request, but not both.

For information about launch templates, see Launch an instance from a launch template in the Amazon EC2 User Guide.

Contents

LaunchTemplateName

The name of the launch template.

You must specify the LaunchTemplateName or the LaunchTemplateId, but not both.

Type: String

Required: No

LaunchTemplateId

The ID of the launch template.

You must specify the LaunchTemplateId or the LaunchTemplateName, but not both.

Type: String

Required: No

Version

The launch template version number, $Latest, or $Default. You must specify a value, otherwise the request fails.

If the value is $Latest, Amazon EC2 uses the latest version of the launch template.

If the value is $Default, Amazon EC2 uses the default version of the launch template.
Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
FleetSpotCapacityRebalance

The strategy to use when Amazon EC2 emits a signal that your Spot Instance is at an elevated risk of being interrupted.

Contents

replacementStrategy

The replacement strategy to use. Only available for fleets of type maintain.

launch - EC2 Fleet launches a new replacement Spot Instance when a rebalance notification is emitted for an existing Spot Instance in the fleet. EC2 Fleet does not terminate the instances that receive a rebalance notification. You can terminate the old instances, or you can leave them running. You are charged for all instances while they are running.

launch-before-terminate - EC2 Fleet launches a new replacement Spot Instance when a rebalance notification is emitted for an existing Spot Instance in the fleet, and then, after a delay that you specify (in TerminationDelay), terminates the instances that received a rebalance notification.

Type: String

Valid Values: launch | launch-before-terminate

Required: No

terminationDelay

The amount of time (in seconds) that Amazon EC2 waits before terminating the old Spot Instance after launching a new replacement Spot Instance.

Required when ReplacementStrategy is set to launch-before-terminate.

Not valid when ReplacementStrategy is set to launch.

Valid values: Minimum value of 120 seconds. Maximum value of 7200 seconds.

Type: Integer

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
FleetSpotCapacityRebalanceRequest

The Spot Instance replacement strategy to use when Amazon EC2 emits a rebalance notification signal that your Spot Instance is at an elevated risk of being interrupted. For more information, see Capacity rebalancing in the Amazon EC2 User Guide.

Contents

ReplacementStrategy

The replacement strategy to use. Only available for fleets of type maintain.

launch - EC2 Fleet launches a replacement Spot Instance when a rebalance notification is emitted for an existing Spot Instance in the fleet. EC2 Fleet does not terminate the instances that receive a rebalance notification. You can terminate the old instances, or you can leave them running. You are charged for all instances while they are running.

launch-before-terminate - EC2 Fleet launches a replacement Spot Instance when a rebalance notification is emitted for an existing Spot Instance in the fleet, and then, after a delay that you specify (in TerminationDelay), terminates the instances that received a rebalance notification.

Type: String

Valid Values: launch | launch-before-terminate

Required: No

TerminationDelay

The amount of time (in seconds) that Amazon EC2 waits before terminating the old Spot Instance after launching a new replacement Spot Instance.

Required when ReplacementStrategy is set to launch-before-terminate.

Not valid when ReplacementStrategy is set to launch.

Valid values: Minimum value of 120 seconds. Maximum value of 7200 seconds.

Type: Integer

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
FleetSpotMaintenanceStrategies

The strategies for managing your Spot Instances that are at an elevated risk of being interrupted.

Contents

capacityRebalance

The strategy to use when Amazon EC2 emits a signal that your Spot Instance is at an elevated risk of being interrupted.

Type: FleetSpotCapacityRebalance object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
FleetSpotMaintenanceStrategiesRequest

The strategies for managing your Spot Instances that are at an elevated risk of being interrupted.

Contents

CapacityRebalance

The strategy to use when Amazon EC2 emits a signal that your Spot Instance is at an elevated risk of being interrupted.

Type: FleetSpotCapacityRebalanceRequest object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
FlowLog

Describes a flow log.

Contents

creationTime

The date and time the flow log was created.

Type: Timestamp

Required: No

deliverCrossAccountRole

The ARN of the IAM role that allows the service to publish flow logs across accounts.

Type: String

Required: No

deliverLogsErrorMessage

Information about the error that occurred. Rate limited indicates that CloudWatch Logs throttling has been applied for one or more network interfaces, or that you've reached the limit on the number of log groups that you can create. Access error indicates that the IAM role associated with the flow log does not have sufficient permissions to publish to CloudWatch Logs. Unknown error indicates an internal error.

Type: String

Required: No

deliverLogsPermissionArn

The ARN of the IAM role allows the service to publish logs to CloudWatch Logs.

Type: String

Required: No

deliverLogsStatus

The status of the logs delivery (SUCCESS | FAILED).
Type: String
Required: No
destinationOptions
The destination options.

Type: DestinationOptionsResponse object
Required: No
flowLogId
The ID of the flow log.
Type: String
Required: No
flowLogStatus
The status of the flow log (ACTIVE).
Type: String
Required: No
logDestination
The Amazon Resource Name (ARN) of the destination for the flow log data.
Type: String
Required: No
logDestinationType
The type of destination for the flow log data.
Type: String
Valid Values: cloud-watch-logs | s3 | kinesis-data-firehose
Required: No
logFormat
The format of the flow log record.
logGroupName

The name of the flow log group.

Type: String

Required: No

maxAggregationInterval

The maximum interval of time, in seconds, during which a flow of packets is captured and aggregated into a flow log record.

When a network interface is attached to a Nitro-based instance, the aggregation interval is always 60 seconds (1 minute) or less, regardless of the specified value.

Valid Values: 60 | 600

Type: Integer

Required: No

resourceId

The ID of the resource being monitored.

Type: String

Required: No

tagSet

The tags for the flow log.

Type: Array of Tag objects

Required: No

trafficType

The type of traffic captured for the flow log.

Type: String
Valid Values: ACCEPT  |  REJECT  |  ALL

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
FpgaDeviceInfo

Describes the FPGA accelerator for the instance type.

Contents

count

The count of FPGA accelerators for the instance type.

Type: Integer

Required: No

manufacturer

The manufacturer of the FPGA accelerator.

Type: String

Required: No

memoryInfo

Describes the memory for the FPGA accelerator for the instance type.

Type: FpgaDeviceMemoryInfo object

Required: No

name

The name of the FPGA accelerator.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
FpgaDeviceMemoryInfo

Describes the memory for the FPGA accelerator for the instance type.

Contents

sizeInMiB

The size of the memory available to the FPGA accelerator, in MiB.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
FpgaImage

Describes an Amazon FPGA image (AFI).

Contents

createTime

The date and time the AFI was created.

Type: Timestamp

Required: No

dataRetentionSupport

Indicates whether data retention support is enabled for the AFI.

Type: Boolean

Required: No

description

The description of the AFI.

Type: String

Required: No

fpgaImageGlobalId

The global FPGA image identifier (AGFI ID).

Type: String

Required: No

fpgaImageId

The FPGA image identifier (AFI ID).

Type: String

Required: No
instanceTypes

The instance types supported by the AFI.

Type: Array of strings

Required: No

name

The name of the AFI.

Type: String

Required: No

ownerAlias

The alias of the AFI owner. Possible values include self, amazon, and aws-marketplace.

Type: String

Required: No

ownerId

The ID of the AWS account that owns the AFI.

Type: String

Required: No

pciId

Information about the PCI bus.

Type: PciId object

Required: No

productCodes

The product codes for the AFI.

Type: Array of ProductCode objects

Required: No
public

Indicates whether the AFI is public.

Type: Boolean

Required: No

shellVersion

The version of the AWS Shell that was used to create the bitstream.

Type: String

Required: No

state

Information about the state of the AFI.

Type: FpgaImageState object

Required: No

tags

Any tags assigned to the AFI.

Type: Array of Tag objects

Required: No

updateTime

The time of the most recent update to the AFI.

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
FpgaImageAttribute

Describes an Amazon FPGA image (AFI) attribute.

Contents

description

The description of the AFI.

Type: String

Required: No

fpgaImageId

The ID of the AFI.

Type: String

Required: No

loadPermissions

The load permissions.

Type: Array of LoadPermission objects

Required: No

name

The name of the AFI.

Type: String

Required: No

productCodes

The product codes.

Type: Array of ProductCode objects

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
FpgaImageState

Describes the state of the bitstream generation process for an Amazon FPGA image (AFI).

Contents

code

The state. The following are the possible values:
- pending - AFI bitstream generation is in progress.
- available - The AFI is available for use.
- failed - AFI bitstream generation failed.
- unavailable - The AFI is no longer available for use.

Type: String

Valid Values: pending | failed | available | unavailable

Required: No

message

If the state is failed, this is the error message.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://aws.amazon.com/sdk-for-go/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)

FpgaImageState

API Version 2016-11-15 2616
FpgaInfo

Describes the FPGAs for the instance type.

Contents

fpgas

Describes the FPGAs for the instance type.

Type: Array of FpgaDeviceInfo objects

Required: No

totalFpgaMemoryInMiB

The total memory of all FPGA accelerators for the instance type.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
GpuDeviceInfo

Describes the GPU accelerators for the instance type.

Contents

count

The number of GPUs for the instance type.

Type: Integer

Required: No

manufacturer

The manufacturer of the GPU accelerator.

Type: String

Required: No

memoryInfo

Describes the memory available to the GPU accelerator.

Type: GpuDeviceMemoryInfo object

Required: No

name

The name of the GPU accelerator.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
GpuDeviceMemoryInfo

Describes the memory available to the GPU accelerator.

Contents

sizeInMiB

The size of the memory available to the GPU accelerator, in MiB.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
GpuInfo

Describes the GPU accelerators for the instance type.

Contents

gpus

Describes the GPU accelerators for the instance type.

Type: Array of GpuDeviceInfo objects

Required: No

totalGpuMemoryInMiB

The total size of the memory for the GPU accelerators for the instance type, in MiB.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
GroupIdentifier

Describes a security group.

Contents

**GroupId** (request), **groupId** (response)

The ID of the security group.

Type: String

Required: No

**GroupName** (request), **groupName** (response)

The name of the security group.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
HibernationOptions

Indicates whether your instance is configured for hibernation. This parameter is valid only if the instance meets the hibernation prerequisites. For more information, see Hibernate your instance in the Amazon EC2 User Guide.

Contents

configured

If true, your instance is enabled for hibernation; otherwise, it is not enabled for hibernation.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
HibernationOptionsRequest

Indicates whether your instance is configured for hibernation. This parameter is valid only if the instance meets the hibernation prerequisites. For more information, see Hibernate your instance in the Amazon EC2 User Guide.

Contents

Configured

Set to true to enable your instance for hibernation.

For Spot Instances, if you set Configured to true, either omit the InstanceInterruptionBehavior parameter (for SpotMarketOptions), or set it to hibernate. When Configured is true:

- If you omit InstanceInterruptionBehavior, it defaults to hibernate.
- If you set InstanceInterruptionBehavior to a value other than hibernate, you'll get an error.

Default: false

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
HistoryRecord

Describes an event in the history of the Spot Fleet request.

Contents

**eventInformation**

Information about the event.

Type: `EventInformation` object

Required: No

**eventType**

The event type.

- `error` - An error with the Spot Fleet request.
- `fleetRequestChange` - A change in the status or configuration of the Spot Fleet request.
- `instanceChange` - An instance was launched or terminated.
- `information` - An informational event.

Type: String

Valid Values: `instanceChange` | `fleetRequestChange` | `error` | `information`

Required: No

**timestamp**

The date and time of the event, in UTC format (for example, `YYYY-MM-DDTHH:MM:SSZ`).

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
HistoryRecordEntry

Describes an event in the history of an EC2 Fleet.

Contents

eventInformation

Information about the event.

Type: EventInformation object

Required: No

eventType

The event type.

Type: String

Valid Values: instance-change | fleet-change | service-error

Required: No

timestamp

The date and time of the event, in UTC format (for example, YYYY-MM-DDTHH:MM:SSZ).

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Host

Describes the properties of the Dedicated Host.

Contents

**allocationTime**

The time that the Dedicated Host was allocated.

Type: Timestamp

Required: No

**allowsMultipleInstanceTypes**

Indicates whether the Dedicated Host supports multiple instance types of the same instance family. If the value is on, the Dedicated Host supports multiple instance types in the instance family. If the value is off, the Dedicated Host supports a single instance type only.

Type: String

Valid Values: on | off

Required: No

**assetId**

The ID of the Outpost hardware asset on which the Dedicated Host is allocated.

Type: String

Required: No

**autoPlacement**

Whether auto-placement is on or off.

Type: String

Valid Values: on | off

Required: No
availabilityZone

The Availability Zone of the Dedicated Host.

Type: String

Required: No

availabilityZoneId

The ID of the Availability Zone in which the Dedicated Host is allocated.

Type: String

Required: No

availableCapacity

Information about the instances running on the Dedicated Host.

Type: AvailableCapacity object

Required: No

clientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see Ensuring Idempotency.

Type: String

Required: No

hostId

The ID of the Dedicated Host.

Type: String

Required: No

hostMaintenance

Indicates whether host maintenance is enabled or disabled for the Dedicated Host.

Type: String
Valid Values: on | off
Required: No

**hostProperties**

The hardware specifications of the Dedicated Host.

Type: [HostProperties](#) object

Required: No

**hostRecovery**

Indicates whether host recovery is enabled or disabled for the Dedicated Host.

Type: String

Valid Values: on | off

Required: No

**hostReservationId**

The reservation ID of the Dedicated Host. This returns a null response if the Dedicated Host doesn't have an associated reservation.

Type: String

Required: No

**instances**

The IDs and instance type that are currently running on the Dedicated Host.

Type: Array of [HostInstance](#) objects

Required: No

**memberOfServiceLinkedResourceGroup**

Indicates whether the Dedicated Host is in a host resource group. If [memberOfServiceLinkedResourceGroup](#) is true, the host is in a host resource group; otherwise, it is not.

Type: Boolean
Required: No

**outpostArn**

The Amazon Resource Name (ARN) of the AWS Outpost on which the Dedicated Host is allocated.

Type: String

Required: No

**ownerId**

The ID of the AWS account that owns the Dedicated Host.

Type: String

Required: No

**releaseTime**

The time that the Dedicated Host was released.

Type: Timestamp

Required: No

**state**

The Dedicated Host's state.

Type: String

Valid Values: available | under-assessment | permanent-failure | released | released-permanent-failure | pending

Required: No

**tagSet**

Any tags assigned to the Dedicated Host.

Type: Array of Tag objects

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
HostInstance

Describes an instance running on a Dedicated Host.

Contents

instanceId

The ID of instance that is running on the Dedicated Host.

Type: String

Required: No

instanceType

The instance type (for example, m3.mediuem) of the running instance.

Type: String

Required: No

ownerId

The ID of the AWS account that owns the instance.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
HostOffering

Details about the Dedicated Host Reservation offering.

Contents

currencyCode

The currency of the offering.

Type: String

Valid Values: USD

Required: No

duration

The duration of the offering (in seconds).

Type: Integer

Required: No

hourlyPrice

The hourly price of the offering.

Type: String

Required: No

instanceFamily

The instance family of the offering.

Type: String

Required: No

offeringId

The ID of the offering.

Type: String
Required: No

**paymentOption**

The available payment option.

Type: String

Valid Values: AllUpfront | PartialUpfront | NoUpfront

Required: No

**upfrontPrice**

The upfront price of the offering. Does not apply to No Upfront offerings.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
HostProperties

Describes the properties of a Dedicated Host.

Contents

cores

The number of cores on the Dedicated Host.

Type: Integer

Required: No

instanceFamily

The instance family supported by the Dedicated Host. For example, m5.

Type: String

Required: No

instanceType

The instance type supported by the Dedicated Host. For example, m5.large. If the host supports multiple instance types, no instanceType is returned.

Type: String

Required: No

sockets

The number of sockets on the Dedicated Host.

Type: Integer

Required: No

totalVCpus

The total number of vCPUs on the Dedicated Host.

Type: Integer

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
HostReservation

Details about the Dedicated Host Reservation and associated Dedicated Hosts.

Contents

count

The number of Dedicated Hosts the reservation is associated with.

Type: Integer

Required: No

currencyCode

The currency in which the upfrontPrice and hourlyPrice amounts are specified. At this time, the only supported currency is USD.

Type: String

Valid Values: USD

Required: No

duration

The length of the reservation's term, specified in seconds. Can be 31536000 (1 year) | 94608000 (3 years).

Type: Integer

Required: No
end

The date and time that the reservation ends.

Type: Timestamp

Required: No

hostIdSet

The IDs of the Dedicated Hosts associated with the reservation.
Type: Array of strings

Required: No

**hostReservationId**

The ID of the reservation that specifies the associated Dedicated Hosts.

Type: String

Required: No

**hourlyPrice**

The hourly price of the reservation.

Type: String

Required: No

**instanceFamily**

The instance family of the Dedicated Host Reservation. The instance family on the Dedicated Host must be the same in order for it to benefit from the reservation.

Type: String

Required: No

**offeringId**

The ID of the reservation. This remains the same regardless of which Dedicated Hosts are associated with it.

Type: String

Required: No

**paymentOption**

The payment option selected for this reservation.

Type: String

Valid Values: AllUpfront | PartialUpfront | NoUpfront

Required: No
**start**

The date and time that the reservation started.

Type: Timestamp

Required: No

**state**

The state of the reservation.

Type: String

Valid Values: payment-pending | payment-failed | active | retired

Required: No

**tagSet**

Any tags assigned to the Dedicated Host Reservation.

Type: Array of Tag objects

Required: No

**upfrontPrice**

The upfront price of the reservation.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
IamInstanceProfile

Describes an IAM instance profile.

Contents

arn

The Amazon Resource Name (ARN) of the instance profile.

Type: String

Required: No

id

The ID of the instance profile.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
### IamInstanceProfileAssociation

Describes an association between an IAM instance profile and an instance.

#### Contents

**associationId**

The ID of the association.

Type: String

Required: No

**iamInstanceProfile**

The IAM instance profile.

Type: [IamInstanceProfile](#) object

Required: No

**instanceId**

The ID of the instance.

Type: String

Required: No

**state**

The state of the association.

Type: String

Valid Values: associating | associated | disassociating | disassociated

Required: No

**timestamp**

The time the IAM instance profile was associated with the instance.

Type: Timestamp
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
IamInstanceProfileSpecification

Describes an IAM instance profile.

Contents

Arn (request), arn (response)

The Amazon Resource Name (ARN) of the instance profile.

Type: String

Required: No

Name (request), name (response)

The name of the instance profile.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
IcmpTypeCode

Describes the ICMP type and code.

Contents

**Code** (request), **code** (response)

The ICMP code. A value of -1 means all codes for the specified ICMP type.

Type: Integer

Required: No

**Type** (request), **type** (response)

The ICMP type. A value of -1 means all types.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
IdFormat

Describes the ID format for a resource.

Contents

deadline

The date in UTC at which you are permanently switched over to using longer IDs. If a deadline is not yet available for this resource type, this field is not returned.

Type: Timestamp

Required: No

resource

The type of resource.

Type: String

Required: No

useLongIds

Indicates whether longer IDs (17-character IDs) are enabled for the resource.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
IKEVersionsListValue

The internet key exchange (IKE) version permitted for the VPN tunnel.

Contents

value

The IKE version.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
IKEVersionsRequestListValue

The IKE version that is permitted for the VPN tunnel.

Contents

Value

The IKE version.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
# Image

Describes an image.

## Contents

**architecture**

The architecture of the image.

Type: String

Valid Values: i386 | x86_64 | arm64 | x86_64_mac | arm64_mac

Required: No

**blockDeviceMapping**

Any block device mapping entries.

Type: Array of [BlockDeviceMapping](#) objects

Required: No

**bootMode**

The boot mode of the image. For more information, see [Boot modes](#) in the [Amazon EC2 User Guide](#).

Type: String

Valid Values: legacy-bios | uefi | uefi-preferred

Required: No

**creationDate**

The date and time the image was created.

Type: String

Required: No
deprecationTime

The date and time to deprecate the AMI, in UTC, in the following format: 
YYYY-MM-DDTHH:MM:SSZ. If you specified a value for seconds, Amazon EC2 rounds the seconds 
to the nearest minute.

Type: String

Required: No

description

The description of the AMI that was provided during image creation.

Type: String

Required: No

enaSupport

Specifies whether enhanced networking with ENA is enabled.

Type: Boolean

Required: No

hypervisor

The hypervisor type of the image. Only xen is supported. ovm is not supported.

Type: String

Valid Values: ovm | xen

Required: No

imageId

The ID of the AMI.

Type: String

Required: No

imageLocation

The location of the AMI.
Type: String
Required: No

**imageOwnerAlias**

The AWS account alias (for example, amazon, self) or the AWS account ID of the AMI owner.

Type: String
Required: No

**imageOwnerId**

The ID of the AWS account that owns the image.

Type: String
Required: No

**imageState**

The current state of the AMI. If the state is available, the image is successfully registered and can be used to launch an instance.

Type: String

Valid Values: pending | available | invalid | deregistered | transient | failed | error | disabled

Required: No

**imageType**

The type of image.

Type: String

Valid Values: machine | kernel | ramdisk

Required: No

**imdsSupport**

If v2.0, it indicates that IMDSv2 is specified in the AMI. Instances launched from this AMI will have HttpTokens automatically set to required so that, by default, the instance requires that
IMDSv2 is used when requesting instance metadata. In addition, `HttpPutResponseHopLimit` is set to 2. For more information, see [Configure the AMI](#) in the Amazon EC2 User Guide.

**isPublic**

Indicates whether the image has public launch permissions. The value is `true` if this image has public launch permissions or `false` if it has only implicit and explicit launch permissions.

Type: Boolean

Required: No

**kernelId**

The kernel associated with the image, if any. Only applicable for machine images.

Type: String

Required: No

**name**

The name of the AMI that was provided during image creation.

Type: String

Required: No

**platform**

This value is set to `windows` for Windows AMIs; otherwise, it is blank.

Type: String

Valid Values: Windows

Required: No

**platformDetails**

The platform details associated with the billing code of the AMI. For more information, see [Understand AMI billing information](#) in the Amazon EC2 User Guide.
**productCodes**

Any product codes associated with the AMI.

Type: Array of `ProductCode` objects

Required: No

**ramdiskId**

The RAM disk associated with the image, if any. Only applicable for machine images.

Type: String

Required: No

**rootDeviceName**

The device name of the root device volume (for example, `/dev/sda1`).

Type: String

Required: No

**rootDeviceType**

The type of root device used by the AMI. The AMI can use an Amazon EBS volume or an instance store volume.

Type: String

Valid Values: `ebs` | `instance-store`

Required: No

**sourceInstanceId**

The ID of the instance that the AMI was created from if the AMI was created using `CreateImage`. This field only appears if the AMI was created using CreateImage.

Type: String

Required: No
sriovNetSupport

Specifies whether enhanced networking with the Intel 82599 Virtual Function interface is enabled.

Type: String

Required: No

stateReason

The reason for the state change.

Type: StateReason object

Required: No

tagSet

Any tags assigned to the image.

Type: Array of Tag objects

Required: No

tpmSupport

If the image is configured for NitroTPM support, the value is v2.0. For more information, see NitroTPM in the Amazon EC2 User Guide.

Type: String

Valid Values: v2.0

Required: No

usageOperation

The operation of the Amazon EC2 instance and the billing code that is associated with the AMI. usageOperation corresponds to the lineitem/Operation column on your AWS Cost and Usage Report and in the AWS Price List API. You can view these fields on the Instances or AMIs pages in the Amazon EC2 console, or in the responses that are returned by the DescribeImages command in the Amazon EC2 API, or the describe-images command in the AWS CLI.

Type: String
virtualizationType

The type of virtualization of the AMI.

Type: String

Valid Values: hvm | paravirtual

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ImageDiskContainer

Describes the disk container object for an import image task.

Contents

Description

The description of the disk image.

Type: String

Required: No

DeviceName

The block device mapping for the disk.

Type: String

Required: No

Format

The format of the disk image being imported.

Valid values: OVA | VHD | VHDX | VMDK | RAW

Type: String

Required: No

SnapshotId

The ID of the EBS snapshot to be used for importing the snapshot.

Type: String

Required: No

Url

The URL to the Amazon S3-based disk image being imported. The URL can either be a https URL (https://...) or an Amazon S3 URL (s3://...)

Type: String
UserBucket

The S3 bucket for the disk image.

Type: UserBucket object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ImageRecycleBinInfo

Information about an AMI that is currently in the Recycle Bin.

Contents

description

The description of the AMI.

Type: String

Required: No

imageId

The ID of the AMI.

Type: String

Required: No

name

The name of the AMI.

Type: String

Required: No

recycleBinEnterTime

The date and time when the AMI entered the Recycle Bin.

Type: Timestamp

Required: No

recycleBinExitTime

The date and time when the AMI is to be permanently deleted from the Recycle Bin.

Type: Timestamp

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ImportImageLicenseConfigurationRequest

The request information of license configurations.

Contents

LicenseConfigurationArn

The ARN of a license configuration.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ImportImageLicenseConfigurationResponse

The response information for license configurations.

Contents

licenseConfigurationArn

The ARN of a license configuration.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ImportImageTask

Describes an import image task.

Contents

architecture

The architecture of the virtual machine.

Valid values: i386 | x86_64 | arm64

Type: String

Required: No

bootMode

The boot mode of the virtual machine.

Type: String

Valid Values: legacy-bios | uefi | uefi-preferred

Required: No

description

A description of the import task.

Type: String

Required: No

encrypted

Indicates whether the image is encrypted.

Type: Boolean

Required: No

hypervisor

The target hypervisor for the import task.
Valid values: xen

Type: String

Required: No

**imageId**

The ID of the Amazon Machine Image (AMI) of the imported virtual machine.

Type: String

Required: No

**importTaskId**

The ID of the import image task.

Type: String

Required: No

**kmsKeyId**

The identifier for the KMS key that was used to create the encrypted image.

Type: String

Required: No

**licenseSpecifications**

The ARNs of the license configurations that are associated with the import image task.

Type: Array of ImportImageLicenseConfigurationResponse objects

Required: No

**licenseType**

The license type of the virtual machine.

Type: String

Required: No

**platform**

The description string for the import image task.
Type: String
Required: No

progress

The percentage of progress of the import image task.

Type: String
Required: No

snapshotDetailSet

Information about the snapshots.

Type: Array of SnapshotDetail objects
Required: No

status

A brief status for the import image task.

Type: String
Required: No

statusMessage

A descriptive status message for the import image task.

Type: String
Required: No

tagSet

The tags for the import image task.

Type: Array of Tag objects
Required: No

usageOperation

The usage operation value.
Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ImportInstanceLaunchSpecification

Describes the launch specification for VM import.

Contents

AdditionalInfo

Reserved.

Type: String

Required: No

Architecture

The architecture of the instance.

Type: String

Valid Values: i386 | x86_64 | arm64 | x86_64_mac | arm64_mac

Required: No

GroupId

The security group IDs.

Type: Array of strings

Required: No

GroupName

The security group names.

Type: Array of strings

Required: No

InstanceInitiatedShutdownBehavior

Indicates whether an instance stops or terminates when you initiate shutdown from the instance (using the operating system command for system shutdown).

Type: String

Valid Values: stop | terminate
InstanceType

The instance type. For more information about the instance types that you can import, see Instance Types in the VM Import/Export User Guide.

Type: String

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metal | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5d.metal | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c5n.9xlarge | c5n.18xlarge | c5n.metal | c6g.medium | c6g.large | c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.metal | c6gd.medium | c6gd.large | c6gd.xlarge | c6gd.2xlarge | c6gd.4xlarge | c6gd.8xlarge | c6gd.12xlarge | c6gd.16xlarge | c6gd.metal | c6gn.medium | c6gn.large | c6gn.xlarge | c6gn.2xlarge | c6gn.4xlarge | c6gn.8xlarge | c6gn.12xlarge | c6gn.16xlarge | c6i.large | c6i.xlarge | c6i.2xlarge | c6i.4xlarge | c6i.8xlarge | c6i.12xlarge | c6i.16xlarge | c6i.24xlarge | c6i.32xlarge | c6i.metal | cc1.4xlarge | cc2.8xlarge | cg1.4xlarge | cr1.8xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | d3.xlarge | d3.2xlarge | d3.4xlarge | d3.8xlarge | d3en.xlarge | d3en.2xlarge | d3en.4xlarge | d3en.6xlarge | d3en.8xlarge | d3en.12xlarge | dl1.24xlarge | f1.2xlarge | f1.4xlarge | f1.16xlarge | g2.2xlarge | g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | g3s.xlarge | g4ad.xlarge | g4ad.2xlarge | g4ad.4xlarge | g4ad.8xlarge | g4ad.16xlarge | g4dn.xlarge | g4dn.2xlarge | g4dn.4xlarge | g4dn.8xlarge | g4dn.12xlarge | g4dn.16xlarge | g4dn.metal | g5.xlarge | g5.2xlarge | g5.4xlarge | g5.8xlarge | g5.12xlarge | g5.16xlarge | g5.24xlarge |
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**Monitoring**

Indicates whether monitoring is enabled.

**Type:** Boolean

**Required:** No
Placement

The placement information for the instance.

Type: Placement object

Required: No

PrivateIpAddress

[EC2-VPC] An available IP address from the IP address range of the subnet.

Type: String

Required: No

SubnetId

[EC2-VPC] The ID of the subnet in which to launch the instance.

Type: String

Required: No

UserData

The Base64-encoded user data to make available to the instance.

Type: UserData object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ImportInstanceTaskDetails

Describes an import instance task.

Contents

description

A description of the task.

Type: String

Required: No

instanceId

The ID of the instance.

Type: String

Required: No

platform

The instance operating system.

Type: String

Valid Values: Windows

Required: No

volumes

The volumes.

Type: Array of ImportInstanceVolumeDetailItem objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ImportInstanceVolumeDetailItem

Describes an import volume task.

Contents

availabilityZone

The Availability Zone where the resulting instance will reside.

Type: String

Required: No

bytesConverted

The number of bytes converted so far.

Type: Long

Required: No

description

A description of the task.

Type: String

Required: No

image

The image.

Type: DiskImageDescription object

Required: No

status

The status of the import of this particular disk image.

Type: String

Required: No
statusMessage

The status information or errors related to the disk image.

Type: String

Required: No

volume

The volume.

Type: DiskImageVolumeDescription object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ImportSnapshotTask

Describes an import snapshot task.

Contents

description

A description of the import snapshot task.

Type: String

Required: No

importTaskId

The ID of the import snapshot task.

Type: String

Required: No

snapshotTaskDetail

Describes an import snapshot task.

Type: SnapshotTaskDetail object

Required: No

tagSet

The tags for the import snapshot task.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ImportVolumeTaskDetails

Describes an import volume task.

Contents

availabilityZone

The Availability Zone where the resulting volume will reside.

Type: String

Required: No

bytesConverted

The number of bytes converted so far.

Type: Long

Required: No

description

The description you provided when starting the import volume task.

Type: String

Required: No

image

The image.

Type: DiskImageDescription object

Required: No

volume

The volume.

Type: DiskImageVolumeDescription object

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
InferenceAcceleratorInfo

Describes the Inference accelerators for the instance type.

Contents

accelerators

Describes the Inference accelerators for the instance type.

Type: Array of InferenceDeviceInfo objects

Required: No

totalInferenceMemoryInMiB

The total size of the memory for the inference accelerators for the instance type, in MiB.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InferenceDeviceInfo

Describes the Inference accelerators for the instance type.

Contents

count

The number of Inference accelerators for the instance type.

Type: Integer

Required: No

manufacturer

The manufacturer of the Inference accelerator.

Type: String

Required: No

memoryInfo

Describes the memory available to the inference accelerator.

Type: InferenceDeviceMemoryInfo object

Required: No

name

The name of the Inference accelerator.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for Ruby V3**
InferenceDeviceMemoryInfo

Describes the memory available to the inference accelerator.

Contents

sizeInMiB

The size of the memory available to the inference accelerator, in MiB.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Instance

Describes an instance.

Contents

**amiLaunchIndex**

The AMI launch index, which can be used to find this instance in the launch group.

Type: Integer

Required: No

**architecture**

The architecture of the image.

Type: String

Valid Values: i386 | x86_64 | arm64 | x86_64_mac | arm64_mac

Required: No

**blockDeviceMapping**

Any block device mapping entries for the instance.

Type: Array of [InstanceBlockDeviceMapping](#) objects

Required: No

**bootMode**

The boot mode that was specified by the AMI. If the value is `uefi-preferred`, the AMI supports both UEFI and Legacy BIOS. The `currentInstanceBootMode` parameter is the boot mode that is used to boot the instance at launch or start.

Note

The operating system contained in the AMI must be configured to support the specified boot mode.

For more information, see [Boot modes](#) in the [Amazon EC2 User Guide](#).
Type: String

Valid Values: legacy-bios | uefi | uefi-preferred

Required: No

capacityReservationId

The ID of the Capacity Reservation.

Type: String

Required: No

capacityReservationSpecification

Information about the Capacity Reservation targeting option.

Type: CapacityReservationSpecificationResponse object

Required: No

clientToken

The idempotency token you provided when you launched the instance, if applicable.

Type: String

Required: No

cpuOptions

The CPU options for the instance.

Type: CpuOptions object

Required: No

currentInstanceBootMode

The boot mode that is used to boot the instance at launch or start. For more information, see Boot modes in the Amazon EC2 User Guide.

Type: String

Valid Values: legacy-bios | uefi

Required: No
**dnsName**

[IPv4 only] The public DNS name assigned to the instance. This name is not available until the instance enters the running state. This name is only available if you've enabled DNS hostnames for your VPC.

Type: String

Required: No

**ebsOptimized**

Indicates whether the instance is optimized for Amazon EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS Optimized instance.

Type: Boolean

Required: No

**elasticGpuAssociationSet**

The Elastic GPU associated with the instance.

Type: Array of [ElasticGpuAssociation](#) objects

Required: No

**elasticInferenceAcceleratorAssociationSet**

The elastic inference accelerator associated with the instance.

Type: Array of [ElasticInferenceAcceleratorAssociation](#) objects

Required: No

**enaSupport**

Specifies whether enhanced networking with ENA is enabled.

Type: Boolean

Required: No

**enclaveOptions**

Indicates whether the instance is enabled for AWS Nitro Enclaves.
Type: [EnclaveOptions](#) object

Required: No

**groupSet**

The security groups for the instance.

Type: Array of [GroupIdentifier](#) objects

Required: No

**hibernationOptions**

Indicates whether the instance is enabled for hibernation.

Type: [HibernationOptions](#) object

Required: No

**hypervisor**

The hypervisor type of the instance. The value `xen` is used for both Xen and Nitro hypervisors.

Type: String

Valid Values: `ovm` | `xen`

Required: No

**iamInstanceProfile**

The IAM instance profile associated with the instance, if applicable.

Type: [iamInstanceProfile](#) object

Required: No

**imageId**

The ID of the AMI used to launch the instance.

Type: String

Required: No

**instanceId**

The ID of the instance.
Type: String

Required: No

**instanceLifecycle**

Indicates whether this is a Spot Instance or a Scheduled Instance.

Type: String

Valid Values: spot | scheduled | capacity-block

Required: No

**instanceState**

The current state of the instance.

Type: [InstanceState](#) object

Required: No

**instanceType**

The instance type.

Type: String

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metal | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5d.metal | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c5n.9xlarge | c5n.18xlarge | c5n.metal | c6g.medium | c6g.large | c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.meta | c6gd.medium | c6gd.large | c6gd.xlarge | c6gd.2xlarge | c6gd.4xlarge | c6gd.8xlarge | c6gd.12xlarge | c6gd.16xlarge | c6gd.meta | c6gn.medium | c6gn.large | c6gn.xlarge
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| is4gen.4xlarge | is4gen.8xlarge | m1.small | m1.medium | m1.large |
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| m5ad.12xlarge | m5ad.16xlarge | m5ad.24xlarge | m5d.large | m5d.xlarge | m5d.2xlarge | m5d.4xlarge | m5d.8xlarge | m5d.12xlarge | m5d.16xlarge | m5d.24xlarge | m5d.metal | m5dn.large | m5dn.xlarge | m5dn.2xlarge | m5dn.4xlarge | m5dn.8xlarge | m5dn.12xlarge | m5dn.16xlarge | m5dn.24xlarge | m5dn.metal | m5n.large | m5n.xlarge | m5n.2xlarge |
| m5n.4xlarge | m5n.8xlarge | m5n.12xlarge | m5n.16xlarge | m5n.24xlarge |
| m5n.metal | m5zn.large | m5zn.xlarge | m5zn.2xlarge | m5zn.3xlarge |
| m5zn.6xlarge | m5zn.12xlarge | m5zn.metal | m6a.large | m6a.xlarge |
| m6a.2xlarge | m6a.4xlarge | m6a.8xlarge | m6a.12xlarge | m6a.16xlarge |
| m6a.24xlarge | m6a.32xlarge | m6a.48xlarge | m6g.metal | m6g.medium |
| m6g.large | m6g.xlarge | m6g.2xlarge | m6g.4xlarge | m6g.8xlarge |
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| m6i.metal | mac1.metal | p2.xlarge | p2.8xlarge | p2.16xlarge |
| p3.2xlarge | p3.8xlarge | p3.16xlarge | p3dn.24xlarge | p4d.24xlarge |
| r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge |
| r4.xlarge | r4.2xlarge | r4.4xlarge | r4.8xlarge | r4.16xlarge |
| r5.large | r5.xlarge | r5.2xlarge | r5.4xlarge | r5.8xlarge |
| r5.12xlarge | r5.16xlarge | r5.24xlarge | r5.metal | r5a.large |
| r5a.xlarge | r5a.2xlarge | r5a.4xlarge | r5a.8xlarge | r5a.12xlarge |
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| r6i.large | r6i.xlarge | r6i.2xlarge | r6i.4xlarge | r6i.8xlarge |
| r6i.12xlarge | r6i.16xlarge | r6i.24xlarge | r6i.32xlarge | r6i.metal |
| t1.micro | t2.nano | t2.micro | t2.small | t2.medium |
| t2.large | t2.xlarge | t2.2xlarge | t3.nano | t3.micro |
| t3.medium | t3.large | t3.xlarge | t3.2xlarge | t3a.nano |
| t3a.micro | t3a.small | t3a.medium | t3a.large | t3a.xlarge | t3a.2xlarge |
| r7i.16xlarge | r7i.24xlarge | r7i.48xlarge | dl2q.24xlarge | mac2-m2.metal | i4i.12xlarge | i4i.24xlarge | c7i.metal-24x1 | c7i.metal-48x1 | m7i.metal-24x1 | m7i.metal-48x1 | r7i.metal-24x1 | r7i.metal-48x1 | r7iz.metal-16x1 | r7iz.metal-32x1

Required: No

**ipAddress**

The public IPv4 address, or the Carrier IP address assigned to the instance, if applicable.

A Carrier IP address only applies to an instance launched in a subnet associated with a Wavelength Zone.

Type: String

Required: No

**ipv6Address**

The IPv6 address assigned to the instance.

Type: String

Required: No

**kernelId**

The kernel associated with this instance, if applicable.

Type: String

Required: No

**keyName**

The name of the key pair, if this instance was launched with an associated key pair.

Type: String

Required: No

**launchTime**

The time the instance was launched.
Type: Timestamp
Required: No

**licenseSet**

The license configurations for the instance.
Type: Array of [LicenseConfiguration](#) objects
Required: No

**maintenanceOptions**

Provides information on the recovery and maintenance options of your instance.
Type: [InstanceMaintenanceOptions](#) object
Required: No

**metadataOptions**

The metadata options for the instance.
Type: [InstanceMetadataOptionsResponse](#) object
Required: No

**monitoring**

The monitoring for the instance.
Type: [Monitoring](#) object
Required: No

**networkInterfaceSet**

The network interfaces for the instance.
Type: Array of [InstanceNetworkInterface](#) objects
Required: No

**outpostArn**

The Amazon Resource Name (ARN) of the Outpost.
Type: String
Required: No

**placement**

The location where the instance launched, if applicable.

Type: Placement object

Required: No

**platform**

The platform. This value is windows for Windows instances; otherwise, it is empty.

Type: String

Valid Values: windows

Required: No

**platformDetails**

The platform details value for the instance. For more information, see [AMI billing information fields](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/ami-billing-information-fields.html) in the Amazon EC2 User Guide.

Type: String

Required: No

**privateDnsName**

[IPv4 only] The private DNS hostname name assigned to the instance. This DNS hostname can only be used inside the Amazon EC2 network. This name is not available until the instance enters the running state.

The Amazon-provided DNS server resolves Amazon-provided private DNS hostnames if you've enabled DNS resolution and DNS hostnames in your VPC. If you are not using the Amazon-provided DNS server in your VPC, your custom domain name servers must resolve the hostname as appropriate.

Type: String

Required: No
privateDnsNameOptions

The options for the instance hostname.

Type: PrivateDnsNameOptionsResponse object

Required: No

privateIpAddress

The private IPv4 address assigned to the instance.

Type: String

Required: No

productCodes

The product codes attached to this instance, if applicable.

Type: Array of ProductCode objects

Required: No

ramdiskId

The RAM disk associated with this instance, if applicable.

Type: String

Required: No

reason

The reason for the most recent state transition. This might be an empty string.

Type: String

Required: No

rootDeviceName

The device name of the root device volume (for example, /dev/sda1).

Type: String

Required: No
**rootDeviceType**

The root device type used by the AMI. The AMI can use an EBS volume or an instance store volume.

Type: String

Valid Values: ebs | instance-store

Required: No

**sourceDestCheck**

Indicates whether source/destination checking is enabled.

Type: Boolean

Required: No

**spotInstanceRequestId**

If the request is a Spot Instance request, the ID of the request.

Type: String

Required: No

**sriovNetSupport**

Specifies whether enhanced networking with the Intel 82599 Virtual Function interface is enabled.

Type: String

Required: No

**stateReason**

The reason for the most recent state transition.

Type: [StateReason](#) object

Required: No

**subnetId**

The ID of the subnet in which the instance is running.
Type: String
Required: No

tagSet

Any tags assigned to the instance.

Type: Array of Tag objects
Required: No

tpmSupport

If the instance is configured for NitroTPM support, the value is v2.0. For more information, see NitroTPM in the Amazon EC2 User Guide.

Type: String
Required: No

usageOperation

The usage operation value for the instance. For more information, see AMI billing information fields in the Amazon EC2 User Guide.

Type: String
Required: No

usageOperationUpdateTime

The time that the usage operation was last updated.

Type: Timestamp
Required: No

virtualizationType

The virtualization type of the instance.

Type: String
Valid Values: hvm | paravirtual
Required: No
vpclId

The ID of the VPC in which the instance is running.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
InstanceAttachmentEnaSrdSpecification

ENA Express uses AWS Scalable Reliable Datagram (SRD) technology to increase the maximum bandwidth used per stream and minimize tail latency of network traffic between EC2 instances. With ENA Express, you can communicate between two EC2 instances in the same subnet within the same account, or in different accounts. Both sending and receiving instances must have ENA Express enabled.

To improve the reliability of network packet delivery, ENA Express reorders network packets on the receiving end by default. However, some UDP-based applications are designed to handle network packets that are out of order to reduce the overhead for packet delivery at the network layer. When ENA Express is enabled, you can specify whether UDP network traffic uses it.

Contents

enaSrdEnabled

Indicates whether ENA Express is enabled for the network interface.

Type: Boolean

Required: No

enaSrdUdpSpecification

Configures ENA Express for UDP network traffic.

Type: InstanceAttachmentEnaSrdUdpSpecification object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceAttachmentEnaSrdUdpSpecification

ENA Express is compatible with both TCP and UDP transport protocols. When it's enabled, TCP traffic automatically uses it. However, some UDP-based applications are designed to handle network packets that are out of order, without a need for retransmission, such as live video broadcasting or other near-real-time applications. For UDP traffic, you can specify whether to use ENA Express, based on your application environment needs.

Contents

enaSrdUdpEnabled

Indicates whether UDP traffic to and from the instance uses ENA Express. To specify this setting, you must first enable ENA Express.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
InstanceBlockDeviceMapping

Describes a block device mapping.

Contents

deviceName

The device name (for example, /dev/sdh or xvdh).

Type: String
Required: No

ebs

Parameters used to automatically set up EBS volumes when the instance is launched.

Type: EbsInstanceBlockDevice object
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceBlockDeviceMappingSpecification

Describes a block device mapping entry.

Contents

**DeviceName**

The device name (for example, /dev/sdh or xvdh).

Type: String

Required: No

**Ebs**

Parameters used to automatically set up EBS volumes when the instance is launched.

Type: [EbsInstanceBlockDeviceSpecification](#) object

Required: No

**NoDevice**

Suppress the specified device included in the block device mapping.

Type: String

Required: No

**VirtualName**

The virtual device name.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
InstanceCapacity

Information about the number of instances that can be launched onto the Dedicated Host.

Contents

availableCapacity

The number of instances that can be launched onto the Dedicated Host based on the host's available capacity.

Type: Integer

Required: No

instanceType

The instance type supported by the Dedicated Host.

Type: String

Required: No

totalCapacity

The total number of instances that can be launched onto the Dedicated Host if there are no instances running on it.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceCount

Describes a Reserved Instance listing state.

Contents

instanceCount

The number of listed Reserved Instances in the state specified by the state.

Type: Integer

Required: No

state

The states of the listed Reserved Instances.

Type: String

Valid Values: available | sold | cancelled | pending

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceCreditSpecification

Describes the credit option for CPU usage of a burstable performance instance.

Contents

cpuCredits

The credit option for CPU usage of the instance.

Valid values: standard | unlimited

Type: String

Required: No

instanceId

The ID of the instance.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceCreditSpecificationRequest

Describes the credit option for CPU usage of a burstable performance instance.

Contents

InstanceId

The ID of the instance.

Type: String

Required: Yes

CpuCredits

The credit option for CPU usage of the instance.

Valid values: standard | unlimited

T3 instances with host tenancy do not support the unlimited CPU credit option.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceEventWindow
The event window.

Contents

associationTarget
One or more targets associated with the event window.
Type: `InstanceEventWindowAssociationTarget` object
Required: No

cronExpression
The cron expression defined for the event window.
Type: String
Required: No

instanceEventWindowId
The ID of the event window.
Type: String
Required: No

name
The name of the event window.
Type: String
Required: No

state
The current state of the event window.
Type: String
Valid Values: creating | deleting | active | deleted
tagSet

The instance tags associated with the event window.

Type: Array of Tag objects

Required: No

timeRangeSet

One or more time ranges defined for the event window.

Type: Array of InstanceEventWindowTimeRange objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
InstanceEventWindowAssociationRequest

One or more targets associated with the specified event window. Only one type of target (instance ID, instance tag, or Dedicated Host ID) can be associated with an event window.

Contents

DedicatedHostIds

The IDs of the Dedicated Hosts to associate with the event window.

Type: Array of strings

Required: No

InstanceIds

The IDs of the instances to associate with the event window. If the instance is on a Dedicated Host, you can't specify the Instance ID parameter; you must use the Dedicated Host ID parameter.

Type: Array of strings

Required: No

InstanceTags

The instance tags to associate with the event window. Any instances associated with the tags will be associated with the event window.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
InstanceEventWindowAssociationTarget

One or more targets associated with the event window.

Contents

dedicatedHostIdSet

The IDs of the Dedicated Hosts associated with the event window.

Type: Array of strings

Required: No

instanceIdSet

The IDs of the instances associated with the event window.

Type: Array of strings

Required: No

tagSet

The instance tags associated with the event window. Any instances associated with the tags will be associated with the event window.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceEventWindowDisassociationRequest

The targets to disassociate from the specified event window.

Contents

DedicatedHostIds

The IDs of the Dedicated Hosts to disassociate from the event window.

Type: Array of strings

Required: No

InstanceIds

The IDs of the instances to disassociate from the event window.

Type: Array of strings

Required: No

InstanceTags

The instance tags to disassociate from the event window. Any instances associated with the tags will be disassociated from the event window.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
InstanceEventWindowStateChange

The state of the event window.

Contents

instanceEventWindowId

The ID of the event window.

Type: String

Required: No

state

The current state of the event window.

Type: String

Valid Values: creating | deleting | active | deleted

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceEventWindowTimeRange

The start day and time and the end day and time of the time range, in UTC.

Contents

endHour

The hour when the time range ends.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 23.

Required: No

endWeekDay

The day on which the time range ends.

Type: String

Valid Values: sunday | monday | tuesday | wednesday | thursday | friday | saturday

Required: No

startHour

The hour when the time range begins.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 23.

Required: No

startWeekDay

The day on which the time range begins.

Type: String

Valid Values: sunday | monday | tuesday | wednesday | thursday | friday | saturday
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceEventWindowTimeRangeRequest

The start day and time and the end day and time of the time range, in UTC.

Contents

EndHour

The hour when the time range ends.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 23.

Required: No

EndWeekDay

The day on which the time range ends.

Type: String

Valid Values: sunday | monday | tuesday | wednesday | thursday | friday | saturday

Required: No

StartHour

The hour when the time range begins.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 23.

Required: No

StartWeekDay

The day on which the time range begins.

Type: String

Valid Values: sunday | monday | tuesday | wednesday | thursday | friday | saturday
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceExportDetails

Describes an instance to export.

Contents

instanceId

The ID of the resource being exported.

Type: String

Required: No

targetEnvironment

The target virtualization environment.

Type: String

Valid Values: citrix | vmware | microsoft

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceFamilyCreditSpecification

Describes the default credit option for CPU usage of a burstable performance instance family.

Contents

cpuCredits

The default credit option for CPU usage of the instance family. Valid values are standard and unlimited.

Type: String

Required: No

instanceFamily

The instance family.

Type: String

Valid Values: t2 | t3 | t3a | t4g

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
**InstanceIpv4Prefix**

Information about an IPv4 prefix.

**Contents**

**ipv4Prefix**

One or more IPv4 prefixes assigned to the network interface.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://aws.amazon.com/sdk-for-golang/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)

InstanceIpv6Address

Describes an IPv6 address.

Contents

**Ipv6Address** (request), **ipv6Address** (response)

The IPv6 address.

Type: String

Required: No

**IsPrimaryIpv6** (request), **isPrimaryIpv6** (response)

Determines if an IPv6 address associated with a network interface is the primary IPv6 address. When you enable an IPv6 GUA address to be a primary IPv6, the first IPv6 GUA will be made the primary IPv6 address until the instance is terminated or the network interface is detached. For more information, see [RunInstances](#).

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
InstanceIpv6AddressRequest

Describes an IPv6 address.

Contents

Ipv6Address

The IPv6 address.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceIpv6Prefix

Information about an IPv6 prefix.

Contents

ipv6Prefix

One or more IPv6 prefixes assigned to the network interface.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++]
- [AWS SDK for Go]
- [AWS SDK for Java V2]
- [AWS SDK for Ruby V3]
InstanceMaintenanceOptions

The maintenance options for the instance.

Contents

autoRecovery

Provides information on the current automatic recovery behavior of your instance.

Type: String

Valid Values: disabled | default

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceMaintenanceOptionsRequest

The maintenance options for the instance.

Contents

AutoRecovery

Disables the automatic recovery behavior of your instance or sets it to default. For more information, see [Simplified automatic recovery](#).

Type: String

Valid Values: disabled | default

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
InstanceMarketOptionsRequest

Describes the market (purchasing) option for the instances.

Contents

MarketType

The market type.

Type: String

Valid Values: spot | capacity-block

Required: No

SpotOptions

The options for Spot Instances.

Type: SpotMarketOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceMetadataOptionsRequest

The metadata options for the instance.

Contents

HttpEndpoint

Enables or disables the HTTP metadata endpoint on your instances.

If you specify a value of disabled, you cannot access your instance metadata.

Default: enabled

Type: String

Valid Values: disabled | enabled

Required: No

HttpProtocolIpv6

Enables or disables the IPv6 endpoint for the instance metadata service.

Type: String

Valid Values: disabled | enabled

Required: No

HttpPutResponseHopLimit

The desired HTTP PUT response hop limit for instance metadata requests. The larger the number, the further instance metadata requests can travel.

Default: 1

Possible values: Integers from 1 to 64

Type: Integer

Required: No

HttpTokens

Indicates whether IMDSv2 is required.
• **optional** - IMDSv2 is optional. You can choose whether to send a session token in your instance metadata retrieval requests. If you retrieve IAM role credentials without a session token, you receive the IMDSv1 role credentials. If you retrieve IAM role credentials using a valid session token, you receive the IMDSv2 role credentials.

• **required** - IMDSv2 is required. You must send a session token in your instance metadata retrieval requests. With this option, retrieving the IAM role credentials always returns IMDSv2 credentials; IMDSv1 credentials are not available.

Default: If the value of ImdsSupport for the Amazon Machine Image (AMI) for your instance is v2.0, the default is required.

Type: String

Valid Values: optional | required

Required: No

**InstanceMetadataTags**

Set to enabled to allow access to instance tags from the instance metadata. Set to disabled to turn off access to instance tags from the instance metadata. For more information, see [Work with instance tags using the instance metadata](#).

Default: disabled

Type: String

Valid Values: disabled | enabled

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
InstanceMetadataOptionsResponse

The metadata options for the instance.

Contents

httpEndpoint

Indicates whether the HTTP metadata endpoint on your instances is enabled or disabled.

If the value is disabled, you cannot access your instance metadata.

Type: String

Valid Values: disabled | enabled

Required: No

httpProtocolIpv6

Indicates whether the IPv6 endpoint for the instance metadata service is enabled or disabled.

Type: String

Valid Values: disabled | enabled

Required: No

httpPutResponseHopLimit

The desired HTTP PUT response hop limit for instance metadata requests. The larger the number, the further instance metadata requests can travel.

Default: 1

Possible values: Integers from 1 to 64

Type: Integer

Required: No

httpTokens

Indicates whether IMDSv2 is required.

- optional - IMDSv2 is optional. You can choose whether to send a session token in your instance metadata retrieval requests. If you retrieve IAM role credentials without a session
token, you receive the IMDSv1 role credentials. If you retrieve IAM role credentials using a valid session token, you receive the IMDSv2 role credentials.

- **required** - IMDSv2 is required. You must send a session token in your instance metadata retrieval requests. With this option, retrieving the IAM role credentials always returns IMDSv2 credentials; IMDSv1 credentials are not available.

  Type: String

  Valid Values: optional | required

  Required: No

**instanceMetadataTags**

Indicates whether access to instance tags from the instance metadata is enabled or disabled. For more information, see [Work with instance tags using the instance metadata](#).

  Type: String

  Valid Values: disabled | enabled

  Required: No

**state**

The state of the metadata option changes.

- **pending** - The metadata options are being updated and the instance is not ready to process metadata traffic with the new selection.

- **applied** - The metadata options have been successfully applied on the instance.

  Type: String

  Valid Values: pending | applied

  Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
InstanceMonitoring

Describes the monitoring of an instance.

Contents

instanceId

The ID of the instance.

Type: String

Required: No

monitoring

The monitoring for the instance.

Type: Monitoring object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceNetworkInterface

Describes a network interface.

Contents

association

The association information for an Elastic IPv4 associated with the network interface.

Type: InstanceNetworkInterfaceAssociation object

Required: No

attachment

The network interface attachment.

Type: InstanceNetworkInterfaceAttachment object

Required: No

collectionTrackingConfiguration

A security group connection tracking configuration that enables you to set the timeout for connection tracking on an Elastic network interface. For more information, see Connection tracking timeouts in the Amazon Elastic Compute Cloud User Guide.

Type: ConnectionTrackingSpecificationResponse object

Required: No

description

The description.

Type: String

Required: No

groupSet

The security groups.

Type: Array of GroupIdentifier objects
**interfaceType**

The type of network interface.

Valid values: `interface | efa | trunk`

Type: String

Required: No

**ipv4PrefixSet**

The IPv4 delegated prefixes that are assigned to the network interface.

Type: Array of `InstanceIpv4Prefix` objects

Required: No

**ipv6AddressesSet**

The IPv6 addresses associated with the network interface.

Type: Array of `InstanceIpv6Address` objects

Required: No

**ipv6PrefixSet**

The IPv6 delegated prefixes that are assigned to the network interface.

Type: Array of `InstanceIpv6Prefix` objects

Required: No

**macAddress**

The MAC address.

Type: String

Required: No

**networkInterfaceId**

The ID of the network interface.
ownerId

The ID of the AWS account that created the network interface.

Type: String
Required: No

privateDnsName

The private DNS name.

Type: String
Required: No

privateIpAddress

The IPv4 address of the network interface within the subnet.

Type: String
Required: No

privateIpAddressesSet

The private IPv4 addresses associated with the network interface.

Type: Array of `InstancePrivateIpAddress` objects
Required: No

sourceDestCheck

Indicates whether source/destination checking is enabled.

Type: Boolean
Required: No

status

The status of the network interface.
Type: String

Valid Values: available | associated | attaching | in-use | detaching

Required: No

**subnetId**

The ID of the subnet.

Type: String

Required: No

**vpcId**

The ID of the VPC.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
InstanceNetworkInterfaceAssociation

Describes association information for an Elastic IP address (IPv4).

Contents

carrierIp

The carrier IP address associated with the network interface.

Type: String

Required: No

customerOwnedIp

The customer-owned IP address associated with the network interface.

Type: String

Required: No

ipOwnerId

The ID of the owner of the Elastic IP address.

Type: String

Required: No

publicDnsName

The public DNS name.

Type: String

Required: No

publicIp

The public IP address or Elastic IP address bound to the network interface.

Type: String

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
InstanceNetworkInterfaceAttachment

Describes a network interface attachment.

Contents

attachmentId

The ID of the network interface attachment.

Type: String

Required: No

attachTime

The time stamp when the attachment initiated.

Type: Timestamp

Required: No

deleteOnTermination

Indicates whether the network interface is deleted when the instance is terminated.

Type: Boolean

Required: No

deviceIndex

The index of the device on the instance for the network interface attachment.

Type: Integer

Required: No

enaSrdSpecification

Contains the ENA Express settings for the network interface that's attached to the instance.

Type: InstanceAttachmentEnaSrdSpecification object

Required: No
networkCardIndex

The index of the network card.

Type: Integer

Required: No

status

The attachment state.

Type: String

Valid Values: attaching | attached | detaching | detached

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceNetworkInterfaceSpecification

Describes a network interface.

Contents

AssociateCarrierIpAddress (request), AssociateCarrierIpAddress (response)

Indicates whether to assign a carrier IP address to the network interface.

You can only assign a carrier IP address to a network interface that is in a subnet in a Wavelength Zone. For more information about carrier IP addresses, see Carrier IP address in the AWS Wavelength Developer Guide.

Type: Boolean

Required: No

AssociatePublicIpAddress (request), associatePublicIpAddress (response)

Indicates whether to assign a public IPv4 address to an instance you launch in a VPC. The public IP address can only be assigned to a network interface for eth0, and can only be assigned to a new network interface, not an existing one. You cannot specify more than one network interface in the request. If launching into a default subnet, the default value is true.

Starting on February 1, 2024, AWS will charge for all public IPv4 addresses, including public IPv4 addresses associated with running instances and Elastic IP addresses. For more information, see the Public IPv4 Address tab on the Amazon VPC pricing page.

Type: Boolean

Required: No

ConnectionTrackingSpecification (request), ConnectionTrackingSpecification (response)

A security group connection tracking specification that enables you to set the timeout for connection tracking on an Elastic network interface. For more information, see Connection tracking timeouts in the Amazon Elastic Compute Cloud User Guide.

Type: ConnectionTrackingSpecificationRequest object

Required: No
**DeleteOnTermination** (request), **deleteOnTermination** (response)

If set to `true`, the interface is deleted when the instance is terminated. You can specify `true` only if creating a new network interface when launching an instance.

Type: Boolean

Required: No

**Description** (request), **description** (response)

The description of the network interface. Applies only if creating a network interface when launching an instance.

Type: String

Required: No

**DeviceIndex** (request), **deviceId** (response)

The position of the network interface in the attachment order. A primary network interface has a device index of 0.

If you specify a network interface when launching an instance, you must specify the device index.

Type: Integer

Required: No

**EnaSrdSpecification** (request), **EnaSrdSpecification** (response)

Specifies the ENA Express settings for the network interface that's attached to the instance.

Type: [EnaSrdSpecificationRequest](#) object

Required: No

**InterfaceType** (request), **InterfaceType** (response)

The type of network interface.

Valid values: `interface` | `efa`

Type: String

Required: No
**Ipv4Prefixes** *(request), **Ipv4Prefix***(response)

The IPv4 delegated prefixes to be assigned to the network interface. You cannot use this option if you use the Ipv4PrefixCount option.

Type: Array of [Ipv4PrefixSpecificationRequest](#) objects

Required: No

**Ipv4PrefixCount** *(request), **Ipv4PrefixCount***(response)

The number of IPv4 delegated prefixes to be automatically assigned to the network interface. You cannot use this option if you use the Ipv4Prefix option.

Type: Integer

Required: No

**Ipv6AddressCount** *(request), **ipv6AddressCount***(response)

A number of IPv6 addresses to assign to the network interface. Amazon EC2 chooses the IPv6 addresses from the range of the subnet. You cannot specify this option and the option to assign specific IPv6 addresses in the same request. You can specify this option if you've specified a minimum number of instances to launch.

Type: Integer

Required: No

**Ipv6Addresses** *(request), **ipv6AddressesSet***(response)

The IPv6 addresses to assign to the network interface. You cannot specify this option and the option to assign a number of IPv6 addresses in the same request. You cannot specify this option if you've specified a minimum number of instances to launch.

Type: Array of [InstanceIpv6Address](#) objects

Required: No

**Ipv6Prefixes** *(request), **Ipv6Prefix***(response)

The IPv6 delegated prefixes to be assigned to the network interface. You cannot use this option if you use the Ipv6PrefixCount option.

Type: Array of [Ipv6PrefixSpecificationRequest](#) objects
Required: No

**Ipv6PrefixCount** (request), **Ipv6PrefixCount** (response)

The number of IPv6 delegated prefixes to be automatically assigned to the network interface. You cannot use this option if you use the Ipv6Prefix option.

Type: Integer

Required: No

**NetworkCardIndex** (request), **NetworkCardIndex** (response)

The index of the network card. Some instance types support multiple network cards. The primary network interface must be assigned to network card index 0. The default is network card index 0.

If you are using **RequestSpotInstances** to create Spot Instances, omit this parameter because you can’t specify the network card index when using this API. To specify the network card index, use **RunInstances**.

Type: Integer

Required: No

**NetworkInterfaceId** (request), **networkInterfaceId** (response)

The ID of the network interface.

If you are creating a Spot Fleet, omit this parameter because you can’t specify a network interface ID in a launch specification.

Type: String

Required: No

**PrimaryIpv6** (request), **PrimaryIpv6** (response)

The primary IPv6 address of the network interface. When you enable an IPv6 GUA address to be a primary IPv6, the first IPv6 GUA will be made the primary IPv6 address until the instance is terminated or the network interface is detached. For more information about primary IPv6 addresses, see **RunInstances**.

Type: Boolean
Required: No

**PrivateIpAddress** (request), **privateIpAddress** (response)

The private IPv4 address of the network interface. Applies only if creating a network interface when launching an instance. You cannot specify this option if you're launching more than one instance in a `RunInstances` request.

Type: String

Required: No

**PrivateIpAddresses** (request), **privateIpAddressesSet** (response)

The private IPv4 addresses to assign to the network interface. Only one private IPv4 address can be designated as primary. You cannot specify this option if you're launching more than one instance in a `RunInstances` request.

Type: Array of `PrivatIpAddressSpecification` objects

Required: No

**SecondaryPrivateIpAddressCount** (request), **secondaryPrivateIpAddressCount** (response)

The number of secondary private IPv4 addresses. You can't specify this option and specify more than one private IP address using the private IP addresses option. You cannot specify this option if you're launching more than one instance in a `RunInstances` request.

Type: Integer

Required: No

**Groups** (request), **SecurityGroupId** (response)

The IDs of the security groups for the network interface. Applies only if creating a network interface when launching an instance.

Type: Array of strings

Required: No

**SubnetId** (request), **subnetId** (response)

The ID of the subnet associated with the network interface. Applies only if creating a network interface when launching an instance.
**Type:** String

**Required:** No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
InstancePrivatelpIpAddress

Describes a private IPv4 address.

Contents

association

The association information for an Elastic IP address for the network interface.

Type: InstanceNetworkInterfaceAssociation object

Required: No

primary

Indicates whether this IPv4 address is the primary private IP address of the network interface.

Type: Boolean

Required: No

privateDnsName

The private IPv4 DNS name.

Type: String

Required: No

privateIpAddress

The private IPv4 address of the network interface.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
**InstanceRequirements**

The attributes for the instance types. When you specify instance attributes, Amazon EC2 will identify instance types with these attributes.

You must specify VCPUCount and MemoryMiB. All other attributes are optional. Any unspecified optional attribute is set to its default.

When you specify multiple attributes, you get instance types that satisfy all of the specified attributes. If you specify multiple values for an attribute, you get instance types that satisfy any of the specified values.

To limit the list of instance types from which Amazon EC2 can identify matching instance types, you can use one of the following parameters, but not both in the same request:

- **AllowedInstanceTypes** - The instance types to include in the list. All other instance types are ignored, even if they match your specified attributes.
- **ExcludedInstanceTypes** - The instance types to exclude from the list, even if they match your specified attributes.

**Note**

If you specify InstanceRequirements, you can't specify InstanceType. Attribute-based instance type selection is only supported when using Auto Scaling groups, EC2 Fleet, and Spot Fleet to launch instances. If you plan to use the launch template in the launch instance wizard or with the RunInstances API, you can't specify InstanceRequirements.

For more information, see [Create a mixed instances group using attribute-based instance type selection](https://docs.aws.amazon.com/autoscaling/ec2/userguide/instance-type-attribute-based-mixed-instance-groups.html) in the *Amazon EC2 Auto Scaling User Guide*, and also [Attribute-based instance type selection for EC2 Fleet](https://docs.aws.amazon.com/autoscaling/ec2/latest/userguide/ec2-fleet-selector.html), [Attribute-based instance type selection for Spot Fleet](https://docs.aws.amazon.com/autoscaling/ec2/latest/userguide/spot-fleet-selector.html), and [Spot placement score](https://docs.aws.amazon.com/autoscaling/ec2/latest/userguide/spot-fleet-placement-score.html) in the *Amazon EC2 User Guide*. 
Contents

AcceleratorCount (request), acceleratorCount (response)

The minimum and maximum number of accelerators (GPUs, FPGAs, or AWS Inferentia chips) on an instance.

To exclude accelerator-enabled instance types, set Max to 0.

Default: No minimum or maximum limits

Type: AcceleratorCount object

Required: No

AcceleratorManufacturers (request), acceleratorManufacturerSet (response)

Indicates whether instance types must have accelerators by specific manufacturers.

- For instance types with AWS devices, specify amazon-web-services.
- For instance types with AMD devices, specify amd.
- For instance types with Habana devices, specify habana.
- For instance types with NVIDIA devices, specify nvidia.
- For instance types with Xilinx devices, specify xilinx.

Default: Any manufacturer

Type: Array of strings

Valid Values: amazon-web-services | amd | nvidia | xilinx | habana

Required: No

AcceleratorNames (request), acceleratorNameSet (response)

The accelerators that must be on the instance type.

- For instance types with NVIDIA A10G GPUs, specify a10g.
- For instance types with NVIDIA A100 GPUs, specify a100.
- For instance types with NVIDIA H100 GPUs, specify h100.
- For instance types with AWS Inferentia chips, specify inferentia.
- For instance types with NVIDIA GRID K520 GPUs, specify k520.
• For instance types with NVIDIA K80 GPUs, specify k80.
• For instance types with NVIDIA M60 GPUs, specify m60.
• For instance types with AMD Radeon Pro V520 GPUs, specify radeon-pro-v520.
• For instance types with NVIDIA T4 GPUs, specify t4.
• For instance types with NVIDIA T4G GPUs, specify t4g.
• For instance types with Xilinx VU9P FPGAs, specify vu9p.
• For instance types with NVIDIA V100 GPUs, specify v100.

Default: Any accelerator

Type: Array of strings

Valid Values: a100 | inferentia | k520 | k80 | m60 | radeon-pro-v520 | t4 | vu9p | v100 | a10g | h100 | t4g

Required: No

AcceleratorTotalMemoryMiB (request), acceleratorTotalMemoryMiB (response)

The minimum and maximum amount of total accelerator memory, in MiB.

Default: No minimum or maximum limits

Type: AcceleratorTotalMemoryMiB object

Required: No

AcceleratorTypes (request), acceleratorTypeSet (response)

The accelerator types that must be on the instance type.
• For instance types with GPU accelerators, specify gpu.
• For instance types with FPGA accelerators, specify fpga.
• For instance types with inference accelerators, specify inference.

Default: Any accelerator type

Type: Array of strings

Valid Values: gpu | fpga | inference

Required: No
**AllowedInstanceTypes** *(request), **allowedInstanceTypeSet** *(response)*

The instance types to apply your specified attributes against. All other instance types are ignored, even if they match your specified attributes.

You can use strings with one or more wild cards, represented by an asterisk (*), to allow an instance type, size, or generation. The following are examples: `m5.8xlarge`, `c5*.*`, `m5a.*`, `r*`, `*3*`.

For example, if you specify `c5*`, Amazon EC2 will allow the entire C5 instance family, which includes all C5a and C5n instance types. If you specify `m5a.*`, Amazon EC2 will allow all the M5a instance types, but not the M5n instance types.

**Note**

If you specify `AllowedInstanceTypes`, you can't specify `ExcludedInstanceTypes`.

Default: All instance types

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 400 items.


Pattern: `[a-zA-Z0-9\.-]*`+

Required: No

**BareMetal** *(request), **bareMetal** *(response)*

Indicates whether bare metal instance types must be included, excluded, or required.

- To include bare metal instance types, specify `included`.
- To require only bare metal instance types, specify `required`.
- To exclude bare metal instance types, specify `excluded`.

Default: `excluded`

Type: String

Valid Values: `included` | `required` | `excluded`
Required: No

**BaselineEbsBandwidthMbps** (request), **baselineEbsBandwidthMbps** (response)

The minimum and maximum baseline bandwidth to Amazon EBS, in Mbps. For more information, see [Amazon EBS–optimized instances](https://docs.aws.amazon.com/AmazonEBS/latest/UserGuide/ebs-optimized.html) in the *Amazon EC2 User Guide*.

Default: No minimum or maximum limits

Type: [BaselineEbsBandwidthMbps](https://docs.aws.amazon.com/AmazonEBS/latest/APIReference/API_BaselineEbsBandwidthMbps.html) object

Required: No

**BurstablePerformance** (request), **burstablePerformance** (response)

Indicates whether burstable performance T instance types are included, excluded, or required. For more information, see [Burstable performance instances](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/BurstablePerformanceTinstances.html).

- To include burstable performance instance types, specify included.
- To require only burstable performance instance types, specify required.
- To exclude burstable performance instance types, specify excluded.

Default: excluded

Type: String

Valid Values: included | required | excluded

Required: No

**CpuManufacturers** (request), **cpuManufacturerSet** (response)

The CPU manufacturers to include.

- For instance types with Intel CPUs, specify intel.
- For instance types with AMD CPUs, specify amd.
- For instance types with AWS CPUs, specify amazon-web-services.

Note

Don't confuse the CPU manufacturer with the CPU architecture. Instances will be launched with a compatible CPU architecture based on the Amazon Machine Image (AMI) that you specify in your launch template.
Default: Any manufacturer

Type: Array of strings

Valid Values: intel | amd | amazon-web-services

Required: No

ExcludedInstanceTypes (request), excludedInstanceTypeSet (response)

The instance types to exclude.

You can use strings with one or more wild cards, represented by an asterisk (*), to exclude an instance type, size, or generation. The following are examples: m5.8xlarge, c5*.*, m5a.*, r*, *3*.

For example, if you specify c5*, Amazon EC2 will exclude the entire C5 instance family, which includes all C5a and C5n instance types. If you specify m5a.*, Amazon EC2 will exclude all the M5a instance types, but not the M5n instance types.

Note

If you specify ExcludedInstanceTypes, you can't specify AllowedInstanceTypes.

Default: No excluded instance types

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 400 items.


Pattern: [a-zA-Z0-9\-\.\*\-]+

Required: No

InstanceGenerations (request), instanceGenerationSet (response)

Indicates whether current or previous generation instance types are included. The current generation instance types are recommended for use. Current generation instance types are typically the latest two to three generations in each instance family. For more information, see Instance types in the Amazon EC2 User Guide.
For current generation instance types, specify `current`.

For previous generation instance types, specify `previous`.

Default: Current and previous generation instance types

Type: Array of strings

Valid Values: `current` | `previous`

Required: No

**LocalStorage** *(request)*, **localStorage** *(response)*

Indicates whether instance types with instance store volumes are included, excluded, or required. For more information, [Amazon EC2 instance store](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/instance-store.html) in the *Amazon EC2 User Guide*.

- To include instance types with instance store volumes, specify `included`.
- To require only instance types with instance store volumes, specify `required`.
- To exclude instance types with instance store volumes, specify `excluded`.

Default: `included`

Type: String

Valid Values: `included` | `required` | `excluded`

Required: No

**LocalStorageTypes** *(request)*, **localStorageTypeSet** *(response)*

The type of local storage that is required.

- For instance types with hard disk drive (HDD) storage, specify `hdd`.
- For instance types with solid state drive (SSD) storage, specify `ssd`.

Default: `hdd` and `ssd`

Type: Array of strings

Valid Values: `hdd` | `ssd`

Required: No
MemoryGiBPerVCpu (request), memoryGiBPerVCpu (response)

The minimum and maximum amount of memory per vCPU, in GiB.

Default: No minimum or maximum limits

Type: MemoryGiBPerVCpu object

Required: No

MemoryMiB (request), memoryMiB (response)

The minimum and maximum amount of memory, in MiB.

Type: MemoryMiB object

Required: No

NetworkBandwidthGbps (request), networkBandwidthGbps (response)

The minimum and maximum amount of network bandwidth, in gigabits per second (Gbps).

Default: No minimum or maximum limits

Type: NetworkBandwidthGbps object

Required: No

NetworkInterfaceCount (request), networkInterfaceCount (response)

The minimum and maximum number of network interfaces.

Default: No minimum or maximum limits

Type: NetworkInterfaceCount object

Required: No

OnDemandMaxPricePercentageOverLowestPrice (request), onDemandMaxPricePercentageOverLowestPrice (response)

The price protection threshold for On-Demand Instances. This is the maximum you’ll pay for an On-Demand Instance, expressed as a percentage above the least expensive current generation M, C, or R instance type with your specified attributes. When Amazon EC2 selects instance types with your attributes, it excludes instance types priced above your threshold.
The parameter accepts an integer, which Amazon EC2 interprets as a percentage.

To turn off price protection, specify a high value, such as 999999.

This parameter is not supported for \texttt{GetSpotPlacementScores} and \texttt{GetInstanceTypesFromInstanceRequirements}.

\begin{note}
\textbf{Note}

If you set \texttt{TargetCapacityUnitType} to \texttt{vcpu} or \texttt{memory-mib}, the price protection threshold is applied based on the per-vCPU or per-memory price instead of the per-instance price.
\end{note}

Default: 20

Type: Integer

Required: No

\textbf{RequireHibernateSupport} (request), \textbf{requireHibernateSupport} (response)

Indicates whether instance types must support hibernation for On-Demand Instances.

This parameter is not supported for \texttt{GetSpotPlacementScores}.

Default: false

Type: Boolean

Required: No

\textbf{SpotMaxPricePercentageOverLowestPrice} (request), \textbf{spotMaxPricePercentageOverLowestPrice} (response)

The price protection threshold for Spot Instances. This is the maximum you'll pay for a Spot Instance, expressed as a percentage above the least expensive current generation M, C, or R instance type with your specified attributes. When Amazon EC2 selects instance types with your attributes, it excludes instance types priced above your threshold.

The parameter accepts an integer, which Amazon EC2 interprets as a percentage.

To turn off price protection, specify a high value, such as 999999.
This parameter is not supported for GetSpotPlacementScores and GetInstanceTypesFromInstanceRequirements.

### Note

If you set TargetCapacityUnitType to vcpu or memory-mib, the price protection threshold is applied based on the per-vCPU or per-memory price instead of the per-instance price.

Default: 100

Type: Integer

Required: No

**TotalLocalStorageGB** (request), **totalLocalStorageGB** (response)

The minimum and maximum amount of total local storage, in GB.

Default: No minimum or maximum limits

Type: **TotalLocalStorageGB** object

Required: No

**VCpuCount** (request), **vCpuCount** (response)

The minimum and maximum number of vCPUs.

Type: **VcpuCountRange** object

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- AWS SDK for Ruby V3
InstanceRequirementsRequest

The attributes for the instance types. When you specify instance attributes, Amazon EC2 will identify instance types with these attributes.

You must specify VcpuCount and MemoryMiB. All other attributes are optional. Any unspecified optional attribute is set to its default.

When you specify multiple attributes, you get instance types that satisfy all of the specified attributes. If you specify multiple values for an attribute, you get instance types that satisfy any of the specified values.

To limit the list of instance types from which Amazon EC2 can identify matching instance types, you can use one of the following parameters, but not both in the same request:

- **AllowedInstanceTypes** - The instance types to include in the list. All other instance types are ignored, even if they match your specified attributes.
- **ExcludedInstanceTypes** - The instance types to exclude from the list, even if they match your specified attributes.

!! **Note**

If you specify InstanceRequirements, you can't specify InstanceType. Attribute-based instance type selection is only supported when using Auto Scaling groups, EC2 Fleet, and Spot Fleet to launch instances. If you plan to use the launch template in the launch instance wizard, or with the RunInstances API or AWS::EC2::Instance AWS CloudFormation resource, you can't specify InstanceRequirements.

For more information, see Attribute-based instance type selection for EC2 Fleet, Attribute-based instance type selection for Spot Fleet, and Spot placement score in the Amazon EC2 User Guide.

Contents

**MemoryMiB**

The minimum and maximum amount of memory, in MiB.

Type: MemoryMiBRequest object
VCpuCount

The minimum and maximum number of vCPUs.

Type: `VCpuCountRangeRequest` object

Required: Yes

AcceleratorCount

The minimum and maximum number of accelerators (GPUs, FPGAs, or AWS Inferentia chips) on an instance.

To exclude accelerator-enabled instance types, set `Max` to 0.

Default: No minimum or maximum limits

Type: `AcceleratorCountRequest` object

Required: No

AcceleratorManufacturers

Indicates whether instance types must have accelerators by specific manufacturers.

- For instance types with AWS devices, specify `amazon-web-services`.
- For instance types with AMD devices, specify `amd`.
- For instance types with Habana devices, specify `habana`.
- For instance types with NVIDIA devices, specify `nvidia`.
- For instance types with Xilinx devices, specify `xilinx`.

Default: Any manufacturer

Type: Array of strings

Valid Values: `amazon-web-services` | `amd` | `nvidia` | `xilinx` | `habana`

Required: No

AcceleratorNames

The accelerators that must be on the instance type.
• For instance types with NVIDIA A10G GPUs, specify a10g.
• For instance types with NVIDIA A100 GPUs, specify a100.
• For instance types with NVIDIA H100 GPUs, specify h100.
• For instance types with AWS Inferentia chips, specify inferentia.
• For instance types with NVIDIA GRID K520 GPUs, specify k520.
• For instance types with NVIDIA K80 GPUs, specify k80.
• For instance types with NVIDIA M60 GPUs, specify m60.
• For instance types with AMD Radeon Pro V520 GPUs, specify radeon-pro-v520.
• For instance types with NVIDIA T4 GPUs, specify t4.
• For instance types with NVIDIA T4G GPUs, specify t4g.
• For instance types with Xilinx VU9P FPGAs, specify vu9p.
• For instance types with NVIDIA V100 GPUs, specify v100.

Default: Any accelerator

Type: Array of strings

Valid Values: a100 | inferentia | k520 | k80 | m60 | radeon-pro-v520 | t4 | vu9p | v100 | a10g | h100 | t4g

Required: No

AcceleratorTotalMemoryMiB

The minimum and maximum amount of total accelerator memory, in MiB.

Default: No minimum or maximum limits

Type: AcceleratorTotalMemoryMiBRequest object

Required: No

AcceleratorTypes

The accelerator types that must be on the instance type.
• To include instance types with GPU hardware, specify gpu.
• To include instance types with FPGA hardware, specify fpga.
• To include instance types with inference hardware, specify inference.
Default: Any accelerator type

Type: Array of strings

Valid Values: gpu | fpga | inference

Required: No

**AllowedInstanceTypes**

The instance types to apply your specified attributes against. All other instance types are ignored, even if they match your specified attributes.

You can use strings with one or more wild cards, represented by an asterisk (*), to allow an instance type, size, or generation. The following are examples: m5.8xlarge, c5*.*, m5a.*, r*, *3*.

For example, if you specify c5*, Amazon EC2 will allow the entire C5 instance family, which includes all C5a and C5n instance types. If you specify m5a.*, Amazon EC2 will allow all the M5a instance types, but not the M5n instance types.

**Note**

If you specify AllowedInstanceTypes, you can't specify ExcludedInstanceTypes.

Default: All instance types

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 400 items.


Pattern: [a-zA-Z0-9\-\./]*

Required: No

**BareMetal**

Indicates whether bare metal instance types must be included, excluded, or required.

- To include bare metal instance types, specify included.
To require only bare metal instance types, specify required. To exclude bare metal instance types, specify excluded.

Default: excluded

Type: String

Valid Values: included | required | excluded

Required: No

**BaselineEbsBandwidthMbps**

The minimum and maximum baseline bandwidth to Amazon EBS, in Mbps. For more information, see [Amazon EBS–optimized instances](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ebs-optimized.html) in the *Amazon EC2 User Guide*.

Default: No minimum or maximum limits

Type: **BaselineEbsBandwidthMbps** object

Required: No

**BurstablePerformance**

Indicates whether burstable performance T instance types are included, excluded, or required. For more information, see [Burstable performance instances](https://aws.amazon.com/ec2/instance-types/burstable-performance/).

- To include burstable performance instance types, specify included.
- To require only burstable performance instance types, specify required.
- To exclude burstable performance instance types, specify excluded.

Default: excluded

Type: String

Valid Values: included | required | excluded

Required: No

**CpuManufacturers**

The CPU manufacturers to include.

- For instance types with Intel CPUs, specify intel.
- For instance types with AMD CPUs, specify amd.
• For instance types with AWS CPUs, specify amazon-web-services.

**Note**

Don't confuse the CPU manufacturer with the CPU architecture. Instances will be launched with a compatible CPU architecture based on the Amazon Machine Image (AMI) that you specify in your launch template.

Default: Any manufacturer

Type: Array of strings

Valid Values: intel | amd | amazon-web-services

Required: No

**ExcludedInstanceTypes**

The instance types to exclude.

You can use strings with one or more wild cards, represented by an asterisk (*), to exclude an instance family, type, size, or generation. The following are examples: m5.8xlarge, c5*.*, m5a.*, r.*, *3*.

For example, if you specify c5*, Amazon EC2 will exclude the entire C5 instance family, which includes all C5a and C5n instance types. If you specify m5a.*, Amazon EC2 will exclude all the M5a instance types, but not the M5n instance types.

**Note**

If you specify ExcludedInstanceTypes, you can't specify AllowedInstanceTypes.

Default: No excluded instance types

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 400 items.

Pattern: [a-zA-Z0-9\.-\*\-%]+  
Required: No

**InstanceGenerations**

Indicates whether current or previous generation instance types are included. The current generation instance types are recommended for use. Current generation instance types are typically the latest two to three generations in each instance family. For more information, see [Instance types](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/inst-type-index.html) in the *Amazon EC2 User Guide*.

For current generation instance types, specify `current`.

For previous generation instance types, specify `previous`.

Default: Current and previous generation instance types

Type: Array of strings

Valid Values: current | previous

Required: No

**LocalStorage**

Indicates whether instance types with instance store volumes are included, excluded, or required. For more information, [Amazon EC2 instance store](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/EC2インスタンステイオールストア.html) in the *Amazon EC2 User Guide*.

- To include instance types with instance store volumes, specify `included`.
- To require only instance types with instance store volumes, specify `required`.
- To exclude instance types with instance store volumes, specify `excluded`.

Default: `included`

Type: String

Valid Values: included | required | excluded

Required: No

**LocalStorageTypes**

The type of local storage that is required.

- For instance types with hard disk drive (HDD) storage, specify `hdd`. 
For instance types with solid state drive (SSD) storage, specify ssd.

Default: hdd and ssd

Type: Array of strings

Valid Values: hdd | ssd

Required: No

**MemoryGiBPerVCpu**

The minimum and maximum amount of memory per vCPU, in GiB.

Default: No minimum or maximum limits

Type: [MemoryGiBPerVCpuRequest](#) object

Required: No

**NetworkBandwidthGbps**

The minimum and maximum amount of baseline network bandwidth, in gigabits per second (Gbps). For more information, see [Amazon EC2 instance network bandwidth](#) in the *Amazon EC2 User Guide*.

Default: No minimum or maximum limits

Type: [NetworkBandwidthGbpsRequest](#) object

Required: No

**NetworkInterfaceCount**

The minimum and maximum number of network interfaces.

Default: No minimum or maximum limits

Type: [NetworkInterfaceCountRequest](#) object

Required: No

**OnDemandMaxPricePercentageOverLowestPrice**

The price protection threshold for On-Demand Instances. This is the maximum you’ll pay for an On-Demand Instance, expressed as a percentage above the least expensive current generation
M, C, or R instance type with your specified attributes. When Amazon EC2 selects instance types with your attributes, it excludes instance types priced above your threshold.

The parameter accepts an integer, which Amazon EC2 interprets as a percentage.

To turn off price protection, specify a high value, such as 999999.

This parameter is not supported for GetSpotPlacementScores and GetInstanceTypesFromInstanceRequirements.

![Note]

If you set TargetCapacityUnitType to vcpu or memory-mib, the price protection threshold is applied based on the per-vCPU or per-memory price instead of the per-instance price.

Default: 20

Type: Integer

Required: No

RequireHibernateSupport

Indicates whether instance types must support hibernation for On-Demand Instances.

This parameter is not supported for GetSpotPlacementScores.

Default: false

Type: Boolean

Required: No

SpotMaxPricePercentageOverLowestPrice

The price protection threshold for Spot Instance. This is the maximum you’ll pay for an Spot Instance, expressed as a percentage above the least expensive current generation M, C, or R instance type with your specified attributes. When Amazon EC2 selects instance types with your attributes, it excludes instance types priced above your threshold.

The parameter accepts an integer, which Amazon EC2 interprets as a percentage.
To turn off price protection, specify a high value, such as 999999.

This parameter is not supported for `GetSpotPlacementScores` and `GetInstanceTypesFromInstanceRequirements`.

### Note

If you set `TargetCapacityUnitType` to `vcpu` or `memory-mib`, the price protection threshold is applied based on the per-vCPU or per-memory price instead of the per-instance price.

Default: 100
Type: Integer
Required: No

**TotalLocalStorageGB**

The minimum and maximum amount of total local storage, in GB.

Default: No minimum or maximum limits

Type: [TotalLocalStorageGBRequest](#) object
Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
InstanceRequirementsWithMetadataRequest

The architecture type, virtualization type, and other attributes for the instance types. When you specify instance attributes, Amazon EC2 will identify instance types with those attributes.

If you specify InstanceRequirementsWithMetadataRequest, you can't specify InstanceTypes.

Contents

ArchitectureTypes

The architecture type.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 3 items.

Valid Values: i386 | x86_64 | arm64 | x86_64_mac | arm64_mac

Required: No

InstanceRequirements

The attributes for the instance types. When you specify instance attributes, Amazon EC2 will identify instance types with those attributes.

Type: InstanceRequirementsRequest object

Required: No

VirtualizationTypes

The virtualization type.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 2 items.

Valid Values: hvm | paravirtual

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceSpecification

The instance details to specify which volumes should be snapshotted.

Contents

InstanceId

The instance to specify which volumes should be snapshotted.

Type: String

Required: Yes

ExcludeBootVolume

Excludes the root volume from being snapshotted.

Type: Boolean

Required: No

ExcludeDataVolumeIds

The IDs of the data (non-root) volumes to exclude from the multi-volume snapshot set. If you specify the ID of the root volume, the request fails. To exclude the root volume, use ExcludeBootVolume.

You can specify up to 40 volume IDs per request.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for Ruby V3
InstanceState

Describes the current state of an instance.

Contents

code

The state of the instance as a 16-bit unsigned integer.

The high byte is all of the bits between $2^8$ and $(2^{16})-1$, which equals decimal values between 256 and 65,535. These numerical values are used for internal purposes and should be ignored.

The low byte is all of the bits between $2^0$ and $(2^8)-1$, which equals decimal values between 0 and 255.

The valid values for instance-state-code will all be in the range of the low byte and they are:

- 0: pending
- 16: running
- 32: shutting-down
- 48: terminated
- 64: stopping
- 80: stopped

You can ignore the high byte value by zeroing out all of the bits above $2^8$ or 256 in decimal.

Type: Integer

Required: No

name

The current state of the instance.

Type: String

Valid Values: pending | running | shutting-down | terminated | stopping | stopped

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceStateChange

Describes an instance state change.

Contents

currentState

The current state of the instance.

Type: InstanceState object

Required: No

instanceId

The ID of the instance.

Type: String

Required: No

previousState

The previous state of the instance.

Type: InstanceState object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceStatus

Describes the status of an instance.

Contents

availabilityZone

The Availability Zone of the instance.

Type: String

Required: No

eventsSet

Any scheduled events associated with the instance.

Type: Array of InstanceStatusEvent objects

Required: No

instanceId

The ID of the instance.

Type: String

Required: No

instanceState

The intended state of the instance. DescribeInstanceStatus requires that an instance be in the running state.

Type: InstanceState object

Required: No

instanceStatus

Reports impaired functionality that stems from issues internal to the instance, such as impaired reachability.

Type: InstanceStatusSummary object
outpostArn

The Amazon Resource Name (ARN) of the Outpost.

Type: String

Required: No

systemStatus

Reports impaired functionality that stems from issues related to the systems that support an instance, such as hardware failures and network connectivity problems.

Type: `InstanceStatusSummary` object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
InstanceStatusDetails

Describes the instance status.

Contents

impairedSince

The time when a status check failed. For an instance that was launched and impaired, this is the time when the instance was launched.

Type: Timestamp

Required: No

name

The type of instance status.

Type: String

Valid Values: reachability

Required: No

status

The status.

Type: String

Valid Values: passed | failed | insufficient-data | initializing

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
InstanceStatusEvent

Describes a scheduled event for an instance.

Contents

code

The event code.

Type: String

Valid Values: instance-reboot | system-reboot | system-maintenance | instance-retirement | instance-stop

Required: No

description

A description of the event.

After a scheduled event is completed, it can still be described for up to a week. If the event has been completed, this description starts with the following text: [Completed].

Type: String

Required: No

instanceEventId

The ID of the event.

Type: String

Required: No

notAfter

The latest scheduled end time for the event.

Type: Timestamp

Required: No
**notBefore**

The earliest scheduled start time for the event.

Type: Timestamp

Required: No

**notBeforeDeadline**

The deadline for starting the event.

Type: Timestamp

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
InstanceStatusSummary

Describes the status of an instance.

Contents

details

The system instance health or application instance health.

Type: Array of InstanceStatusDetails objects

Required: No

status

The status.

Type: String

Valid Values: ok | impaired | insufficient-data | not-applicable | initializing

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceStorageInfo

Describes the instance store features that are supported by the instance type.

Contents

disks

Describes the disks that are available for the instance type.

Type: Array of DiskInfo objects

Required: No

encryptionSupport

Indicates whether data is encrypted at rest.

Type: String

Valid Values: unsupported | required

Required: No

nvmeSupport

Indicates whether non-volatile memory express (NVMe) is supported.

Type: String

Valid Values: unsupported | supported | required

Required: No

totalSizeInGB

The total size of the disks, in GB.

Type: Long

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• **AWS SDK for C++**
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for Ruby V3**
InstanceTagNotificationAttribute

Describes the registered tag keys for the current Region.

Contents

includeAllTagsOfInstance

Indicates whether all tag keys in the current Region are registered to appear in scheduled event notifications. `true` indicates that all tag keys in the current Region are registered.

Type: Boolean

Required: No

instanceTagKeySet

The registered tag keys.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceTopology

Information about the instance topology.

Contents

availabilityZone

The name of the Availability Zone or Local Zone that the instance is in.

Type: String

Required: No

groupName

The name of the placement group that the instance is in.

Type: String

Required: No

instanceId

The instance ID.

Type: String

Required: No

instanceType

The instance type.

Type: String

Required: No

networkNodeSet

The network nodes. The nodes are hashed based on your account. Instances from different accounts running under the same droplet will return a different hashed list of strings.

Type: Array of strings

Required: No
zoneId

The ID of the Availability Zone or Local Zone that the instance is in.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceTypeInfo

Describes the instance type.

Contents

**autoRecoverySupported**

Indicates whether Amazon CloudWatch action based recovery is supported.

Type: Boolean

Required: No

**bareMetal**

Indicates whether the instance is a bare metal instance type.

Type: Boolean

Required: No

**burstablePerformanceSupported**

Indicates whether the instance type is a burstable performance T instance type. For more information, see [Burstable performance instances](#).

Type: Boolean

Required: No

**currentGeneration**

Indicates whether the instance type is current generation.

Type: Boolean

Required: No

**dedicatedHostsSupported**

Indicates whether Dedicated Hosts are supported on the instance type.

Type: Boolean

Required: No
ebsInfo

Describes the Amazon EBS settings for the instance type.

Type: EbsInfo object

Required: No

fpgaInfo

Describes the FPGA accelerator settings for the instance type.

Type: FpgaInfo object

Required: No

freeTierEligible

Indicates whether the instance type is eligible for the free tier.

Type: Boolean

Required: No

gpuInfo

Describes the GPU accelerator settings for the instance type.

Type: GpuInfo object

Required: No

hibernationSupported

Indicates whether On-Demand hibernation is supported.

Type: Boolean

Required: No

hypervisor

The hypervisor for the instance type.

Type: String

Valid Values: nitro | xen

Required: No
inferenceAcceleratorInfo

Describes the Inference accelerator settings for the instance type.

Type: InferenceAcceleratorInfo object

Required: No

instanceStorageInfo

Describes the instance storage for the instance type.

Type: InstanceStorageInfo object

Required: No

instanceStorageSupported

Indicates whether instance storage is supported.

Type: Boolean

Required: No

instanceType

The instance type. For more information, see Instance types in the Amazon EC2 User Guide.

Type: String

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metal | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5d.metal | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c5n.9xlarge | c5n.18xlarge | c5n.metal | c6g.medium | c6g.large | c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.metal | c6gd.medium | c6gd.large | c6gd.xlarge
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Required: No

memoryInfo

Describes the memory for the instance type.

Type: MemoryInfo object

Required: No

networkInfo

Describes the network settings for the instance type.

Type: NetworkInfo object

Required: No

nitroEnclavesSupport

Indicates whether Nitro Enclaves is supported.

Type: String

Valid Values: unsupported | supported

Required: No

nitroTpmInfo

Describes the supported NitroTPM versions for the instance type.

Type: NitroTpmInfo object

Required: No

nitroTpmSupport

Indicates whether NitroTPM is supported.
Type: String

Valid Values: unsupported | supported

Required: No

**placementGroupInfo**

Describes the placement group settings for the instance type.

Type: PlacementGroupInfo object

Required: No

**processorInfo**

Describes the processor.

Type: ProcessorInfo object

Required: No

**supportedBootModes**

The supported boot modes. For more information, see Boot modes in the Amazon EC2 User Guide.

Type: Array of strings

Valid Values: legacy-bios | uefi

Required: No

**supportedRootDeviceTypes**

The supported root device types.

Type: Array of strings

Valid Values: ebs | instance-store

Required: No

**supportedUsageClasses**

Indicates whether the instance type is offered for spot or On-Demand.
Type: Array of strings

Valid Values: spot | on-demand | capacity-block

Required: No

**supportedVirtualizationTypes**

The supported virtualization types.

Type: Array of strings

Valid Values: hvm | paravirtual

Required: No

**vCpuInfo**

Describes the vCPU configurations for the instance type.

Type: [VCpuInfo](#) object

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://github.com/aws/aws-sdk-go)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)

---

*See Also*
InstanceTypeInfoFromInstanceRequirements

The list of instance types with the specified instance attributes.

Contents

instanceType

The matching instance type.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InstanceTypeOffering

The instance types offered.

Contents

instanceType

The instance type. For more information, see Instance types in the Amazon EC2 User Guide.

Type: String

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.meta | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c5n.9xlarge | c5n.18xlarge | c5n.meta | c6g.medium | c6g.large | c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.meta | c6gd.medium | c6gd.large | c6gd.xlarge | c6gd.2xlarge | c6gd.4xlarge | c6gd.8xlarge | c6gd.12xlarge | c6gd.16xlarge | c6gd.meta | c6gn.medium | c6gn.large | c6gn.xlarge | c6gn.2xlarge | c6gn.4xlarge | c6gn.8xlarge | c6gn.12xlarge | c6gn.16xlarge | c6i.large | c6i.xlarge | c6i.2xlarge | c6i.4xlarge | c6i.8xlarge | c6i.12xlarge | c6i.16xlarge | c6i.24xlarge | c6i.32xlarge | c6i.meta | cc1.4xlarge | cc2.8xlarge | cg1.4xlarge | cr1.8xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | d3.xlarge | d3.2xlarge | d3.4xlarge | d3.8xlarge | d3en.xlarge | d3en.2xlarge | d3en.4xlarge | d3en.6xlarge | d3en.8xlarge | d3en.12xlarge | dl1.24xlarge | f1.2xlarge | f1.4xlarge | f1.16xlarge | g2.2xlarge | g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | g3s.xlarge | g4ad.xlarge | g4ad.2xlarge | g4ad.4xlarge | g4ad.8xlarge | g4ad.16xlarge
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| c7gn.4xlarge | c7gn.8xlarge | c7gn.12xlarge | c7gn.16xlarge | p5.48xlarge | m7i.large | m7i.xlarge | m7i.2xlarge | m7i.4xlarge | m7i.8xlarge | m7i.12xlarge | m7i.16xlarge | m7i.24xlarge | m7i.48xlarge | m7i-flex.large | m7i-flex.xlarge | m7i-flex.2xlarge | m7i-flex.4xlarge | m7i-flex.8xlarge | m7a.medium | m7a.large | m7a.xlarge | m7a.2xlarge | m7a.4xlarge | m7a.8xlarge | m7a.12xlarge | m7a.16xlarge | m7a.24xlarge | m7a.32xlarge | m7a.48xlarge | m7a.metal-48x1 | hpc7a.12xlarge | hpc7a.24xlarge | hpc7a.48xlarge | hpc7a.96xlarge | c7gd.medium | c7gd.large | c7gd.xlarge | c7gd.2xlarge | c7gd.4xlarge | c7gd.8xlarge | c7gd.12xlarge | c7gd.16xlarge | m7gd.medium | m7gd.large | m7gd.xlarge | m7gd.2xlarge | m7gd.4xlarge | m7gd.8xlarge | m7gd.12xlarge | m7gd.16xlarge | r7gd.medium | r7gd.large | r7gd.xlarge | r7gd.2xlarge | r7gd.4xlarge | r7gd.8xlarge | r7gd.12xlarge | r7gd.16xlarge | r7a.medium | r7a.large | r7a.xlarge | r7a.2xlarge | r7a.4xlarge | r7a.8xlarge | r7a.12xlarge | r7a.16xlarge | r7a.24xlarge | r7a.32xlarge | r7a.48xlarge | c7i.large | c7i.xlarge | c7i.2xlarge | c7i.4xlarge | c7i.8xlarge | c7i.12xlarge | c7i.16xlarge | c7i.24xlarge | c7i.48xlarge | mac2-m2pro.metal | r7iz.large | r7iz.xlarge | r7iz.2xlarge | r7iz.4xlarge | r7iz.8xlarge | r7iz.12xlarge | r7iz.16xlarge | r7iz.32xlarge | c7a.medium | c7a.large | c7a.xlarge | c7a.2xlarge | c7a.4xlarge | c7a.8xlarge | c7a.12xlarge | c7a.16xlarge | c7a.24xlarge | c7a.32xlarge | c7a.48xlarge | c7a.metal-48x1 | r7a.metal-48x1 | r7i.large | r7i.xlarge | r7i.2xlarge | r7i.4xlarge | r7i.8xlarge | r7i.12xlarge | r7i.16xlarge | r7i.24xlarge | r7i.48xlarge | d12q.24xlarge | mac2-m2.metal | i4i.12xlarge | i4i.24xlarge | c7i.metal-24x1 | c7i.metal-48x1 | m7i.metal-24x1 | m7i.metal-48x1 | r7i.metal-24x1 | r7i.metal-48x1 | r7iz.metal-16x1 | r7iz.metal-32xlarge

**Required:** No

**location**

The identifier for the location. This depends on the location type. For example, if the location type is `region`, the location is the Region code (for example, `us-east-2`).
Type: String
Required: No

**locationType**

The location type.

Type: String

Valid Values: region | availability-zone | availability-zone-id | outpost

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
InstanceUsage

Information about the Capacity Reservation usage.

Contents

accountId

The ID of the AWS account that is making use of the Capacity Reservation.

Type: String

Required: No

usedInstanceCount

The number of instances the AWS account currently has in the Capacity Reservation.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
IntegrateServices

Describes service integrations with VPC Flow logs.

Contents

AthenaIntegrations

Information about the integration with Amazon Athena.

Type: Array of AthenaIntegration objects

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InternetGateway

Describes an internet gateway.

Contents

attachmentSet

Any VPCs attached to the internet gateway.

Type: Array of InternetGatewayAttachment objects

Required: No

internetGatewayId

The ID of the internet gateway.

Type: String

Required: No

ownerId

The ID of the AWS account that owns the internet gateway.

Type: String

Required: No

tagSet

Any tags assigned to the internet gateway.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
See Also

- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
InternetGatewayAttachment

Describes the attachment of a VPC to an internet gateway or an egress-only internet gateway.

Contents

state

The current state of the attachment. For an internet gateway, the state is available when attached to a VPC; otherwise, this value is not returned.

Type: String

Valid Values: attaching | attached | detaching | detached

Required: No

vpcId

The ID of the VPC.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Ipam

IPAM is a VPC feature that you can use to automate your IP address management workflows including assigning, tracking, troubleshooting, and auditing IP addresses across AWS Regions and accounts throughout your AWS Organization. For more information, see What is IPAM? in the Amazon VPC IPAM User Guide.

Contents

defaultResourceDiscoveryAssociationId

The IPAM's default resource discovery association ID.

Type: String

Required: No

defaultResourceDiscoveryId

The IPAM's default resource discovery ID.

Type: String

Required: No

description

The description for the IPAM.

Type: String

Required: No

ipamArn

The Amazon Resource Name (ARN) of the IPAM.

Type: String


Required: No

ipamId

The ID of the IPAM.
Type: String
Required: No

**ipamRegion**

The AWS Region of the IPAM.

Type: String
Required: No

**operatingRegionSet**

The operating Regions for an IPAM. Operating Regions are AWS Regions where the IPAM is allowed to manage IP address CIDRs. IPAM only discovers and monitors resources in the AWS Regions you select as operating Regions.

For more information about operating Regions, see [Create an IPAM](https://docs.aws.amazon.com/vpc-ipam/latest/APIReference/index.html) in the *Amazon VPC IPAM User Guide*.

Type: Array of [IpamOperatingRegion](https://docs.aws.amazon.com/vpc-ipam/latest/APIReference/index.html) objects
Required: No

**ownerId**

The AWS account ID of the owner of the IPAM.

Type: String
Required: No

**privateDefaultScopeId**

The ID of the IPAM's default private scope.

Type: String
Required: No

**publicDefaultScopeId**

The ID of the IPAM's default public scope.

Type: String
resourceDiscoveryAssociationCount

The IPAM's resource discovery association count.

Type: Integer

Required: No

scopeCount

The number of scopes in the IPAM. The scope quota is 5. For more information on quotas, see Quotas in IPAM in the Amazon VPC IPAM User Guide.

Type: Integer

Required: No

state

The state of the IPAM.

Type: String


Required: No

stateMessage

The state message.

Type: String

Required: No

tagSet

The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.
Type: Array of Tag objects

Required: No

tier

IPAM is offered in a Free Tier and an Advanced Tier. For more information about the features available in each tier and the costs associated with the tiers, see Amazon VPC pricing > IPAM tab.

Type: String

Valid Values: free | advanced

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
IpamAddressHistoryRecord

The historical record of a CIDR within an IPAM scope. For more information, see View the history of IP addresses in the Amazon VPC IPAM User Guide.

Contents

resourceCidr

  The CIDR of the resource.

  Type: String

  Required: No

resourceComplianceStatus

  The compliance status of a resource. For more information on compliance statuses, see Monitor CIDR usage by resource in the Amazon VPC IPAM User Guide.

  Type: String

  Valid Values: compliant | noncompliant | unmanaged | ignored

  Required: No

resourceId

  The ID of the resource.

  Type: String

  Required: No

resourceName

  The name of the resource.

  Type: String

  Required: No

resourceOverlapStatus

  The overlap status of an IPAM resource. The overlap status tells you if the CIDR for a resource overlaps with another CIDR in the scope. For more information on overlap statuses, see Monitor CIDR usage by resource in the Amazon VPC IPAM User Guide.
Type: String

Valid Values: overlapping | nonoverlapping | ignored

Required: No

**resourceOwnerId**

The ID of the resource owner.

Type: String

Required: No

**resourceRegion**

The AWS Region of the resource.

Type: String

Required: No

**resourceType**

The type of the resource.

Type: String

Valid Values: eip | vpc | subnet | network-interface | instance

Required: No

**sampledEndTime**

Sampled end time of the resource-to-CIDR association within the IPAM scope. Changes are picked up in periodic snapshots, so the end time may have occurred before this specific time.

Type: Timestamp

Required: No

**sampledStartTime**

Sampled start time of the resource-to-CIDR association within the IPAM scope. Changes are picked up in periodic snapshots, so the start time may have occurred before this specific time.

Type: Timestamp
Required: No

**vpCId**

The VPC ID of the resource.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
IpamCidrAuthorizationContext

A signed document that proves that you are authorized to bring the specified IP address range to Amazon using BYOIP.

Contents

Message

The plain-text authorization message for the prefix and account.

Type: String

Required: No

Signature

The signed authorization message for the prefix and account.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
IpamDiscoveredAccount

An IPAM discovered account. A discovered account is an AWS account that is monitored under a resource discovery. If you have integrated IPAM with AWS Organizations, all accounts in the organization are discovered accounts.

Contents

accountId

The account ID.

Type: String

Required: No

discoveryRegion

The AWS Region that the account information is returned from. An account can be discovered in multiple regions and will have a separate discovered account for each Region.

Type: String

Required: No

failureReason

The resource discovery failure reason.

Type: IpamDiscoveryFailureReason object

Required: No

lastAttemptedDiscoveryTime

The last attempted resource discovery time.

Type: Timestamp

Required: No

lastSuccessfulDiscoveryTime

The last successful resource discovery time.
Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
IpamDiscoveredPublicIpAddress

A public IP Address discovered by IPAM.

Contents

address

The IP address.

Type: String

Required: No

addressAllocationId

The allocation ID of the resource the IP address is assigned to.

Type: String

Required: No

addressOwnerId

The ID of the owner of the resource the IP address is assigned to.

Type: String

Required: No

addressRegion

The Region of the resource the IP address is assigned to.

Type: String

Required: No

addressType

The IP address type.

Type: String

Valid Values: service-managed-ip | service-managed-byoip | amazon-owned-eip | byoip | ec2-public-ip
Required: No

**associationStatus**

The association status.

Type: String

Valid Values: associated | disassociated

Required: No

**instanceId**

The instance ID of the instance the assigned IP address is assigned to.

Type: String

Required: No

**ipamResourceDiscoveryId**

The resource discovery ID.

Type: String

Required: No

**networkBorderGroup**

The network border group that the resource that the IP address is assigned to is in.

Type: String

Required: No

**networkInterfaceDescription**

The description of the network interface that IP address is assigned to.

Type: String

Required: No

**networkInterfaceId**

The network interface ID of the resource with the assigned IP address.
publicIpV4PoolId

The ID of the public IPv4 pool that the resource with the assigned IP address is from.

Type: String

Required: No

sampleTime

The last successful resource discovery time.

Type: Timestamp

Required: No

securityGroupSet

Security groups associated with the resource that the IP address is assigned to.

Type: Array of IpamPublicAddressSecurityGroup objects

Required: No

service

The AWS service associated with the IP address.

Type: String

Valid Values: nat-gateway | database-migration-service | redshift | elastic-container-service | relational-database-service | site-to-site-vpn | load-balancer | global-accelerator | other

Required: No

serviceResource

The resource ARN or ID.

Type: String

Required: No
subnetId

The ID of the subnet that the resource with the assigned IP address is in.

Type: String

Required: No

tags

Tags associated with the IP address.

Type: IpamPublicAddressTags object

Required: No

vpcId

The ID of the VPC that the resource with the assigned IP address is in.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
IpamDiscoveredResourceCidr

An IPAM discovered resource CIDR. A discovered resource is a resource CIDR monitored under a resource discovery. The following resources can be discovered: VPCs, Public IPv4 pools, VPC subnets, and Elastic IP addresses. The discovered resource CIDR is the IP address range in CIDR notation that is associated with the resource.

Contents

ipamResourceDiscoveryId

The resource discovery ID.

Type: String

Required: No

ipUsage

The percentage of IP address space in use. To convert the decimal to a percentage, multiply the decimal by 100. Note the following:

- For resources that are VPCs, this is the percentage of IP address space in the VPC that's taken up by subnet CIDRs.
- For resources that are subnets, if the subnet has an IPv4 CIDR provisioned to it, this is the percentage of IPv4 address space in the subnet that's in use. If the subnet has an IPv6 CIDR provisioned to it, the percentage of IPv6 address space in use is not represented. The percentage of IPv6 address space in use cannot currently be calculated.
- For resources that are public IPv4 pools, this is the percentage of IP address space in the pool that's been allocated to Elastic IP addresses (EIPs).

Type: Double

Required: No

resourceCidr

The resource CIDR.

Type: String

Required: No
resourceId

The resource ID.
Type: String
Required: No

resourceOwnerId

The resource owner ID.
Type: String
Required: No

resourceRegion

The resource Region.
Type: String
Required: No

resourceTagSet

The resource tags.
Type: Array of IpamResourceTag objects
Required: No

resourceType

The resource type.
Type: String
Valid Values: vpc | subnet | eip | public-ipv4-pool | ipv6-pool | eni
Required: No

sampleTime

The last successful resource discovery time.
Type: Timestamp
Required: No

**vpcId**

The VPC ID.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
IpamDiscoveryFailureReason

The discovery failure reason.

Contents

code

The discovery failure code.

- assume-role-failure - IPAM could not assume the AWS IAM service-linked role. This could be because of any of the following:
  - SLR has not been created yet and IPAM is still creating it.
  - You have opted-out of the IPAM home Region.
  - Account you are using as your IPAM account has been suspended.
- throttling-failure - IPAM account is already using the allotted transactions per second and IPAM is receiving a throttling error when assuming the AWS IAM SLR.
- unauthorized-failure - AWS account making the request is not authorized. For more information, see AuthFailure in the Amazon Elastic Compute Cloud API Reference.

Type: String

Valid Values: assume-role-failure | throttling-failure | unauthorized-failure

Required: No

message

The discovery failure message.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
IpamOperatingRegion

The operating Regions for an IPAM. Operating Regions are AWS Regions where the IPAM is allowed to manage IP address CIDRs. IPAM only discovers and monitors resources in the AWS Regions you select as operating Regions.

For more information about operating Regions, see Create an IPAM in the Amazon VPC IPAM User Guide.

Contents

regionName

The name of the operating Region.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
IpamPool

In IPAM, a pool is a collection of contiguous IP addresses CIDRs. Pools enable you to organize your IP addresses according to your routing and security needs. For example, if you have separate routing and security needs for development and production applications, you can create a pool for each.

Contents

addressFamily

The address family of the pool.

Type: String

Valid Values: ipv4  |  ipv6

Required: No

allocationDefaultNetmaskLength

The default netmask length for allocations added to this pool. If, for example, the CIDR assigned to this pool is 10.0.0.0/8 and you enter 16 here, new allocations will default to 10.0.0.0/16.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 128.

Required: No

allocationMaxNetmaskLength

The maximum netmask length possible for CIDR allocations in this IPAM pool to be compliant. The maximum netmask length must be greater than the minimum netmask length. Possible netmask lengths for IPv4 addresses are 0 - 32. Possible netmask lengths for IPv6 addresses are 0 - 128.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 128.

Required: No
allocationMinNetmaskLength

The minimum netmask length required for CIDR allocations in this IPAM pool to be compliant. The minimum netmask length must be less than the maximum netmask length. Possible netmask lengths for IPv4 addresses are 0 - 32. Possible netmask lengths for IPv6 addresses are 0 - 128.

Type: Integer
Valid Range: Minimum value of 0. Maximum value of 128.
Required: No

allocationResourceTagSet

Tags that are required for resources that use CIDRs from this IPAM pool. Resources that do not have these tags will not be allowed to allocate space from the pool. If the resources have their tags changed after they have allocated space or if the allocation tagging requirements are changed on the pool, the resource may be marked as noncompliant.

Type: Array of IpamResourceTag objects
Required: No

autoImport

If selected, IPAM will continuously look for resources within the CIDR range of this pool and automatically import them as allocations into your IPAM. The CIDRs that will be allocated for these resources must not already be allocated to other resources in order for the import to succeed. IPAM will import a CIDR regardless of its compliance with the pool's allocation rules, so a resource might be imported and subsequently marked as noncompliant. If IPAM discovers multiple CIDRs that overlap, IPAM will import the largest CIDR only. If IPAM discovers multiple CIDRs with matching CIDRs, IPAM will randomly import one of them only.

A locale must be set on the pool for this feature to work.

Type: Boolean
Required: No

awsService

Limits which service in AWS that the pool can be used in. "ec2", for example, allows users to use space for Elastic IP addresses and VPCs.
Type: String

Valid Values: ec2

Required: No

description

The description of the IPAM pool.

Type: String

Required: No

ipamArn

The ARN of the IPAM.

Type: String


Required: No

ipamPoolArn

The Amazon Resource Name (ARN) of the IPAM pool.

Type: String


Required: No

ipamPoolId

The ID of the IPAM pool.

Type: String

Required: No

ipamRegion

The AWS Region of the IPAM pool.

Type: String
Required: No

**ipamScopeArn**

The ARN of the scope of the IPAM pool.

Type: String


Required: No

**ipamScopeType**

In IPAM, a scope is the highest-level container within IPAM. An IPAM contains two default scopes. Each scope represents the IP space for a single network. The private scope is intended for all private IP address space. The public scope is intended for all public IP address space. Scopes enable you to reuse IP addresses across multiple unconnected networks without causing IP address overlap or conflict.

Type: String

Valid Values: public | private

Required: No

**locale**

The locale of the IPAM pool. In IPAM, the locale is the AWS Region where you want to make an IPAM pool available for allocations. Only resources in the same Region as the locale of the pool can get IP address allocations from the pool. You can only allocate a CIDR for a VPC, for example, from an IPAM pool that shares a locale with the VPC’s Region. Note that once you choose a Locale for a pool, you cannot modify it. If you choose an AWS Region for locale that has not been configured as an operating Region for the IPAM, you'll get an error.

Type: String

Required: No

**ownerId**

The AWS account ID of the owner of the IPAM pool.

Type: String
Required: No

**poolDepth**

The depth of pools in your IPAM pool. The pool depth quota is 10. For more information, see [Quotas in IPAM](https://docs.aws.amazon.com/vpc-ipam/latest/userguide/ipam-quotas.html) in the *Amazon VPC IPAM User Guide*.

Type: Integer

Required: No

**publicIpSource**

The IP address source for pools in the public scope. Only used for provisioning IP address CIDRs to pools in the public scope. Default is BYOIP. For more information, see [Create IPv6 pools](https://docs.aws.amazon.com/vpc-ipam/latest/userguide/ipam-create-ipv6-pool.html) in the *Amazon VPC IPAM User Guide*. By default, you can add only one Amazon-provided IPv6 CIDR block to a top-level IPv6 pool. For information on increasing the default limit, see [Quotas for your IPAM](https://docs.aws.amazon.com/vpc-ipam/latest/userguide/ipam-quotas.html) in the *Amazon VPC IPAM User Guide*.

Type: String

Valid Values: amazon | byoip

Required: No

**publiclyAdvertisable**

Determines if a pool is publicly advertisable. This option is not available for pools with `AddressFamily` set to `ipv4`.

Type: Boolean

Required: No

**sourceIpamPoolId**

The ID of the source IPAM pool. You can use this option to create an IPAM pool within an existing source pool.

Type: String

Required: No

**sourceResource**

The resource used to provision CIDRs to a resource planning pool.
Type: `IpamPoolSourceResource` object

Required: No

**state**

The state of the IPAM pool.

Type: String


Required: No

**stateMessage**

The state message.

Type: String

Required: No

**tagSet**

The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key `Owner` and the value `TeamA`, specify `tag:Owner` for the filter name and `TeamA` for the filter value.

Type: Array of `Tag` objects

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++]
- [AWS SDK for Go]
• **AWS SDK for Java V2**
• **AWS SDK for Ruby V3**
IpamPoolAllocation

In IPAM, an allocation is a CIDR assignment from an IPAM pool to another IPAM pool or to a resource.

Contents

cidr

The CIDR for the allocation. A CIDR is a representation of an IP address and its associated network mask (or netmask) and refers to a range of IP addresses. An IPv4 CIDR example is 10.24.34.0/23. An IPv6 CIDR example is 2001:DB8::/32.

Type: String
Required: No

description

A description of the pool allocation.

Type: String
Required: No

ipamPoolAllocationId

The ID of an allocation.

Type: String
Required: No

resourceId

The ID of the resource.

Type: String
Required: No

resourceOwner

The owner of the resource.
Type: String
Required: No

resourceRegion
The AWS Region of the resource.
Type: String
Required: No

resourceType
The type of the resource.
Type: String
Valid Values: ipam-pool | vpc | ec2-public-ipv4-pool | custom | subnet
Required: No

See Also
For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
IpamPoolCidr

A CIDR provisioned to an IPAM pool.

Contents

cidr

The CIDR provisioned to the IPAM pool. A CIDR is a representation of an IP address and its associated network mask (or netmask) and refers to a range of IP addresses. An IPv4 CIDR example is 10.24.34.0/23. An IPv6 CIDR example is 2001:DB8::/32.

Type: String

Required: No

failureReason

Details related to why an IPAM pool CIDR failed to be provisioned.

Type: IpamPoolCidrFailureReason object

Required: No

ipamPoolCidrId

The IPAM pool CIDR ID.

Type: String

Required: No

netmaskLength

The netmask length of the CIDR you’d like to provision to a pool. Can be used for provisioning Amazon-provided IPv6 CIDRs to top-level pools and for provisioning CIDRS to pools with source pools. Cannot be used to provision BYOIP CIDRs to top-level pools. "NetmaskLength" or "Cidr" is required.

Type: Integer

Required: No
state

The state of the CIDR.

Type: String

Valid Values: pending-provision | provisioned | failed-provision | pending-deprovision | deprovisioned | failed-deprovision | pending-import | failed-import

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
IpamPoolCidrFailureReason

Details related to why an IPAM pool CIDR failed to be provisioned.

Contents

code

An error code related to why an IPAM pool CIDR failed to be provisioned.

Type: String

Valid Values: cidr-not-available | limit-exceeded

Required: No

message

A message related to why an IPAM pool CIDR failed to be provisioned.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
IpamPoolSourceResource

The resource used to provision CIDRs to a resource planning pool.

Contents

resourceId

The source resource ID.

Type: String

Required: No

resourceOwner

The source resource owner.

Type: String

Required: No

resourceRegion

The source resource Region.

Type: String

Required: No

resourceType

The source resource type.

Type: String

Valid Values: vpc

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
IpamPoolSourceResourceRequest

The resource used to provision CIDRs to a resource planning pool.

Contents

ResourceId

The source resource ID.

Type: String

Required: No

ResourceOwner

The source resource owner.

Type: String

Required: No

ResourceRegion

The source resource Region.

Type: String

Required: No

ResourceType

The source resource type.

Type: String

Valid Values: vpc

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
IpamPublicAddressSecurityGroup

The security group that the resource with the public IP address is in.

Contents

groupId

The security group's ID.

Type: String

Required: No

groupName

The security group's name.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++]
- [AWS SDK for Go]
- [AWS SDK for Java V2]
- [AWS SDK for Ruby V3]
IpamPublicAddressTag

A tag for a public IP address discovered by IPAM.

Contents

key

The tag's key.

Type: String

Required: No

value

The tag's value.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
IpamPublicAddressTags

Tags for a public IP address discovered by IPAM.

Contents

eipTagSet

Tags for an Elastic IP address.

Type: Array of IpamPublicAddressTag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
IpamResourceCidr

The CIDR for an IPAM resource.

Contents

complianceStatus

The compliance status of the IPAM resource. For more information on compliance statuses, see Monitor CIDR usage by resource in the Amazon VPC IPAM User Guide.

Type: String

Valid Values: compliant | noncompliant | unmanaged | ignored

Required: No

ipamId

The IPAM ID for an IPAM resource.

Type: String

Required: No

ipamPoolId

The pool ID for an IPAM resource.

Type: String

Required: No

ipamScopeId

The scope ID for an IPAM resource.

Type: String

Required: No

ipUsage

The percentage of IP address space in use. To convert the decimal to a percentage, multiply the decimal by 100. Note the following:
- For resources that are VPCs, this is the percentage of IP address space in the VPC that's taken up by subnet CIDRs.

- For resources that are subnets, if the subnet has an IPv4 CIDR provisioned to it, this is the percentage of IPv4 address space in the subnet that's in use. If the subnet has an IPv6 CIDR provisioned to it, the percentage of IPv6 address space in use is not represented. The percentage of IPv6 address space in use cannot currently be calculated.

- For resources that are public IPv4 pools, this is the percentage of IP address space in the pool that's been allocated to Elastic IP addresses (EIPs).

  Type: Double
  Required: No

**managementState**

The management state of the resource. For more information about management states, see [Monitor CIDR usage by resource](https://docs.aws.amazon.com/AmazonVPCIPAM/latest/UserGuide) in the *Amazon VPC IPAM User Guide*.

  Type: String
  Valid Values: managed | unmanaged | ignored
  Required: No

**overlapStatus**

The overlap status of an IPAM resource. The overlap status tells you if the CIDR for a resource overlaps with another CIDR in the scope. For more information on overlap statuses, see [Monitor CIDR usage by resource](https://docs.aws.amazon.com/AmazonVPCIPAM/latest/UserGuide) in the *Amazon VPC IPAM User Guide*.

  Type: String
  Valid Values: overlapping | nonoverlapping | ignored
  Required: No

**resourceCidr**

The CIDR for an IPAM resource.

  Type: String
  Required: No
resourceId

The ID of an IPAM resource.

Type: String

Required: No

resourceName

The name of an IPAM resource.

Type: String

Required: No

resourceOwnerId

The AWS account number of the owner of an IPAM resource.

Type: String

Required: No

resourceRegion

The AWS Region for an IPAM resource.

Type: String

Required: No

resourceTagSet

The tags for an IPAM resource.

Type: Array of IpamResourceTag objects

Required: No

resourceType

The type of IPAM resource.

Type: String

Valid Values: vpc | subnet | eip | public-ipv4-pool | ipv6-pool | eni
**Required:** No

**vpcId**

The ID of a VPC.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
IpamResourceDiscovery

A resource discovery is an IPAM component that enables IPAM to manage and monitor resources that belong to the owning account.

Contents

description

The resource discovery description.

Type: String

Required: No

ipamResourceDiscoveryArn

The resource discovery Amazon Resource Name (ARN).

Type: String

Required: No

ipamResourceDiscoveryId

The resource discovery ID.

Type: String

Required: No

ipamResourceDiscoveryRegion

The resource discovery Region.

Type: String

Required: No

isDefault

Defines if the resource discovery is the default. The default resource discovery is the resource discovery automatically created when you create an IPAM.

Type: Boolean
Required: No

**operatingRegionSet**

The operating Regions for the resource discovery. Operating Regions are AWS Regions where the IPAM is allowed to manage IP address CIDRs. IPAM only discovers and monitors resources in the AWS Regions you select as operating Regions.

Type: Array of [IpamOperatingRegion](#) objects

Required: No

**ownerId**

The ID of the owner.

Type: String

Required: No

**state**

The lifecycle state of the resource discovery.

- create-in-progress - Resource discovery is being created.
- create-complete - Resource discovery creation is complete.
- create-failed - Resource discovery creation has failed.
- modify-in-progress - Resource discovery is being modified.
- modify-complete - Resource discovery modification is complete.
- modify-failed - Resource discovery modification has failed.
- delete-in-progress - Resource discovery is being deleted.
- delete-complete - Resource discovery deletion is complete.
- delete-failed - Resource discovery deletion has failed.
- isolate-in-progress - AWS account that created the resource discovery has been removed and the resource discovery is being isolated.
- isolate-complete - Resource discovery isolation is complete.
- restore-in-progress - AWS account that created the resource discovery and was isolated has been restored.

Type: String

Required: No

tagSet

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
IpamResourceDiscoveryAssociation

An IPAM resource discovery association. An associated resource discovery is a resource discovery that has been associated with an IPAM. IPAM aggregates the resource CIDRs discovered by the associated resource discovery.

Contents

ipamArn

The IPAM ARN.

Type: String


Required: No

ipamId

The IPAM ID.

Type: String

Required: No

ipamRegion

The IPAM home Region.

Type: String

Required: No

ipamResourceDiscoveryAssociationArn

The resource discovery association Amazon Resource Name (ARN).

Type: String

Required: No

ipamResourceDiscoveryAssociationId

The resource discovery association ID.
Type: String
Required: No

**ipamResourceDiscoveryId**

The resource discovery ID.

Type: String
Required: No

**isDefault**

Defines if the resource discovery is the default. When you create an IPAM, a default resource discovery is created for your IPAM and it's associated with your IPAM.

Type: Boolean
Required: No

**ownerId**

The AWS account ID of the resource discovery owner.

Type: String
Required: No

**resourceDiscoveryStatus**

The resource discovery status.

- **active** - Connection or permissions required to read the results of the resource discovery are intact.
- **not-found** - Connection or permissions required to read the results of the resource discovery are broken. This may happen if the owner of the resource discovery stopped sharing it or deleted the resource discovery. Verify the resource discovery still exists and the AWS RAM resource share is still intact.

Type: String

Valid Values: active | not-found

Required: No
**state**

The lifecycle state of the association when you associate or disassociate a resource discovery.

- **associate-in-progress** - Resource discovery is being associated.
- **associate-complete** - Resource discovery association is complete.
- **associate-failed** - Resource discovery association has failed.
- **disassociate-in-progress** - Resource discovery is being disassociated.
- **disassociate-complete** - Resource discovery disassociation is complete.
- **disassociate-failed** - Resource discovery disassociation has failed.
- **isolate-in-progress** - AWS account that created the resource discovery association has been removed and the resource discovery association is being isolated.
- **isolate-complete** - Resource discovery isolation is complete.
- **restore-in-progress** - Resource discovery is being restored.

Type: String


Required: No

**tagSet**

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Type: Array of Tag objects

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- **AWS SDK for Java V2**
- **AWS SDK for Ruby V3**
IpamResourceTag

The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key Owner and the value TeamA, specify tag:Owner for the filter name and TeamA for the filter value.

Contents

key

The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

Type: String
Required: No

value

The value of the tag.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
IpamScope

In IPAM, a scope is the highest-level container within IPAM. An IPAM contains two default scopes. Each scope represents the IP space for a single network. The private scope is intended for all private IP address space. The public scope is intended for all public IP address space. Scopes enable you to reuse IP addresses across multiple unconnected networks without causing IP address overlap or conflict.

For more information, see [How IPAM works](#) in the *Amazon VPC IPAM User Guide*.

**Contents**

**description**

The description of the scope.

Type: String

Required: No

**ipamArn**

The ARN of the IPAM.

Type: String


Required: No

**ipamRegion**

The AWS Region of the IPAM scope.

Type: String

Required: No

**ipamScopeArn**

The Amazon Resource Name (ARN) of the scope.

Type: String

Required: No

`ipamScopeId`

The ID of the scope.

Type: String

Required: No

`ipamScopeType`

The type of the scope.

Type: String

Valid Values: public | private

Required: No

`isDefault`

Defines if the scope is the default scope or not.

Type: Boolean

Required: No

`ownerId`

The AWS account ID of the owner of the scope.

Type: String

Required: No

`poolCount`

The number of pools in the scope.

Type: Integer

Required: No

`state`

The state of the IPAM scope.
**Type:** String


*Required:* No

**tagSet**

The key/value combination of a tag assigned to the resource. Use the tag key in the filter name and the tag value as the filter value. For example, to find all resources that have a tag with the key `Owner` and the value `TeamA`, specify `tag:Owner` for the filter name and `TeamA` for the filter value.

*Type:* Array of `Tag` objects

*Required:* No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
IpPermission

Describes a set of permissions for a security group rule.

Contents

**FromPort** (request), **fromPort** (response)

If the protocol is TCP or UDP, this is the start of the port range. If the protocol is ICMP or ICMPv6, this is the type number. A value of -1 indicates all ICMP/ICMPv6 types. If you specify all ICMP/ICMPv6 types, you must specify all ICMP/ICMPv6 codes.

Type: Integer

Required: No

**UserIdGroupPairs** (request), **groups** (response)

The security group and AWS account ID pairs.

Type: Array of **UserIdGroupPair** objects

Required: No

**IpProtocol** (request), **ipProtocol** (response)

The IP protocol name (tcp, udp, icmp, icmpv6) or number (see [Protocol Numbers](#)).

Use -1 to specify all protocols. When authorizing security group rules, specifying -1 or a protocol number other than tcp, udp, icmp, or icmpv6 allows traffic on all ports, regardless of any port range you specify. For tcp, udp, and icmp, you must specify a port range. For icmpv6, the port range is optional; if you omit the port range, traffic for all types and codes is allowed.

Type: String

Required: No

**IpRanges** (request), **ipRanges** (response)

The IPv4 ranges.

Type: Array of **IpRange** objects

Required: No
Ipv6Ranges (request), ipv6Ranges (response)

The IPv6 ranges.

Type: Array of Ipv6Range objects

Required: No

PrefixListIds (request), prefixListIds (response)

The prefix list IDs.

Type: Array of PrefixListId objects

Required: No

ToPort (request), toPort (response)

If the protocol is TCP or UDP, this is the end of the port range. If the protocol is ICMP or ICMPv6, this is the code. A value of -1 indicates all ICMP/ICMPv6 codes. If you specify all ICMP/ICMPv6 types, you must specify all ICMP/ICMPv6 codes.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
IpRange

Describes an IPv4 range.

Contents

**CidrIp** (request), **cidrIp** (response)

The IPv4 CIDR range. You can either specify a CIDR range or a source security group, not both. To specify a single IPv4 address, use the /32 prefix length.

Type: String

Required: No

**Description** (request), **description** (response)

A description for the security group rule that references this IPv4 address range.

Constraints: Up to 255 characters in length. Allowed characters are a-z, A-Z, 0-9, spaces, and ._-:/()#,@[]+

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
Ipv4PrefixSpecification

Describes an IPv4 prefix.

Contents

ipv4Prefix

The IPv4 prefix. For information, see Assigning prefixes to Amazon EC2 network interfaces in the Amazon Elastic Compute Cloud User Guide.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Ipv4PrefixSpecificationRequest

Describes the IPv4 prefix option for a network interface.

Contents

Ipv4Prefix (request), Ipv4Prefix (response)

The IPv4 prefix. For information, see Assigning prefixes to Amazon EC2 network interfaces in the Amazon Elastic Compute Cloud User Guide.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Ipv4PrefixSpecificationResponse

Information about the IPv4 delegated prefixes assigned to a network interface.

Contents

ipv4Prefix

The IPv4 delegated prefixes assigned to the network interface.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://aws.amazon.com/sdk-for-go/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)
Ipv6CidrAssociation

Describes an IPv6 CIDR block association.

Contents

associatedResource

The resource that's associated with the IPv6 CIDR block.

Type: String

Required: No

ipv6Cidr

The IPv6 CIDR block.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Ipv6CidrBlock

Describes an IPv6 CIDR block.

Contents

ipv6CidrBlock

The IPv6 CIDR block.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/
- [AWS SDK for Go](https://aws.amazon.com/sdk-for-golang/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/v2/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/v3/)
Ipv6Pool

Describes an IPv6 address pool.

Contents

description

The description for the address pool.

Type: String

Required: No

poolCidrBlockSet

The CIDR blocks for the address pool.

Type: Array of PoolCidrBlock objects

Required: No

poolId

The ID of the address pool.

Type: String

Required: No

tagSet

Any tags for the address pool.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
Ipv6PrefixSpecification

Describes the IPv6 prefix.

Contents

ipv6Prefix

The IPv6 prefix.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Ipv6PrefixSpecificationRequest

Describes the IPv4 prefix option for a network interface.

Contents

Ipv6Prefix (request), Ipv6Prefix (response)

The IPv6 prefix.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Ipv6PrefixSpecificationResponse

Information about the IPv6 delegated prefixes assigned to a network interface.

Contents

ipv6Prefix

The IPv6 delegated prefixes assigned to the network interface.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Ipv6Range

Describes an IPv6 range.

Contents

CidrIpv6 (request), cidrIpv6 (response)

The IPv6 CIDR range. You can either specify a CIDR range or a source security group, not both. To specify a single IPv6 address, use the /128 prefix length.

Type: String

Required: No

Description (request), description (response)

A description for the security group rule that references this IPv6 address range.

Constraints: Up to 255 characters in length. Allowed characters are a-z, A-Z, 0-9, spaces, and .-_:/()#,@[]+=%&;{}!$* 

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
KeyPairInfo

Describes a key pair.

Contents

createTime

If you used Amazon EC2 to create the key pair, this is the date and time when the key was created, in ISO 8601 date-time format, in the UTC time zone.

If you imported an existing key pair to Amazon EC2, this is the date and time the key was imported, in ISO 8601 date-time format, in the UTC time zone.

Type: Timestamp

Required: No

keyFingerprint

If you used CreateKeyPair to create the key pair:

- For RSA key pairs, the key fingerprint is the SHA-1 digest of the DER encoded private key.
- For ED25519 key pairs, the key fingerprint is the base64-encoded SHA-256 digest, which is the default for OpenSSH, starting with OpenSSH 6.8.

If you used ImportKeyPair to provide AWS the public key:

- For RSA key pairs, the key fingerprint is the MD5 public key fingerprint as specified in section 4 of RFC4716.
- For ED25519 key pairs, the key fingerprint is the base64-encoded SHA-256 digest, which is the default for OpenSSH, starting with OpenSSH 6.8.

Type: String

Required: No

keyName

The name of the key pair.

Type: String

Required: No
**keyPairId**

The ID of the key pair.

Type: String

Required: No

**keyType**

The type of key pair.

Type: String

Valid Values: rsa | ed25519

Required: No

**publicKey**

The public key material.

Type: String

Required: No

**tagSet**

Any tags applied to the key pair.

Type: Array of Tag objects

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LastError

The last error that occurred for a VPC endpoint.

Contents

code

The error code for the VPC endpoint error.

Type: String

Required: No

message

The error message for the VPC endpoint error.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchPermission

Describes a launch permission.

Contents

**Group** (request), **group** (response)

The name of the group.

Type: String

Valid Values: all

Required: No

**OrganizationalUnitArn** (request), **organizationalUnitArn** (response)

The Amazon Resource Name (ARN) of an organizational unit (OU).

Type: String

Required: No

**OrganizationArn** (request), **organizationArn** (response)

The Amazon Resource Name (ARN) of an organization.

Type: String

Required: No

**UserId** (request), **userId** (response)

The AWS account ID.

Constraints: Up to 10 000 account IDs can be specified in a single request.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• **AWS SDK for C++**
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for Ruby V3**
LaunchPermissionModifications

Describes a launch permission modification.

Contents

Add

The AWS account ID, organization ARN, or OU ARN to add to the list of launch permissions for the AMI.

Type: Array of LaunchPermission objects

Required: No

Remove

The AWS account ID, organization ARN, or OU ARN to remove from the list of launch permissions for the AMI.

Type: Array of LaunchPermission objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchSpecification

Describes the launch specification for an instance.

Contents

addressingType

Deprecated.

Type: String

Required: No

blockDeviceMapping

The block device mapping entries.

Type: Array of BlockDeviceMapping objects

Required: No

ebsOptimized

Indicates whether the instance is optimized for EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS Optimized instance.

Default: false

Type: Boolean

Required: No

groupSet

The IDs of the security groups.

Type: Array of GroupIdentifier objects

Required: No

iamInstanceProfile

The IAM instance profile.
Type: `iamInstanceProfileSpecification` object

Required: No

**imageId**

The ID of the AMI.

Type: String

Required: No

**instanceType**

The instance type. Only one instance type can be specified.

Type: String

Valid Values:
```
| a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge |
| a1.metal | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge |
| c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge |
| c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge |
| c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metal |
| c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge |
| c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge |
| c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge |
| c5d.16xlarge | c5d.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge |
| c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge |
| c5d.metal | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge |
| c5n.9xlarge | c5n.18xlarge | c5n.metal | c6g.medium | c6g.large |
| c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge |
| c6g.16xlarge | c6g.metal | c6gd.medium | c6gd.large | c6gd.xlarge |
| c6gd.2xlarge | c6gd.4xlarge | c6gd.8xlarge | c6gd.12xlarge | c6gd.16xlarge |
| c6gd.metal | c6gn.medium | c6gn.large | c6gn.xlarge |
| c6gn.2xlarge | c6gn.4xlarge | c6gn.8xlarge | c6gn.12xlarge |
| c6gn.16xlarge | c6i.large | c6i.xlarge | c6i.2xlarge | c6i.4xlarge |
| c6i.8xlarge | c6i.12xlarge | c6i.16xlarge | c6i.24xlarge | c6i.32xlarge |
| c6i.large | cc1.4xlarge | cc2.8xlarge | ccg1.4xlarge | cr1.8xlarge |
| d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | d3.xlarge |
| d3.2xlarge | d3.4xlarge | d3.8xlarge | d3en.xlarge | d3en.2xlarge |
| d3en.4xlarge | d3en.6xlarge | d3en.8xlarge | d3en.12xlarge |
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| m6i.8xlarge | m6i.12xlarge | m6i.16xlarge | m6i.24xlarge | m6i.32xlarge |
| m6i.metal | mac1.metal | p2.xlarge | p2.8xlarge | p2.16xlarge |
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| r5.12xlarge | r5.16xlarge | r5.24xlarge | r5.metal | r5a.large |
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| t3.micro | t3.small | t3.medium | t3.large | t3.xlarge |
| t3.2xlarge | t3a.nano | t3a.micro | t3a.small |
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| t4g.nano | t4g.micro | t4g.small | t4g.medium | t4g.large |
| t4g.xlarge | t4g.2xlarge | u-6tb1.56xlarge | u-6tb1.112xlarge | u-9tb1.112xlarge |
| u-12tb1.112xlarge | u-6tb1.metal | u-9tb1.metal | u-12tb1.metal |
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</tbody>
</table>

Required: No
kernelId

The ID of the kernel.

Type: String

Required: No

decisionName

The name of the key pair.

Type: String

Required: No

monitoring

Describes the monitoring of an instance.

Type: RunInstancesMonitoringEnabled object

Required: No

networkInterfaceSet

The network interfaces. If you specify a network interface, you must specify subnet IDs and security group IDs using the network interface.

Type: Array of InstanceNetworkInterfaceSpecification objects

Required: No

placement

The placement information for the instance.

Type: SpotPlacement object

Required: No

ramdiskId

The ID of the RAM disk.

Type: String
**subnetId**

The ID of the subnet in which to launch the instance.

Type: String

Required: No

**userData**

The base64-encoded user data that instances use when starting up. User data is limited to 16 KB.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
LaunchTemplate

Describes a launch template.

Contents

createdBy

The principal that created the launch template.

Type: String

Required: No

createTime

The time launch template was created.

Type: Timestamp

Required: No

defaultVersionNumber

The version number of the default version of the launch template.

Type: Long

Required: No

latestVersionNumber

The version number of the latest version of the launch template.

Type: Long

Required: No

launchTemplateId

The ID of the launch template.

Type: String

Required: No
launchTemplateName

The name of the launch template.

Type: String


Pattern: [a-zA-Z0-9\(\)\.\/-]+

Required: No

tagSet

The tags for the launch template.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateAndOverridesResponse

Describes a launch template and overrides.

Contents

launchTemplateSpecification

The launch template.

Type: FleetLaunchTemplateSpecification object

Required: No

overrides

Any parameters that you specify override the same parameters in the launch template.

Type: FleetLaunchTemplateOverrides object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
LaunchTemplateBlockDeviceMapping

Describes a block device mapping.

Contents

deviceName

The device name.

Type: String

Required: No

ebs

Information about the block device for an EBS volume.

Type: LaunchTemplateEbsBlockDevice object

Required: No

noDevice

To omit the device from the block device mapping, specify an empty string.

Type: String

Required: No

virtualName

The virtual device name (ephemeralN).

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateBlockDeviceMappingRequest

Describes a block device mapping.

Contents

DeviceName

The device name (for example, /dev/sdh or xvdh).

Type: String

Required: No

Ebs

Parameters used to automatically set up EBS volumes when the instance is launched.

Type: LaunchTemplateEbsBlockDeviceRequest object

Required: No

NoDevice

To omit the device from the block device mapping, specify an empty string.

Type: String

Required: No

VirtualName

The virtual device name (ephemeralN). Instance store volumes are numbered starting from 0. An instance type with 2 available instance store volumes can specify mappings for ephemeral0 and ephemeral1. The number of available instance store volumes depends on the instance type. After you connect to the instance, you must mount the volume.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
LaunchTemplateCapacityReservationSpecificationRequest

Describes an instance's Capacity Reservation targeting option. You can specify only one option at a time. Use the CapacityReservationPreference parameter to configure the instance to run in On-Demand capacity or to run in any open Capacity Reservation that has matching attributes (instance type, platform, Availability Zone). Use the CapacityReservationTarget parameter to explicitly target a specific Capacity Reservation or a Capacity Reservation group.

Contents

CapacityReservationPreference

Indicates the instance's Capacity Reservation preferences. Possible preferences include:

• open - The instance can run in any open Capacity Reservation that has matching attributes (instance type, platform, Availability Zone).
• none - The instance avoids running in a Capacity Reservation even if one is available. The instance runs in On-Demand capacity.

Type: String

Valid Values: open | none

Required: No

CapacityReservationTarget

Information about the target Capacity Reservation or Capacity Reservation group.

Type: CapacityReservationTarget object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

• AWS SDK for C++
• AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateCapacityReservationSpecificationResponse

Information about the Capacity Reservation targeting option.

Contents

capacityReservationPreference

Indicates the instance's Capacity Reservation preferences. Possible preferences include:

- **open** - The instance can run in any open Capacity Reservation that has matching attributes (instance type, platform, Availability Zone).
- **none** - The instance avoids running in a Capacity Reservation even if one is available. The instance runs in On-Demand capacity.

Type: String

Valid Values: open | none

Required: No

capacityReservationTarget

Information about the target Capacity Reservation or Capacity Reservation group.

Type: [CapacityReservationTargetResponse](#) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
LaunchTemplateConfig

Describes a launch template and overrides.

**Contents**

**LaunchTemplateSpecification** (request), **launchTemplateSpecification** (response)

The launch template to use. Make sure that the launch template does not contain the NetworkInterfaceId parameter because you can't specify a network interface ID in a Spot Fleet.

Type: FleetLaunchTemplateSpecification object

Required: No

**Overrides** (request), **overrides** (response)

Any parameters that you specify override the same parameters in the launch template.

Type: Array of LaunchTemplateOverrides objects

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateCpuOptions

The CPU options for the instance.

Contents

**amdSevSnp**

Indicates whether the instance is enabled for AMD SEV-SNP. For more information, see [AMD SEV-SNP](#).

Type: String

Valid Values: enabled | disabled

Required: No

**coreCount**

The number of CPU cores for the instance.

Type: Integer

Required: No

**threadsPerCore**

The number of threads per CPU core.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
• **AWS SDK for Ruby V3**
LaunchTemplateCpuOptionsRequest

The CPU options for the instance. Both the core count and threads per core must be specified in the request.

Contents

AmdSevSnp

Indicates whether to enable the instance for AMD SEV-SNP. AMD SEV-SNP is supported with M6a, R6a, and C6a instance types only. For more information, see [AMD SEV-SNP](https://aws.amazon.com/documentation/amazonelasticcomputecloud/)

Type: String

Valid Values: enabled | disabled

Required: No

CoreCount

The number of CPU cores for the instance.

Type: Integer

Required: No

ThreadsPerCore

The number of threads per CPU core. To disable multithreading for the instance, specify a value of 1. Otherwise, specify the default value of 2.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/documentation/amazonelasticcomputecloud/)
- [AWS SDK for Go](https://aws.amazon.com/documentation/amazonelasticcomputecloud/)

LaunchTemplateCpuOptionsRequest

API Reference

API Version 2016-11-15 2915
• AWS SDK for Java V2
• AWS SDK for Ruby V3
LaunchTemplateEbsBlockDevice

Describes a block device for an EBS volume.

Contents

deleteOnTermination

   Indicates whether the EBS volume is deleted on instance termination.

   Type: Boolean
   Required: No

encrypted

   Indicates whether the EBS volume is encrypted.

   Type: Boolean
   Required: No

iops

   The number of I/O operations per second (IOPS) that the volume supports.

   Type: Integer
   Required: No

kmsKeyId

   The ARN of the AWS Key Management Service (AWS KMS) CMK used for encryption.

   Type: String
   Required: No

snapshotId

   The ID of the snapshot.

   Type: String
   Required: No
**throughput**

The throughput that the volume supports, in MiB/s.

Type: Integer

Required: No

**volumeSize**

The size of the volume, in GiB.

Type: Integer

Required: No

**volumeType**

The volume type.

Type: String

Valid Values: `standard` | `io1` | `io2` | `gp2` | `sc1` | `st1` | `gp3`

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://docs.aws.amazon.com/sdk-for-cpp/v1/developer-guide/api-reference.html)
- [AWS SDK for Go](https://docs.aws.amazon.com/sdk-for-go/v1/developer-guide/api-reference.html)
- [AWS SDK for Java V2](https://docs.aws.amazon.com/sdk-for-java/v1/developer-guide/api-reference.html)
LaunchTemplateEbsBlockDeviceRequest

The parameters for a block device for an EBS volume.

Contents

DeleteOnTermination

Indicates whether the EBS volume is deleted on instance termination.

Type: Boolean

Required: No

Encrypted

Indicates whether the EBS volume is encrypted. Encrypted volumes can only be attached to instances that support Amazon EBS encryption. If you are creating a volume from a snapshot, you can't specify an encryption value.

Type: Boolean

Required: No

Iops

The number of I/O operations per second (IOPS). For gp3, io1, and io2 volumes, this represents the number of IOPS that are provisioned for the volume. For gp2 volumes, this represents the baseline performance of the volume and the rate at which the volume accumulates I/O credits for bursting.

The following are the supported values for each volume type:

- gp3: 3,000 - 16,000 IOPS
- io1: 100 - 64,000 IOPS
- io2: 100 - 256,000 IOPS

For io2 volumes, you can achieve up to 256,000 IOPS on instances built on the Nitro System. On other instances, you can achieve performance up to 32,000 IOPS.

This parameter is supported for io1, io2, and gp3 volumes only.
Type: Integer
Required: No

**KmsKeyId**

The ARN of the symmetric AWS Key Management Service (AWS KMS) CMK used for encryption.

Type: String
Required: No

**SnapshotId**

The ID of the snapshot.

Type: String
Required: No

**Throughput**

The throughput to provision for a gp3 volume, with a maximum of 1,000 MiB/s.

Valid Range: Minimum value of 125. Maximum value of 1000.

Type: Integer
Required: No

**VolumeSize**

The size of the volume, in GiBs. You must specify either a snapshot ID or a volume size. The following are the supported volumes sizes for each volume type:

- gp2 and gp3: 1 - 16,384 GiB
- io1: 4 - 16,384 GiB
- io2: 4 - 65,536 GiB
- st1 and sc1: 125 - 16,384 GiB
- standard: 1 - 1024 GiB

Type: Integer
Required: No
VolumeType

The volume type. For more information, see Amazon EBS volume types in the Amazon Elastic Compute Cloud User Guide.

Type: String

Valid Values: standard  |  io1  |  io2  |  gp2  |  sc1  |  st1  |  gp3

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateElasticInferenceAccelerator

Describes an elastic inference accelerator.

Contents

Type

The type of elastic inference accelerator. The possible values are eia1.medium, eia1.large, and eia1.xlarge.

Type: String

Required: Yes

Count

The number of elastic inference accelerators to attach to the instance.

Default: 1

Type: Integer

Valid Range: Minimum value of 1.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateElasticInferenceAcceleratorResponse

Describes an elastic inference accelerator.

Contents

count

The number of elastic inference accelerators to attach to the instance.

Default: 1

Type: Integer

Required: No

type

The type of elastic inference accelerator. The possible values are eia1.medium, eia1.large, and eia1.xlarge.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateEnaSrdSpecification

ENA Express uses AWS Scalable Reliable Datagram (SRD) technology to increase the maximum bandwidth used per stream and minimize tail latency of network traffic between EC2 instances. With ENA Express, you can communicate between two EC2 instances in the same subnet within the same account, or in different accounts. Both sending and receiving instances must have ENA Express enabled.

To improve the reliability of network packet delivery, ENA Express reorders network packets on the receiving end by default. However, some UDP-based applications are designed to handle network packets that are out of order to reduce the overhead for packet delivery at the network layer. When ENA Express is enabled, you can specify whether UDP network traffic uses it.

Contents

enaSrdEnabled

Indicates whether ENA Express is enabled for the network interface.

Type: Boolean

Required: No

enaSrdUdpSpecification

Configures ENA Express for UDP network traffic.

Type: LaunchTemplateEnaSrdUdpSpecification object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateEnaSrdUdpSpecification

ENA Express is compatible with both TCP and UDP transport protocols. When it's enabled, TCP traffic automatically uses it. However, some UDP-based applications are designed to handle network packets that are out of order, without a need for retransmission, such as live video broadcasting or other near-real-time applications. For UDP traffic, you can specify whether to use ENA Express, based on your application environment needs.

Contents

enaSrdUdpEnabled

Indicates whether UDP traffic to and from the instance uses ENA Express. To specify this setting, you must first enable ENA Express.

Type: Boolean
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateEnclaveOptions

Indicates whether the instance is enabled for AWS Nitro Enclaves.

Contents

enabled

If this parameter is set to true, the instance is enabled for AWS Nitro Enclaves; otherwise, it is not enabled for AWS Nitro Enclaves.

Type: Boolean
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateEnclaveOptionsRequest

Indicates whether the instance is enabled for AWS Nitro Enclaves. For more information, see What is AWS Nitro Enclaves? in the AWS Nitro Enclaves User Guide.

Contents

Enabled

To enable the instance for AWS Nitro Enclaves, set this parameter to true.

Type: Boolean
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateHibernationOptions

Indicates whether an instance is configured for hibernation.

Contents

configured

If this parameter is set to true, the instance is enabled for hibernation; otherwise, it is not enabled for hibernation.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateHibernationOptionsRequest

Indicates whether the instance is configured for hibernation. This parameter is valid only if the instance meets the hibernation prerequisites.

Contents

Configured

If you set this parameter to true, the instance is enabled for hibernation.

Default: false

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateIamInstanceProfileSpecification

Describes an IAM instance profile.

Contents

arn

The Amazon Resource Name (ARN) of the instance profile.

Type: String

Required: No

cname

The name of the instance profile.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://docs.aws.amazon.com/sdk-for-cpp/v1/)
- [AWS SDK for Go](https://docs.aws.amazon.com/sdk-for-go/v1/)
- [AWS SDK for Java V2](https://docs.aws.amazon.com/sdk-for-java/2.0.0/)
- [AWS SDK for Ruby V3](https://docs.aws.amazon.com/sdk-for-ruby/3.0.0/)
LaunchTemplateIamInstanceProfileSpecificationRequest

An IAM instance profile.

Contents

Arn

The Amazon Resource Name (ARN) of the instance profile.

Type: String

Required: No

Name

The name of the instance profile.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateInstanceMaintenanceOptions

The maintenance options of your instance.

Contents

autoRecovery

Disables the automatic recovery behavior of your instance or sets it to default.

Type: String

Valid Values: default | disabled

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateInstanceMaintenanceOptionsRequest

The maintenance options of your instance.

Contents

AutoRecovery

Disables the automatic recovery behavior of your instance or sets it to default. For more information, see Simplified automatic recovery.

Type: String

Valid Values: default | disabled

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateInstanceMarketOptions

The market (purchasing) option for the instances.

Contents

marketType

The market type.

Type: String

Valid Values: spot | capacity-block

Required: No

spotOptions

The options for Spot Instances.

Type: LaunchTemplateSpotMarketOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateInstanceMarketOptionsRequest

The market (purchasing) option for the instances.

Contents

MarketType

The market type.

Type: String

Valid Values: spot | capacity-block

Required: No

SpotOptions

The options for Spot Instances.

Type: LaunchTemplateSpotMarketOptionsRequest object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateInstanceMetadataOptions

The metadata options for the instance. For more information, see Instance metadata and user data in the Amazon Elastic Compute Cloud User Guide.

Contents

httpEndpoint

Enables or disables the HTTP metadata endpoint on your instances. If the parameter is not specified, the default state is enabled.

Note

If you specify a value of disabled, you will not be able to access your instance metadata.

Type: String
Valid Values: disabled | enabled
Required: No

httpProtocolIpv6

Enables or disables the IPv6 endpoint for the instance metadata service.

Default: disabled

Type: String
Valid Values: disabled | enabled
Required: No

httpPutResponseHopLimit

The desired HTTP PUT response hop limit for instance metadata requests. The larger the number, the further instance metadata requests can travel.

Default: 1
Possible values: Integers from 1 to 64

Type: Integer

Required: No

httpTokens

Indicates whether IMDSv2 is required.

- **optional** - IMDSv2 is optional. You can choose whether to send a session token in your instance metadata retrieval requests. If you retrieve IAM role credentials without a session token, you receive the IMDSv1 role credentials. If you retrieve IAM role credentials using a valid session token, you receive the IMDSv2 role credentials.

- **required** - IMDSv2 is required. You must send a session token in your instance metadata retrieval requests. With this option, retrieving the IAM role credentials always returns IMDSv2 credentials; IMDSv1 credentials are not available.

Type: String

Valid Values: optional | required

Required: No

instanceMetadataTags

Set to enabled to allow access to instance tags from the instance metadata. Set to disabled to turn off access to instance tags from the instance metadata. For more information, see [Work with instance tags using the instance metadata](#).

Default: disabled

Type: String

Valid Values: disabled | enabled

Required: No

state

The state of the metadata option changes.

pending - The metadata options are being updated and the instance is not ready to process metadata traffic with the new selection.
applied - The metadata options have been successfully applied on the instance.

Type: String

Valid Values: pending | applied

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateInstanceMetadataOptionsRequest

The metadata options for the instance. For more information, see Instance metadata and user data in the Amazon Elastic Compute Cloud User Guide.

Contents

HttpEndpoint

Enables or disables the HTTP metadata endpoint on your instances. If the parameter is not specified, the default state is enabled.

- **Note**
  - If you specify a value of disabled, you will not be able to access your instance metadata.

  Type: String

  Valid Values: disabled | enabled

  Required: No

HttpProtocolIpv6

Enables or disables the IPv6 endpoint for the instance metadata service.

- Default: disabled

  Type: String

  Valid Values: disabled | enabled

  Required: No

HttpPutResponseHopLimit

The desired HTTP PUT response hop limit for instance metadata requests. The larger the number, the further instance metadata requests can travel.

- Default: 1

  Possible values: Integers from 1 to 64
Type: Integer

Required: No

HttpTokens

Indicates whether IMDSv2 is required.

- **optional** - IMDSv2 is optional. You can choose whether to send a session token in your instance metadata retrieval requests. If you retrieve IAM role credentials without a session token, you receive the IMDSv1 role credentials. If you retrieve IAM role credentials using a valid session token, you receive the IMDSv2 role credentials.

- **required** - IMDSv2 is required. You must send a session token in your instance metadata retrieval requests. With this option, retrieving the IAM role credentials always returns IMDSv2 credentials; IMDSv1 credentials are not available.

Default: If the value of `ImdsSupport` for the Amazon Machine Image (AMI) for your instance is `v2.0`, the default is **required**.

Type: String

Valid Values: `optional` | `required`

Required: No

InstanceMetadataTags

Set to `enabled` to allow access to instance tags from the instance metadata. Set to `disabled` to turn off access to instance tags from the instance metadata. For more information, see [Work with instance tags using the instance metadata](#).

Default: `disabled`

Type: String

Valid Values: `disabled` | `enabled`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
LaunchTemplateInstanceNetworkInterfaceSpecification

Describes a network interface.

Contents

associateCarrierIpAddress

Indicates whether to associate a Carrier IP address with eth0 for a new network interface.

Use this option when you launch an instance in a Wavelength Zone and want to associate a Carrier IP address with the network interface. For more information about Carrier IP addresses, see Carrier IP addresses in the AWS Wavelength Developer Guide.

Type: Boolean

Required: No

associatePublicIpAddress

Indicates whether to associate a public IPv4 address with eth0 for a new network interface.

Starting on February 1, 2024, AWS will charge for all public IPv4 addresses, including public IPv4 addresses associated with running instances and Elastic IP addresses. For more information, see the Public IPv4 Address tab on the Amazon VPC pricing page.

Type: Boolean

Required: No

connectionTrackingSpecification

A security group connection tracking specification that enables you to set the timeout for connection tracking on an Elastic network interface. For more information, see Connection tracking timeouts in the Amazon Elastic Compute Cloud User Guide.

Type: ConnectionTrackingSpecification object

Required: No

deleteOnTermination

Indicates whether the network interface is deleted when the instance is terminated.
Type: Boolean
Required: No

description

A description for the network interface.
Type: String
Required: No

deviceIndex

The device index for the network interface attachment.
Type: Integer
Required: No

enaSrdSpecification

Contains the ENA Express settings for instances launched from your launch template.
Type: LaunchTemplateEnaSrdSpecification object
Required: No

groupSet

The IDs of one or more security groups.
Type: Array of strings
Required: No

interfaceType

The type of network interface.
Type: String
Required: No

ipv4PrefixCount

The number of IPv4 prefixes that AWS automatically assigned to the network interface.
Type: Integer

Required: No

**ipv4PrefixSet**

One or more IPv4 prefixes assigned to the network interface.

Type: Array of [Ipv4PrefixSpecificationResponse](#) objects

Required: No

**ipv6AddressCount**

The number of IPv6 addresses for the network interface.

Type: Integer

Required: No

**ipv6AddressesSet**

The IPv6 addresses for the network interface.

Type: Array of [InstanceIpv6Address](#) objects

Required: No

**ipv6PrefixCount**

The number of IPv6 prefixes that AWS automatically assigned to the network interface.

Type: Integer

Required: No

**ipv6PrefixSet**

One or more IPv6 prefixes assigned to the network interface.

Type: Array of [Ipv6PrefixSpecificationResponse](#) objects

Required: No

**networkCardIndex**

The index of the network card.
networkInterfaceId

The ID of the network interface.

Type: String

Required: No

primaryIpv6

The primary IPv6 address of the network interface. When you enable an IPv6 GUA address to be a primary IPv6, the first IPv6 GUA will be made the primary IPv6 address until the instance is terminated or the network interface is detached. For more information about primary IPv6 addresses, see RunInstances.

Type: Boolean

Required: No

privateIpAddress

The primary private IPv4 address of the network interface.

Type: String

Required: No

privateIpAddressesSet

One or more private IPv4 addresses.

Type: Array of PrivateIpAddressSpecification objects

Required: No

secondaryPrivateIpAddressCount

The number of secondary private IPv4 addresses for the network interface.

Type: Integer

Required: No
subnetId

The ID of the subnet for the network interface.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateInstanceNetworkInterfaceSpecificationRequest

The parameters for a network interface.

Contents

AssociateCarrierIpAddress

Associates a Carrier IP address with eth0 for a new network interface.

Use this option when you launch an instance in a Wavelength Zone and want to associate a Carrier IP address with the network interface. For more information about Carrier IP addresses, see Carrier IP addresses in the AWS Wavelength Developer Guide.

Type: Boolean

Required: No

AssociatePublicIpAddress

Associates a public IPv4 address with eth0 for a new network interface.

Starting on February 1, 2024, AWS will charge for all public IPv4 addresses, including public IPv4 addresses associated with running instances and Elastic IP addresses. For more information, see the Public IPv4 Address tab on the Amazon VPC pricing page.

Type: Boolean

Required: No

ConnectionTrackingSpecification

A security group connection tracking specification that enables you to set the timeout for connection tracking on an Elastic network interface. For more information, see Connection tracking timeouts in the Amazon Elastic Compute Cloud User Guide.

Type: ConnectionTrackingSpecificationRequest object

Required: No

DeleteOnTermination

Indicates whether the network interface is deleted when the instance is terminated.
Type: Boolean
Required: No

**Description**

A description for the network interface.

Type: String
Required: No

**DeviceIndex**

The device index for the network interface attachment.

Type: Integer
Required: No

**EnaSrdSpecification**

Configure ENA Express settings for your launch template.

Type: EnaSrdSpecificationRequest object
Required: No

**InterfaceType**

The type of network interface. To create an Elastic Fabric Adapter (EFA), specify efa. For more information, see [Elastic Fabric Adapter](#) in the *Amazon Elastic Compute Cloud User Guide*.

If you are not creating an EFA, specify interface or omit this parameter.

Valid values: interface | efa

Type: String
Required: No

**Ipv4Prefixes**

One or more IPv4 prefixes to be assigned to the network interface. You cannot use this option if you use the Ipv4PrefixCount option.

Type: Array of Ipv4PrefixSpecificationRequest objects
Required: No

**Ipv4PrefixCount**

The number of IPv4 prefixes to be automatically assigned to the network interface. You cannot use this option if you use the Ipv4Prefix option.

Type: Integer

Required: No

**Ipv6AddressCount**

The number of IPv6 addresses to assign to a network interface. Amazon EC2 automatically selects the IPv6 addresses from the subnet range. You can't use this option if specifying specific IPv6 addresses.

Type: Integer

Required: No

**Ipv6Addresses**

One or more specific IPv6 addresses from the IPv6 CIDR block range of your subnet. You can't use this option if you're specifying a number of IPv6 addresses.

Type: Array of [Instancelpv6AddressRequest](#) objects

Required: No

**Ipv6Prefixes**

One or more IPv6 prefixes to be assigned to the network interface. You cannot use this option if you use the Ipv6PrefixCount option.

Type: Array of [Ipv6PrefixSpecificationRequest](#) objects

Required: No

**Ipv6PrefixCount**

The number of IPv6 prefixes to be automatically assigned to the network interface. You cannot use this option if you use the Ipv6Prefix option.

Type: Integer
NetworkCardIndex

The index of the network card. Some instance types support multiple network cards. The primary network interface must be assigned to network card index 0. The default is network card index 0.

Type: Integer

Required: No

NetworkInterfaceId

The ID of the network interface.

Type: String

Required: No

PrimaryIpv6

The primary IPv6 address of the network interface. When you enable an IPv6 GUA address to be a primary IPv6, the first IPv6 GUA will be made the primary IPv6 address until the instance is terminated or the network interface is detached. For more information about primary IPv6 addresses, see RunInstances.

Type: Boolean

Required: No

PrivateIpAddress

The primary private IPv4 address of the network interface.

Type: String

Required: No

PrivateIpAddresses

One or more private IPv4 addresses.

Type: Array of PrivateIpAddressSpecification objects

Required: No
**SecondaryPrivateIpAddressCount**

The number of secondary private IPv4 addresses to assign to a network interface.

Type: Integer

Required: No

**Groups**

The IDs of one or more security groups.

Type: Array of strings

Required: No

**SubnetId**

The ID of the subnet for the network interface.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
LaunchTemplateLicenseConfiguration

Describes a license configuration.

Contents

licenseConfigurationArn

The Amazon Resource Name (ARN) of the license configuration.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateLicenseConfigurationRequest

Describes a license configuration.

Contents

LicenseConfigurationArn

The Amazon Resource Name (ARN) of the license configuration.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateOverrides

Describes overrides for a launch template.

Contents

AvailabilityZone (request), availabilityZone (response)

The Availability Zone in which to launch the instances.

Type: String

Required: No

InstanceRequirements (request), instanceRequirements (response)

The instance requirements. When you specify instance requirements, Amazon EC2 will identify instance types with the provided requirements, and then use your On-Demand and Spot allocation strategies to launch instances from these instance types, in the same way as when you specify a list of instance types.

Note

If you specify InstanceRequirements, you can't specify InstanceType.

Type: InstanceRequirements object

Required: No

InstanceType (request), instanceType (response)

The instance type.

Type: String

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metal | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge
| c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.1.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5d.metal | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c5n.9xlarge | c5n.18xlarge | c5n.metal | c6g.medium | c6g.large | c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.metal | c6gd.medium | c6gd.large | c6gd.xlarge | c6gd.2xlarge | c6gd.4xlarge | c6gd.8xlarge | c6gd.12xlarge | c6gd.16xlarge | c6gd.metal | c6gn.medium | c6gn.large | c6gn.xlarge | c6gn.2xlarge | c6gn.4xlarge | c6gn.8xlarge | c6gn.12xlarge | c6gn.16xlarge | c6i.large | c6i.xlarge | c6i.2xlarge | c6i.4xlarge | c6i.8xlarge | c6i.12xlarge | c6i.24xlarge | c6i.32xlarge | c6i.metal | cc1.4xlarge | cc2.8xlarge | cg1.4xlarge | cr1.8xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | d3.xlarge | d3.2xlarge | d3.4xlarge | d3.8xlarge | d3en.xlarge | d3en.2xlarge | d3en.4xlarge | d3en.6xlarge | d3en.8xlarge | d3en.12xlarge | dl1.24xlarge | f1.2xlarge | f1.4xlarge | f1.16xlarge | g2.2xlarge | g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | g3s.xlarge | g4ad.xlarge | g4ad.2xlarge | g4ad.4xlarge | g4ad.8xlarge | g4ad.16xlarge | g4dn.xlarge | g4dn.2xlarge | g4dn.4xlarge | g4dn.8xlarge | g4dn.12xlarge | g4dn.16xlarge | g4dn.metal | g5.xlarge | g5.2xlarge | g5.4xlarge | g5.8xlarge | g5.12xlarge | g5.16xlarge | g5.24xlarge | g5.48xlarge | g5g.xlarge | g5g.2xlarge | g5g.4xlarge | g5g.8xlarge | g5g.16xlarge | g5g.metal | hi1.4xlarge | hpc6a.48xlarge | hs1.8xlarge | h1.2xlarge | h1.4xlarge | h1.8xlarge | h1.16xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge | i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.metal | i3en.large | i3en.xlarge | i3en.2xlarge | i3en.3xlarge | i3en.6xlarge | i3en.12xlarge | i3en.24xlarge | i3en.metal | im4gn.large | im4gn.xlarge | im4gn.2xlarge | im4gn.4xlarge | im4gn.8xlarge | im4gn.16xlarge | inf1.xlarge | inf1.2xlarge | inf1.6xlarge | inf1.24xlarge | is4gen.medium | is4gen.large | is4gen.xlarge | is4gen.2xlarge | is4gen.4xlarge | is4gen.8xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m5.large | m5.xlarge |
| m5.2xlarge | m5.4xlarge | m5.8xlarge | m5.12xlarge | m5.16xlarge |
| m5.24xlarge | m5.metal | m5a.large | m5a.xlarge | m5a.2xlarge |
| m5a.4xlarge | m5a.8xlarge | m5a.12xlarge | m5a.16xlarge | m5a.24xlarge |
| m5ad.large | m5ad.xlarge | m5ad.2xlarge | m5ad.4xlarge | m5ad.8xlarge |
| m5ad.12xlarge | m5ad.16xlarge | m5ad.24xlarge | m5d.large | m5d.xlarge |
| m5d.2xlarge | m5d.4xlarge | m5d.8xlarge | m5d.12xlarge | m5d.16xlarge |
| m5d.24xlarge | m5d.metal | m5dn.large | m5dn.xlarge | m5dn.2xlarge |
| m5dn.4xlarge | m5dn.8xlarge | m5dn.12xlarge | m5dn.16xlarge | m5dn.24xlarge |
| m5dn.4xlarge | m5dn.metal | m5n.large | m5n.xlarge | m5n.2xlarge |
| m5n.4xlarge | m5n.8xlarge | m5n.12xlarge | m5n.16xlarge | m5n.24xlarge |
| m5n.4xlarge | m5n.8xlarge | m5n.12xlarge | m5n.16xlarge | m5n.24xlarge |
| m5zn.2xlarge | m5zn.3xlarge | m5zn.6xlarge | m5zn.12xlarge | m5zn.16xlarge |
| m5zn.12xlarge | m5zn.16xlarge | m5zn.24xlarge | m6a.large | m6a.xlarge |
| m6a.2xlarge | m6a.4xlarge | m6a.8xlarge | m6a.12xlarge | m6a.16xlarge |
| m6a.24xlarge | m6a.32xlarge | m6a.48xlarge | m6g.metal | m6g.medium |
| m6g.large | m6g.xlarge | m6g.2xlarge | m6g.4xlarge | m6g.8xlarge |
| m6g.12xlarge | m6g.16xlarge | m6gd.metal | m6gd.medium | m6gd.large |
| m6gd.xlarge | m6gd.2xlarge | m6gd.4xlarge | m6gd.8xlarge | m6gd.12xlarge |
| m6gd.16xlarge | m6i.large | m6i.xlarge | m6i.2xlarge | m6i.4xlarge |
| m6i.8xlarge | m6i.12xlarge | m6i.16xlarge | m6i.24xlarge | m6i.32xlarge |
| m6i.12xlarge | m6i.16xlarge | m6i.24xlarge | m6i.32xlarge | m6i.large |
| m6i.metal | mac1.metal | p2.xlarge | p2.8xlarge | p2.16xlarge |
| p3.2xlarge | p3.8xlarge | p3.16xlarge | p3dn.24xlarge | p4d.24xlarge |
| r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge |
| r4.xlarge | r4.2xlarge | r4.4xlarge | r4.8xlarge | r4.16xlarge |
| r5.large | r5.xlarge | r5.2xlarge | r5.4xlarge | r5.8xlarge |
| r5.12xlarge | r5.16xlarge | r5.24xlarge | r5.metal | r5a.large |
| r5a.xlarge | r5a.2xlarge | r5a.4xlarge | r5a.8xlarge | r5a.12xlarge |
| r5a.16xlarge | r5a.24xlarge | r5ad.large | r5ad.xlarge | r5ad.2xlarge |
| r5ad.4xlarge | r5ad.8xlarge | r5ad.12xlarge | r5ad.16xlarge | r5ad.24xlarge |
| r5b.large | r5b.xlarge | r5b.2xlarge | r5b.4xlarge | r5b.8xlarge |
| r5b.12xlarge | r5b.16xlarge | r5b.24xlarge | r5b.48xlarge | r5b.8xlarge |
| r5b.16xlarge | r5b.24xlarge | r5b.48xlarge | r5b.8xlarge | r5b.16xlarge |
| r5d.large | r5d.xlarge | r5d.2xlarge | r5d.4xlarge | r5d.8xlarge |
| r5d.12xlarge | r5d.16xlarge | r5d.24xlarge | r5d.metal | r5dn.large |
| r5dn.xlarge | r5dn.2xlarge | r5dn.4xlarge | r5dn.8xlarge | r5dn.12xlarge |
| r5dn.16xlarge | r5dn.24xlarge | r5dn.metal | r5n.large | r5n.xlarge |
| r5n.2xlarge | r5n.4xlarge | r5n.8xlarge | r5n.12xlarge | r5n.16xlarge |
| r5n.24xlarge | r5n.metal | r6g.medium | r6g.large | r6g.xlarge |
r6g.2xlarge | r6g.4xlarge | r6g.8xlarge | r6g.12xlarge | r6g.16xlarge | r6g.metal | r6gd.medium | r6gd.large | r6gd.xlarge | r6gd.2xlarge | r6gd.4xlarge | r6gd.8xlarge | r6gd.12xlarge | r6gd.16xlarge | r6gd.metal | r6i.large | r6i.xlarge | r6i.2xlarge | r6i.4xlarge | r6i.8xlarge | r6i.12xlarge | r6i.16large | r6i.24xlarge | r6i.32xlarge | r6i.metal | t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | t3.nano | t3.micro | t3.small | t3.medium | t3.large | t3.xlarge | t3.2xlarge | t3a.nano | t3a.micro | t3a.small | t3a.medium | t3a.large | t3a.xlarge | t3a.2xlarge | t4g.nano | t4g.micro | t4g.small | t4g.medium | t4g.large | t4g.xlarge | t4g.2xlarge | u-6tb1.56xlarge | u-6tb1.112xlarge | u-9tb1.112xlarge | u-12tb1.112xlarge | u-6tb1.metal | u-9tb1.metal | u-12tb1.metal | u-18tb1.metal | u-24tb1.metal | vt1.3xlarge | vt1.6xlarge | vt1.24xlarge | x1.16xlarge | x1.32xlarge | xle.xlarge | xle.2xlarge | xle.4xlarge | xle.8xlarge | xle.16xlarge | xle.32xlarge | x2iezn.2xlarge | x2iezn.4xlarge | x2iezn.6xlarge | x2iezn.8xlarge | x2iezn.12xlarge | x2iezn.meta | x2gd.medium | x2gd.large | x2gd.xlarge | x2gd.2xlarge | x2gd.4xlarge | x2gd.8xlarge | x2gd.12xlarge | x2gd.16xlarge | x2gd.metal | z1d.large | z1d.xlarge | z1d.2xlarge | z1d.3xlarge | z1d.6xlarge | z1d.12xlarge | z1d.metal | x2idn.16xlarge | x2idn.24xlarge | x2idn.32xlarge | x2iedn.xlarge | x2iedn.2xlarge | x2iedn.4xlarge | x2iedn.8xlarge | x2iedn.16xlarge | x2iedn.24xlarge | x2iedn.32xlarge | c6a.large | c6a.xlarge | c6a.2xlarge | c6a.4xlarge | c6a.8xlarge | c6a.12xlarge | c6a.16xlarge | c6a.24xlarge | c6a.32xlarge | c6a.48xlarge | c6a.metal | m6a.metal | i4i.large | i4i.xlarge | i4i.2xlarge | i4i.4xlarge | i4i.8xlarge | i4i.16xlarge | i4i.32xlarge | i4i.metal | x2idn.metal | x2iedn.metal | c7g.medium | c7g.large | c7g.xlarge | c7g.2xlarge | c7g.4xlarge | c7g.8xlarge | c7g.12xlarge | c7g.16xlarge | mac2.metal | c6id.large | c6id.xlarge | c6id.2xlarge | c6id.4xlarge | c6id.8xlarge | c6id.12xlarge | c6id.16xlarge | c6id.24xlarge | c6id.32xlarge | c6id.metal | m6id.large | m6id.xlarge | m6id.2xlarge | m6id.4xlarge | m6id.8xlarge | m6id.12xlarge | m6id.16xlarge | m6id.24xlarge | m6id.32xlarge | m6id.metal | r6id.large | r6id.xlarge | r6id.2xlarge | r6id.4xlarge | r6id.8xlarge | r6id.12xlarge | r6id.16xlarge | r6id.24xlarge | r6id.32xlarge | r6id.metal | r6a.large | r6a.xlarge | r6a.2xlarge | r6a.4xlarge | r6a.8xlarge | r6a.12xlarge
| r6a.16xlarge | r6a.24xlarge | r6a.32xlarge | r6a.48xlarge | r6a.metal | p4de.24xlarge | u-3tb1.56xlarge | u-18tb1.112xlarge | u-24tb1.112xlarge | trn1.2xlarge | trn1.32xlarge | hpc6id.32xlarge | c6in.large | c6in.xlarge | c6in.2xlarge | c6in.4xlarge | c6in.8xlarge | c6in.12xlarge | c6in.16xlarge | c6in.24xlarge | c6in.32xlarge | m6in.large | m6in.xlarge | m6in.2xlarge | m6in.4xlarge | m6in.8xlarge | m6in.12xlarge | m6in.16xlarge | m6in.24xlarge | m6in.32xlarge | m6idn.large | m6idn.xlarge | m6idn.2xlarge | m6idn.4xlarge | m6idn.8xlarge | m6idn.12xlarge | m6idn.16xlarge | m6idn.24xlarge | m6idn.32xlarge | r6in.large | r6in.xlarge | r6in.2xlarge | r6in.4xlarge | r6in.8xlarge | r6in.12xlarge | r6in.16xlarge | r6in.24xlarge | r6in.32xlarge | r6idn.large | r6idn.xlarge | r6idn.2xlarge | r6idn.4xlarge | r6idn.8xlarge | r6idn.12xlarge | r6idn.16xlarge | r6idn.24xlarge | r6idn.32xlarge | c7g.metal | m7g.medium | m7g.large | m7g.xlarge | m7g.2xlarge | m7g.4xlarge | m7g.8xlarge | m7g.12xlarge | m7g.16xlarge | m7g.metal | r7g.medium | r7g.large | r7g.xlarge | r7g.2xlarge | r7g.4xlarge | r7g.8xlarge | r7g.12xlarge | r7g.16xlarge | r7g.metal | c6in.metal | m6in.metal | m6idn.metal | r6in.metal | rtrn1n.32xlarge | i4g.large | i4g.xlarge | i4g.2xlarge | i4g.4xlarge | i4g.8xlarge | i4g.16xlarge | hpc7g.4xlarge | hpc7g.8xlarge | hpc7g.16xlarge | c7gn.medium | c7gn.large | c7gn.xlarge | c7gn.2xlarge | c7gn.4xlarge | c7gn.8xlarge | c7gn.12xlarge | c7gn.16xlarge | p5.48xlarge | m7i.large | m7i.xlarge | m7i.2xlarge | m7i.4xlarge | m7i.8xlarge | m7i.12xlarge | m7i.16xlarge | m7i.24xlarge | m7i.48xlarge | m7i-flex.large | m7i-flex.xlarge | m7i-flex.2xlarge | m7i-flex.4xlarge | m7i-flex.8xlarge | m7a.medium | m7a.large | m7a.xlarge | m7a.2xlarge | m7a.4xlarge | m7a.8xlarge | m7a.12xlarge | m7a.16xlarge | m7a.24xlarge | m7a.32xlarge | m7a.48xlarge | m7a.metal-48x1 | hpc7a.12xlarge | hpc7a.24xlarge | hpc7a.48xlarge | hpc7a.96xlarge | c7gd.medium | c7gd.large | c7gd.xlarge | c7gd.2xlarge | c7gd.4xlarge | c7gd.8xlarge | c7gd.12xlarge | c7gd.16xlarge | c7gd.18xlarge | m7gd.medium | m7gd.large | m7gd.xlarge | m7gd.2xlarge | m7gd.4xlarge | m7gd.8xlarge | m7gd.12xlarge | m7gd.16xlarge | r7gd.medium | r7gd.large | r7gd.xlarge | r7gd.2xlarge | r7gd.4xlarge | r7gd.8xlarge | r7gd.12xlarge | r7gd.16xlarge | r7a.medium | r7a.large | r7a.xlarge | r7a.2xlarge | r7a.4xlarge | r7a.8xlarge |
Priority (request), priority (response)

The priority for the launch template override. The highest priority is launched first.

If OnDemandAllocationStrategy is set to prioritized, Spot Fleet uses priority to determine which launch template override to use first in fulfilling On-Demand capacity.

If the Spot AllocationStrategy is set to capacityOptimizedPrioritized, Spot Fleet uses priority on a best-effort basis to determine which launch template override to use in fulfilling Spot capacity, but optimizes for capacity first.

Valid values are whole numbers starting at 0. The lower the number, the higher the priority. If no number is set, the launch template override has the lowest priority. You can set the same priority for different launch template overrides.

Type: Double

Required: No

SpotPrice (request), spotPrice (response)

The maximum price per unit hour that you are willing to pay for a Spot Instance. We do not recommend using this parameter because it can lead to increased interruptions. If you do not specify this parameter, you will pay the current Spot price.
Important

If you specify a maximum price, your instances will be interrupted more frequently than if you do not specify this parameter.

Type: String

Required: No

SubnetId (request), subnetId (response)

The ID of the subnet in which to launch the instances.

Type: String

Required: No

WeightedCapacity (request), weightedCapacity (response)

The number of units provided by the specified instance type.

Type: Double

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplatePlacement

Describes the placement of an instance.

Contents

affinity

The affinity setting for the instance on the Dedicated Host.

Type: String

Required: No

availabilityZone

The Availability Zone of the instance.

Type: String

Required: No

groupId

The Group ID of the placement group. You must specify the Placement Group Group ID to launch an instance in a shared placement group.

Type: String

Required: No

groupName

The name of the placement group for the instance.

Type: String

Required: No

hostId

The ID of the Dedicated Host for the instance.

Type: String

Required: No
**hostResourceGroupArn**

The ARN of the host resource group in which to launch the instances.

Type: String

Required: No

**partitionNumber**

The number of the partition the instance should launch in. Valid only if the placement group strategy is set to partition.

Type: Integer

Required: No

**spreadDomain**

Reserved for future use.

Type: String

Required: No

**tenancy**

The tenancy of the instance. An instance with a tenancy of dedicated runs on single-tenant hardware.

Type: String

Valid Values: default | dedicated | host

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
• AWS SDK for Java V2
• AWS SDK for Ruby V3
LaunchTemplatePlacementRequest

Describes the placement of an instance.

Contents

Affinity

The affinity setting for an instance on a Dedicated Host.

Type: String

Required: No

AvailabilityZone

The Availability Zone for the instance.

Type: String

Required: No

GroupId

The Group Id of a placement group. You must specify the Placement Group Group Id to launch an instance in a shared placement group.

Type: String

Required: No

GroupName

The name of the placement group for the instance.

Type: String

Required: No

HostId

The ID of the Dedicated Host for the instance.

Type: String

Required: No
HostResourceGroupArn

The ARN of the host resource group in which to launch the instances. If you specify a host resource group ARN, omit the Tenancy parameter or set it to host.

Type: String

Required: No

PartitionNumber

The number of the partition the instance should launch in. Valid only if the placement group strategy is set to partition.

Type: Integer

Required: No

SpreadDomain

Reserved for future use.

Type: String

Required: No

Tenancy

The tenancy of the instance. An instance with a tenancy of dedicated runs on single-tenant hardware.

Type: String

Valid Values: default | dedicated | host

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++]
- [AWS SDK for Go]
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplatePrivateDnsNameOptions

Describes the options for instance hostnames.

Contents

enableResourceNameDnsAAAARecord

Indicates whether to respond to DNS queries for instance hostnames with DNS AAAA records.

Type: Boolean

Required: No

enableResourceNameDnsARecord

Indicates whether to respond to DNS queries for instance hostnames with DNS A records.

Type: Boolean

Required: No

hostnameType

The type of hostname to assign to an instance.

Type: String

Valid Values: ip-name | resource-name

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplatePrivateDnsNameOptionsRequest

Describes the options for instance hostnames.

Contents

**EnableResourceNameDnsAAAARecord**

Indicates whether to respond to DNS queries for instance hostnames with DNS AAAA records.

Type: Boolean

Required: No

**EnableResourceNameDnsARecord**

Indicates whether to respond to DNS queries for instance hostnames with DNS A records.

Type: Boolean

Required: No

**HostnameType**

The type of hostname for Amazon EC2 instances. For IPv4 only subnets, an instance DNS name must be based on the instance IPv4 address. For IPv6 native subnets, an instance DNS name must be based on the instance ID. For dual-stack subnets, you can specify whether DNS names use the instance IPv4 address or the instance ID.

Type: String

Valid Values: *ip-name | resource-name*

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws-sdk-cpp.github.io/aws-sdk-cpp)
- [AWS SDK for Go](https://github.com/aws/aws-sdk-go)
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplatesMonitoring

Describes the monitoring for the instance.

Contents

enabled

Indicates whether detailed monitoring is enabled. Otherwise, basic monitoring is enabled.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplatesMonitoringRequest

Describes the monitoring for the instance.

Contents

Enabled

   Specify true to enable detailed monitoring. Otherwise, basic monitoring is enabled.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateSpecification

The launch template to use. You must specify either the launch template ID or launch template name in the request, but not both.

Contents

LaunchTemplateId

The ID of the launch template.

You must specify the LaunchTemplateId or the LaunchTemplateName, but not both.

Type: String

Required: No

LaunchTemplateName

The name of the launch template.

You must specify the LaunchTemplateName or the LaunchTemplateId, but not both.

Type: String

Required: No

Version

The launch template version number, $Latest, or $Default.

If the value is $Latest, Amazon EC2 uses the latest version of the launch template.

If the value is $Default, Amazon EC2 uses the default version of the launch template.

Default: The default version of the launch template.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
LaunchTemplateSpotMarketOptions

The options for Spot Instances.

Contents

blockDurationMinutes

The required duration for the Spot Instances (also known as Spot blocks), in minutes. This value must be a multiple of 60 (60, 120, 180, 240, 300, or 360).

Type: Integer

Required: No

instanceInterruptionBehavior

The behavior when a Spot Instance is interrupted.

Type: String

Valid Values: hibernate | stop | terminate

Required: No

maxPrice

The maximum hourly price you're willing to pay for the Spot Instances. We do not recommend using this parameter because it can lead to increased interruptions. If you do not specify this parameter, you will pay the current Spot price.

⚠️ Important

If you specify a maximum price, your Spot Instances will be interrupted more frequently than if you do not specify this parameter.

Type: String

Required: No

spotInstanceType

The Spot Instance request type.
Type: String

Valid Values: one-time | persistent

Required: No

validUntil

The end date of the request. For a one-time request, the request remains active until all instances launch, the request is canceled, or this date is reached. If the request is persistent, it remains active until it is canceled or this date and time is reached.

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
LaunchTemplateSpotMarketOptionsRequest

The options for Spot Instances.

Contents

**BlockDurationMinutes**

Deprecated.

Type: Integer

Required: No

**InstanceInterruptionBehavior**

The behavior when a Spot Instance is interrupted. The default is *terminate*.

Type: String

Valid Values: hibernate | stop | terminate

Required: No

**MaxPrice**

The maximum hourly price you’re willing to pay for the Spot Instances. We do not recommend using this parameter because it can lead to increased interruptions. If you do not specify this parameter, you will pay the current Spot price.

⚠️ **Important**

If you specify a maximum price, your Spot Instances will be interrupted more frequently than if you do not specify this parameter.

Type: String

Required: No

**SpotInstanceType**

The Spot Instance request type.
Type: String

Valid Values: one-time | persistent

Required: No

ValidUntil

The end date of the request, in UTC format (YYYY-MM-DDTHH:MM:SSZ). Supported only for persistent requests.

- For a persistent request, the request remains active until the ValidUntil date and time is reached. Otherwise, the request remains active until you cancel it.
- For a one-time request, ValidUntil is not supported. The request remains active until all instances launch or you cancel the request.

Default: 7 days from the current date

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateTagSpecification

The tags specification for the launch template.

Contents

**resourceType**

The type of resource to tag.

Type: String

vpd-connection-device-type | vpc-block-public-access-exclusion | ipam-resource-discovery | ipam-resource-discovery-association | instance-connect-endpoint

Required: No

tagSet

The tags for the resource.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateTagSpecificationRequest

The tags specification for the resources that are created during instance launch.

Contents

ResourceId

The type of resource to tag.

Valid Values lists all resource types for Amazon EC2 that can be tagged. When you create a launch template, you can specify tags for the following resource types only: `instance` | `volume` | `elastic-gpu` | `network-interface` | `spot-instances-request`. If the instance does not include the resource type that you specify, the instance launch fails. For example, not all instance types include an Elastic GPU.

To tag a resource after it has been created, see [CreateTags](#).

Type: String

Required: No

Tags

The tags to apply to the resource.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LaunchTemplateVersion

Describes a launch template version.

Contents

createdBy

The principal that created the version.
Type: String
Required: No

createTime

The time the version was created.
Type: Timestamp
Required: No

defaultVersion

Indicates whether the version is the default version.
Type: Boolean
Required: No

launchTemplateData

Information about the launch template.
Type: ResponseLaunchTemplateData object
Required: No

launchTemplateId

The ID of the launch template.
Type: String
Required: No
launchTemplateName

The name of the launch template.

Type: String


Pattern: [a-zA-Z0-9\(\)\:\.\-/_]+

Required: No

versionDescription

The description for the version.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 255.

Required: No

versionNumber

The version number.

Type: Long

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LicenseConfiguration

Describes a license configuration.

Contents

licenseConfigurationArn

The Amazon Resource Name (ARN) of the license configuration.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LicenseConfigurationRequest

Describes a license configuration.

Contents

LicenseConfigurationArn

The Amazon Resource Name (ARN) of the license configuration.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LoadBalancersConfig

Describes the Classic Load Balancers and target groups to attach to a Spot Fleet request.

Contents

ClassicLoadBalancersConfig (request), classicLoadBalancersConfig (response)

The Classic Load Balancers.

Type: ClassicLoadBalancersConfig object

Required: No

TargetGroupsConfig (request), targetGroupsConfig (response)

The target groups.

Type: TargetGroupsConfig object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LoadPermission

Describes a load permission.

Contents

group

The name of the group.

Type: String

Valid Values: all

Required: No

userId

The AWS account ID.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LoadPermissionModifications

Describes modifications to the load permissions of an Amazon FPGA image (AFI).

Contents

Add

The load permissions to add.

Type: Array of `LoadPermissionRequest` objects

Required: No

Remove

The load permissions to remove.

Type: Array of `LoadPermissionRequest` objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
LoadPermissionRequest

Describes a load permission.

Contents

Group

The name of the group.

Type: String

Valid Values: all

Required: No

UserId

The AWS account ID.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LocalGateway

Describes a local gateway.

Contents

localGatewayId

The ID of the local gateway.

Type: String

Required: No

outpostArn

The Amazon Resource Name (ARN) of the Outpost.

Type: String

Required: No

ownerId

The ID of the AWS account that owns the local gateway.

Type: String

Required: No

state

The state of the local gateway.

Type: String

Required: No

tagSet

The tags assigned to the local gateway.

Type: Array of Tag objects

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++]
- [AWS SDK for Go]
- [AWS SDK for Java V2]
- [AWS SDK for Ruby V3]
LocalGatewayRoute

Describes a route for a local gateway route table.

Contents

coipPoolId

The ID of the customer-owned address pool.

Type: String

Required: No

destinationCidrBlock

The CIDR block used for destination matches.

Type: String

Required: No

destinationPrefixListId

The ID of the prefix list.

Type: String

Required: No

localGatewayRouteTableArn

The Amazon Resource Name (ARN) of the local gateway route table.

Type: String


Required: No

localGatewayRouteTableId

The ID of the local gateway route table.

Type: String
Required: No

**localGatewayVirtualInterfaceGroupId**

The ID of the virtual interface group.

Type: String

Required: No

**networkInterfaceId**

The ID of the network interface.

Type: String

Required: No

**ownerId**

The ID of the AWS account that owns the local gateway route.

Type: String

Required: No

**state**

The state of the route.

Type: String

Valid Values: pending | active | blackhole | deleting | deleted

Required: No

**subnetId**

The ID of the subnet.

Type: String

Required: No

**type**

The route type.
Type: String

Valid Values: static | propagated

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LocalGatewayRouteTable

Describes a local gateway route table.

Contents

localGatewayId

The ID of the local gateway.

Type: String

Required: No

localGatewayRouteTableArn

The Amazon Resource Name (ARN) of the local gateway route table.

Type: String


Required: No

localGatewayRouteTableId

The ID of the local gateway route table.

Type: String

Required: No

mode

The mode of the local gateway route table.

Type: String

Valid Values: direct-vpc-routing | coip

Required: No

outpostArn

The Amazon Resource Name (ARN) of the Outpost.
ownerId

The ID of the AWS account that owns the local gateway route table.

Type: String

Required: No

state

The state of the local gateway route table.

Type: String

Required: No

stateReason

Information about the state change.

Type: StateReason object

Required: No

tagSet

The tags assigned to the local gateway route table.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• [AWS SDK for Ruby V3](AWSSDKforRubyV3)
LocalGatewayRouteTableVirtualInterfaceGroupAssociation

Describes an association between a local gateway route table and a virtual interface group.

Contents

**localGatewayId**

The ID of the local gateway.

Type: String

Required: No

**localGatewayRouteTableArn**

The Amazon Resource Name (ARN) of the local gateway route table for the virtual interface group.

Type: String


Required: No

**localGatewayRouteTableId**

The ID of the local gateway route table.

Type: String

Required: No

**localGatewayRouteTableVirtualInterfaceGroupAssociationId**

The ID of the association.

Type: String

Required: No

**localGatewayVirtualInterfaceGroupId**

The ID of the virtual interface group.

Type: String
Required: No

ownerId

The ID of the AWS account that owns the local gateway virtual interface group association.

Type: String

Required: No

state

The state of the association.

Type: String

Required: No

tagSet

The tags assigned to the association.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LocalGatewayRouteTableVpcAssociation

Describes an association between a local gateway route table and a VPC.

Contents

localGatewayId

The ID of the local gateway.

Type: String

Required: No

localGatewayRouteTableArn

The Amazon Resource Name (ARN) of the local gateway route table for the association.

Type: String


Required: No

localGatewayRouteTableId

The ID of the local gateway route table.

Type: String

Required: No

localGatewayRouteTableVpcAssociationId

The ID of the association.

Type: String

Required: No

ownerId

The ID of the AWS account that owns the local gateway route table for the association.

Type: String
Required: No

**state**

The state of the association.

Type: String

Required: No

**tagSet**

The tags assigned to the association.

Type: Array of Tag objects

Required: No

**vpcId**

The ID of the VPC.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
LocalGatewayVirtualInterface

Describes a local gateway virtual interface.

Contents

localAddress

The local address.

Type: String

Required: No

localBgpAsn

The Border Gateway Protocol (BGP) Autonomous System Number (ASN) of the local gateway.

Type: Integer

Required: No

localGatewayId

The ID of the local gateway.

Type: String

Required: No

localGatewayVirtualInterfaceId

The ID of the virtual interface.

Type: String

Required: No

ownerId

The ID of the AWS account that owns the local gateway virtual interface.

Type: String

Required: No
peerAddress

The peer address.

Type: String

Required: No

peerBgpAsn

The peer BGP ASN.

Type: Integer

Required: No

tagSet

The tags assigned to the virtual interface.

Type: Array of Tag objects

Required: No

vlan

The ID of the VLAN.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LocalGatewayVirtualInterfaceGroup

Describes a local gateway virtual interface group.

Contents

localGatewayId

The ID of the local gateway.

Type: String

Required: No

localGatewayVirtualInterfaceGroupId

The ID of the virtual interface group.

Type: String

Required: No

localGatewayVirtualInterfaceIdSet

The IDs of the virtual interfaces.

Type: Array of strings

Required: No

ownerId

The ID of the AWS account that owns the local gateway virtual interface group.

Type: String

Required: No

tagSet

The tags assigned to the virtual interface group.

Type: Array of Tag objects

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
LockedSnapshotsInfo

Information about a locked snapshot.

Contents

coolOffPeriod

The compliance mode cooling-off period, in hours.

Type: Integer

Required: No

coolOffPeriodExpiresOn

The date and time at which the compliance mode cooling-off period expires, in the UTC time zone (YYYY-MM-DDTh:mm:ss.sssZ).

Type: Timestamp

Required: No

lockCreatedOn

The date and time at which the snapshot was locked, in the UTC time zone (YYYY-MM-DDTh:mm:ss.sssZ).

Type: Timestamp

Required: No

lockDuration

The period of time for which the snapshot is locked, in days.

Type: Integer

Required: No

lockDurationStartTime

The date and time at which the lock duration started, in the UTC time zone (YYYY-MM-DDTh:mm:ss.sssZ).
If you lock a snapshot that is in the pending state, the lock duration starts only once the snapshot enters the completed state.

Type: Timestamp

Required: No

**lockExpiresOn**

The date and time at which the lock will expire, in the UTC time zone (YYYY-MM-DDThh:mm:ss.sssZ).

Type: Timestamp

Required: No

**lockState**

The state of the snapshot lock. Valid states include:

- **compliance-cooloff** - The snapshot has been locked in compliance mode but it is still within the cooling-off period. The snapshot can't be deleted, but it can be unlocked and the lock settings can be modified by users with appropriate permissions.
- **governance** - The snapshot is locked in governance mode. The snapshot can't be deleted, but it can be unlocked and the lock settings can be modified by users with appropriate permissions.
- **compliance** - The snapshot is locked in compliance mode and the cooling-off period has expired. The snapshot can't be unlocked or deleted. The lock duration can only be increased by users with appropriate permissions.
- **expired** - The snapshot was locked in compliance or governance mode but the lock duration has expired. The snapshot is not locked and can be deleted.

Type: String

Valid Values: compliance | governance | compliance-cooloff | expired

Required: No

**ownerId**

The account ID of the AWS account that owns the snapshot.

Type: String
Required: No

snapshotId

The ID of the snapshot.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
MaintenanceDetails

Details for Site-to-Site VPN tunnel endpoint maintenance events.

Contents

lastMaintenanceApplied

  Timestamp of last applied maintenance.

  Type: Timestamp

  Required: No

maintenanceAutoAppliedAfter

  The timestamp after which AWS will automatically apply maintenance.

  Type: Timestamp

  Required: No

pendingMaintenance

  Verify existence of a pending maintenance.

  Type: String

  Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ManagedPrefixList

Describes a managed prefix list.

Contents

addressFamily

The IP address version.

Type: String

Required: No

maxEntries

The maximum number of entries for the prefix list.

Type: Integer

Required: No

ownerId

The ID of the owner of the prefix list.

Type: String

Required: No

prefixListArn

The Amazon Resource Name (ARN) for the prefix list.

Type: String


Required: No

prefixListId

The ID of the prefix list.

Type: String
**prefixListName**

The name of the prefix list.

Type: String

Required: No

**state**

The current state of the prefix list.

Type: String


Required: No

**stateMessage**

The state message.

Type: String

Required: No

**tagSet**

The tags for the prefix list.

Type: Array of Tag objects

Required: No

**version**

The version of the prefix list.

Type: Long

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
MemoryGiBPerVCpu

The minimum and maximum amount of memory per vCPU, in GiB.

Contents

Max  (request), max  (response)

The maximum amount of memory per vCPU, in GiB. If this parameter is not specified, there is no maximum limit.

Type: Double

Required: No

Min  (request), min  (response)

The minimum amount of memory per vCPU, in GiB. If this parameter is not specified, there is no minimum limit.

Type: Double

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
MemoryGiBPerVCpuRequest

The minimum and maximum amount of memory per vCPU, in GiB.

Contents

Max

The maximum amount of memory per vCPU, in GiB. To specify no maximum limit, omit this parameter.

Type: Double

Required: No

Min

The minimum amount of memory per vCPU, in GiB. To specify no minimum limit, omit this parameter.

Type: Double

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
MemoryInfo

Describes the memory for the instance type.

Contents

**sizeInMiB**

The size of the memory, in MiB.

Type: Long

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
MemoryMiB

The minimum and maximum amount of memory, in MiB.

Contents

**Max** (request), **max** (response)

The maximum amount of memory, in MiB. If this parameter is not specified, there is no maximum limit.

Type: Integer

Required: No

**Min** (request), **min** (response)

The minimum amount of memory, in MiB. If this parameter is not specified, there is no minimum limit.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
MemoryMiBRequest

The minimum and maximum amount of memory, in MiB.

Contents

Min

The minimum amount of memory, in MiB. To specify no minimum limit, specify 0.

Type: Integer

Required: Yes

Max

The maximum amount of memory, in MiB. To specify no maximum limit, omit this parameter.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
MetricPoint

Indicates whether the network was healthy or degraded at a particular point. The value is aggregated from the startDate to the endDate. Currently only five_minutes is supported.

Contents

date

The end date for the metric point. The ending time must be formatted as yyyy-mm-ddThh:mm:ss. For example, 2022-06-12T12:00:00.000Z.

Type: Timestamp

Required: No

startDate

The start date for the metric point. The starting date for the metric point. The starting time must be formatted as yyyy-mm-ddThh:mm:ss. For example, 2022-06-10T12:00:00.000Z.

Type: Timestamp

Required: No

status

The status of the metric point.

Type: String

Required: No

value

Type: Float

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
ModifyTransitGatewayOptions

The transit gateway options.

Contents

AddTransitGatewayCidrBlocks

Adds IPv4 or IPv6 CIDR blocks for the transit gateway. Must be a size /24 CIDR block or larger for IPv4, or a size /64 CIDR block or larger for IPv6.

Type: Array of strings

Required: No

AmazonSideAsn

A private Autonomous System Number (ASN) for the Amazon side of a BGP session. The range is 64512 to 65534 for 16-bit ASNs and 4200000000 to 4294967294 for 32-bit ASNs.

The modify ASN operation is not allowed on a transit gateway with active BGP sessions. You must first delete all transit gateway attachments that have BGP configured prior to modifying the ASN on the transit gateway.

Type: Long

Required: No

AssociationDefaultRouteTableId

The ID of the default association route table.

Type: String

Required: No

AutoAcceptSharedAttachments

Enable or disable automatic acceptance of attachment requests.

Type: String

Valid Values: enable | disable
Required: No

**DefaultRouteTableAssociation**

Enable or disable automatic association with the default association route table.

Type: String

Valid Values: enable | disable

Required: No

**DefaultRouteTablePropagation**

Enable or disable automatic propagation of routes to the default propagation route table.

Type: String

Valid Values: enable | disable

Required: No

**DnsSupport**

Enable or disable DNS support.

Type: String

Valid Values: enable | disable

Required: No

**PropagationDefaultRouteTableId**

The ID of the default propagation route table.

Type: String

Required: No

**RemoveTransitGatewayCidrBlocks**

Removes CIDR blocks for the transit gateway.

Type: Array of strings

Required: No
VpnEcmpSupport

Enable or disable Equal Cost Multipath Protocol support.

Type: String

Valid Values: enable | disable

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ModifyTransitGatewayVpcAttachmentRequestOptions

Describes the options for a VPC attachment.

Contents

ApplianceModeSupport

Enable or disable support for appliance mode. If enabled, a traffic flow between a source and destination uses the same Availability Zone for the VPC attachment for the lifetime of that flow. The default is disable.

Type: String

Valid Values: enable | disable

Required: No

DnsSupport

Enable or disable DNS support. The default is enable.

Type: String

Valid Values: enable | disable

Required: No

Ipv6Support

Enable or disable IPv6 support. The default is enable.

Type: String

Valid Values: enable | disable

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
- **AWS SDK for C++**
- **AWS SDK for Go**
- **AWS SDK for Java V2**
- **AWS SDK for Ruby V3**
ModifyVerifiedAccessEndpointEniOptions

Describes the options when modifying a Verified Access endpoint with the network-interface type.

Contents

Port

  The IP port number.

  Type: Integer


  Required: No

Protocol

  The IP protocol.

  Type: String

  Valid Values: http | https

  Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ModifyVerifiedAccessEndpointLoadBalancerOptions

Describes a load balancer when creating an AWS Verified Access endpoint using the load-balancer type.

Contents

Port

The IP port number.

Type: Integer


Required: No

Protocol

The IP protocol.

Type: String

Valid Values: http | https

Required: No

SubnetIds

The IDs of the subnets.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
ModifyVerifiedAccessTrustProviderDeviceOptions

Modifies the configuration of the specified device-based AWS Verified Access trust provider.

Contents

PublicSigningKeyUrl

The URL AWS Verified Access will use to verify the authenticity of the device tokens.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ModifyVerifiedAccessTrustProviderOidcOptions

Options for an OpenID Connect-compatible user-identity trust provider.

Contents

AuthorizationEndpoint

The OIDC authorization endpoint.

Type: String

Required: No

ClientId

The client identifier.

Type: String

Required: No

ClientSecret

The client secret.

Type: String

Required: No

Issuer

The OIDC issuer.

Type: String

Required: No

Scope

OpenID Connect (OIDC) scopes are used by an application during authentication to authorize access to a user's details. Each scope returns a specific set of user attributes.

Type: String

Required: No
TokenEndpoint

The OIDC token endpoint.

Type: String

Required: No

UserInfoEndpoint

The OIDC user info endpoint.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ModifyVpnTunnelOptionsSpecification

The AWS Site-to-Site VPN tunnel options to modify.

Contents

DPDTimeoutAction

The action to take after DPD timeout occurs. Specify \texttt{restart} to restart the IKE initiation. Specify \texttt{clear} to end the IKE session.

Valid Values: clear | none | restart

Default: clear

Type: String

Required: No

DPDTimeoutSeconds

The number of seconds after which a DPD timeout occurs. A DPD timeout of 40 seconds means that the VPN endpoint will consider the peer dead 30 seconds after the first failed keep-alive.

Constraints: A value greater than or equal to 30.

Default: 40

Type: Integer

Required: No

EnableTunnelLifecycleControl

Turn on or off tunnel endpoint lifecycle control feature.

Type: Boolean

Required: No

IKEVersions

The IKE versions that are permitted for the VPN tunnel.
Valid values: ikev1 | ikev2

Type: Array of IKEVersionsRequestListValue objects

Required: No

LogOptions

Options for logging VPN tunnel activity.

Type: VpnTunnelLogOptionsSpecification object

Required: No

Phase1DHGroupNumbers

One or more Diffie-Hellman group numbers that are permitted for the VPN tunnel for phase 1 IKE negotiations.

Valid values: 2 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24

Type: Array of Phase1DHGroupNumbersRequestListValue objects

Required: No

Phase1EncryptionAlgorithms

One or more encryption algorithms that are permitted for the VPN tunnel for phase 1 IKE negotiations.

Valid values: AES128 | AES256 | AES128-GCM-16 | AES256-GCM-16

Type: Array of Phase1EncryptionAlgorithmsRequestListValue objects

Required: No

Phase1IntegrityAlgorithms

One or more integrity algorithms that are permitted for the VPN tunnel for phase 1 IKE negotiations.

Valid values: SHA1 | SHA2-256 | SHA2-384 | SHA2-512

Type: Array of Phase1IntegrityAlgorithmsRequestListValue objects

Required: No
**Phase1LifetimeSeconds**

The lifetime for phase 1 of the IKE negotiation, in seconds.

Constraints: A value between 900 and 28,800.

Default: 28800

Type: Integer

Required: No

**Phase2DHGroupNumbers**

One or more Diffie-Hellman group numbers that are permitted for the VPN tunnel for phase 2 IKE negotiations.

Valid values: 2 | 5 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24

Type: Array of Phase2DHGroupNumbersRequestListValue objects

Required: No

**Phase2EncryptionAlgorithms**

One or more encryption algorithms that are permitted for the VPN tunnel for phase 2 IKE negotiations.

Valid values: AES128 | AES256 | AES128-GCM-16 | AES256-GCM-16

Type: Array of Phase2EncryptionAlgorithmsRequestListValue objects

Required: No

**Phase2IntegrityAlgorithms**

One or more integrity algorithms that are permitted for the VPN tunnel for phase 2 IKE negotiations.

Valid values: SHA1 | SHA2-256 | SHA2-384 | SHA2-512

Type: Array of Phase2IntegrityAlgorithmsRequestListValue objects

Required: No
**Phase2LifetimeSeconds**

The lifetime for phase 2 of the IKE negotiation, in seconds.

Constraints: A value between 900 and 3,600. The value must be less than the value for `Phase1LifetimeSeconds`.

Default: 3600

Type: Integer

Required: No

**PreSharedKey**

The pre-shared key (PSK) to establish initial authentication between the virtual private gateway and the customer gateway.

Constraints: Allowed characters are alphanumeric characters, periods (.), and underscores (_). Must be between 8 and 64 characters in length and cannot start with zero (0).

Type: String

Required: No

**RekeyFuzzPercentage**

The percentage of the rekey window (determined by `RekeyMarginTimeSeconds`) during which the rekey time is randomly selected.

Constraints: A value between 0 and 100.

Default: 100

Type: Integer

Required: No

**RekeyMarginTimeSeconds**

The margin time, in seconds, before the phase 2 lifetime expires, during which the AWS side of the VPN connection performs an IKE rekey. The exact time of the rekey is randomly selected based on the value for `RekeyFuzzPercentage`.

Constraints: A value between 60 and half of `Phase2LifetimeSeconds`. 
Default: 270
Type: Integer
Required: No

**ReplayWindowSize**

The number of packets in an IKE replay window.

Constraints: A value between 64 and 2048.

Default: 1024
Type: Integer
Required: No

**StartupAction**

The action to take when establishing the tunnel for the VPN connection. By default, your customer gateway device must initiate the IKE negotiation and bring up the tunnel. Specify start for AWS to initiate the IKE negotiation.

Valid Values: add | start

Default: add
Type: String
Required: No

**TunnelInsideCidr**

The range of inside IPv4 addresses for the tunnel. Any specified CIDR blocks must be unique across all VPN connections that use the same virtual private gateway.

Constraints: A size /30 CIDR block from the 169.254.0.0/16 range. The following CIDR blocks are reserved and cannot be used:
- 169.254.0.0/30
- 169.254.1.0/30
- 169.254.2.0/30
- 169.254.3.0/30
• 169.254.4.0/30
• 169.254.5.0/30
• 169.254.169.252/30

Type: String

Required: No

TunnelInsideIpv6Cidr

The range of inside IPv6 addresses for the tunnel. Any specified CIDR blocks must be unique across all VPN connections that use the same transit gateway.

Constraints: A size /126 CIDR block from the local fd00::/8 range.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

• [AWS SDK for C++](#)
• [AWS SDK for Go](#)
• [AWS SDK for Java V2](#)
• [AWS SDK for Ruby V3](#)
Monitoring

Describes the monitoring of an instance.

Contents

state

Indicates whether detailed monitoring is enabled. Otherwise, basic monitoring is enabled.

Type: String

Valid Values: disabled | disabling | enabled | pending

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
MovingAddressStatus

Note

This action is deprecated.

Describes the status of a moving Elastic IP address.

Contents

moveStatus

The status of the Elastic IP address that's being moved or restored.

Type: String

Valid Values: movingToVpc | restoringToClassic

Required: No

publicIp

The Elastic IP address.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
NatGateway

Describes a NAT gateway.

Contents

connectivityType

Indicates whether the NAT gateway supports public or private connectivity.

Type: String

Valid Values: private | public

Required: No

createTime

The date and time the NAT gateway was created.

Type: Timestamp

Required: No

deleteTime

The date and time the NAT gateway was deleted, if applicable.

Type: Timestamp

Required: No

failureCode

If the NAT gateway could not be created, specifies the error code for the failure.
(InsufficientFreeAddressesInSubnet | Gateway.NotAttached |
InvalidAllocationID.NotFound | Resource.AlreadyAssociated | InternalError |
InvalidSubnetID.NotFound)

Type: String

Required: No
failureMessage

If the NAT gateway could not be created, specifies the error message for the failure, that corresponds to the error code.

- For InsufficientFreeAddressesInSubnet: "Subnet has insufficient free addresses to create this NAT gateway"
- For Gateway.NotAttached: "Network vpc-xxxxxxxx has no Internet gateway attached"
- For InvalidAllocationID.NotFound: "Elastic IP address eipalloc-xxxxxxxx could not be associated with this NAT gateway"
- For Resource.AlreadyAssociated: "Elastic IP address eipalloc-xxxxxxxx is already associated"
- For InternalError: "Network interface eni-xxxxxxxx, created and used internally by this NAT gateway is in an invalid state. Please try again."
- For InvalidSubnetID.NotFound: "The specified subnet subnet-xxxxxxxx does not exist or could not be found."

Type: String

Required: No

natGatewayAddressSet

Information about the IP addresses and network interface associated with the NAT gateway.

Type: Array of NatGatewayAddress objects

Required: No

natGatewayId

The ID of the NAT gateway.

Type: String

Required: No

provisionedBandwidth

Reserved. If you need to sustain traffic greater than the documented limits, contact us through the Support Center.

Type: ProvisionedBandwidth object
state

The state of the NAT gateway.

- **pending**: The NAT gateway is being created and is not ready to process traffic.
- **failed**: The NAT gateway could not be created. Check the `failureCode` and `failureMessage` fields for the reason.
- **available**: The NAT gateway is able to process traffic. This status remains until you delete the NAT gateway, and does not indicate the health of the NAT gateway.
- **deleting**: The NAT gateway is in the process of being terminated and may still be processing traffic.
- **deleted**: The NAT gateway has been terminated and is no longer processing traffic.

Type: String

Valid Values: pending | failed | available | deleting | deleted

Required: No

subnetId

The ID of the subnet in which the NAT gateway is located.

Type: String

Required: No

tagSet

The tags for the NAT gateway.

Type: Array of [Tag](#) objects

Required: No

vpcId

The ID of the VPC in which the NAT gateway is located.

Type: String

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
NatGatewayAddress

Describes the IP addresses and network interface associated with a NAT gateway.

Contents

allocationId

[Public NAT gateway only] The allocation ID of the Elastic IP address that's associated with the NAT gateway.

Type: String

Required: No

associationId

[Public NAT gateway only] The association ID of the Elastic IP address that's associated with the NAT gateway.

Type: String

Required: No

failureMessage

The address failure message.

Type: String

Required: No

isPrimary

Defines if the IP address is the primary address.

Type: Boolean

Required: No

networkInterfaceId

The ID of the network interface associated with the NAT gateway.

Type: String
Required: No

**privateIp**

The private IP address associated with the NAT gateway.

Type: String

Required: No

**publicIp**

[Public NAT gateway only] The Elastic IP address associated with the NAT gateway.

Type: String

Required: No

**status**

The address status.

Type: String

Valid Values: assigning | unassigning | associating | disassociating | succeeded | failed

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://aws.amazon.com/sdk-for-go/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)
NetworkAcl

Describes a network ACL.

Contents

associationSet

Any associations between the network ACL and one or more subnets

Type: Array of NetworkAclAssociation objects

Required: No

default

Indicates whether this is the default network ACL for the VPC.

Type: Boolean

Required: No

everSet

The entries (rules) in the network ACL.

Type: Array of NetworkAclEntry objects

Required: No

networkAclId

The ID of the network ACL.

Type: String

Required: No

ownerId

The ID of the AWS account that owns the network ACL.

Type: String

Required: No
tagSet

Any tags assigned to the network ACL.

Type: Array of Tag objects

Required: No

vpcId

The ID of the VPC for the network ACL.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://docs.aws.amazon.com/sdk-for-cpp/v1/developer-guide/api-reference.html)
- [AWS SDK for Go](https://docs.aws.amazon.com/sdkforgen/go/api/gorefact.html)
- [AWS SDK for Java V2](https://docs.aws.amazon.com/java-sdk/latest/userguide/)
- [AWS SDK for Ruby V3](https://docs.aws.amazon.com/sdkforgen/ruby/api.html)
NetworkAclAssociation

Describes an association between a network ACL and a subnet.

Contents

networkAclAssociationId

The ID of the association between a network ACL and a subnet.

Type: String

Required: No

networkAclId

The ID of the network ACL.

Type: String

Required: No

subnetId

The ID of the subnet.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
NetworkAclEntry

Describes an entry in a network ACL.

Contents

cidrBlock

The IPv4 network range to allow or deny, in CIDR notation.

Type: String

Required: No

egress

Indicates whether the rule is an egress rule (applied to traffic leaving the subnet).

Type: Boolean

Required: No

icmpTypeCode

ICMP protocol: The ICMP type and code.

Type: ICMPTypeCode object

Required: No

ipv6CidrBlock

The IPv6 network range to allow or deny, in CIDR notation.

Type: String

Required: No

portRange

TCP or UDP protocols: The range of ports the rule applies to.

Type: PortRange object

Required: No
protocol

The protocol number. A value of "-1" means all protocols.

Type: String

Required: No

ruleAction

Indicates whether to allow or deny the traffic that matches the rule.

Type: String

Valid Values: allow | deny

Required: No

ruleNumber

The rule number for the entry. ACL entries are processed in ascending order by rule number.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
NetworkBandwidthGbps

The minimum and maximum amount of network bandwidth, in gigabits per second (Gbps).

Note

Setting the minimum bandwidth does not guarantee that your instance will achieve the minimum bandwidth. Amazon EC2 will identify instance types that support the specified minimum bandwidth, but the actual bandwidth of your instance might go below the specified minimum at times. For more information, see Available instance bandwidth in the Amazon EC2 User Guide.

Contents

Max (request), max (response)

The maximum amount of network bandwidth, in Gbps. If this parameter is not specified, there is no maximum limit.

Type: Double

Required: No

Min (request), min (response)

The minimum amount of network bandwidth, in Gbps. If this parameter is not specified, there is no minimum limit.

Type: Double

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
NetworkBandwidthGbpsRequest

The minimum and maximum amount of network bandwidth, in gigabits per second (Gbps).

Note

Setting the minimum bandwidth does not guarantee that your instance will achieve the minimum bandwidth. Amazon EC2 will identify instance types that support the specified minimum bandwidth, but the actual bandwidth of your instance might go below the specified minimum at times. For more information, see Available instance bandwidth in the Amazon EC2 User Guide.

Contents

Max

The maximum amount of network bandwidth, in Gbps. To specify no maximum limit, omit this parameter.

Type: Double

Required: No

Min

The minimum amount of network bandwidth, in Gbps. To specify no minimum limit, omit this parameter.

Type: Double

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
• AWS SDK for Java V2
• AWS SDK for Ruby V3
NetworkCardInfo

Describes the network card support of the instance type.

Contents

baselineBandwidthInGbps

The baseline network performance of the network card, in Gbps.

Type: Double

Required: No

maximumNetworkInterfaces

The maximum number of network interfaces for the network card.

Type: Integer

Required: No

networkCardIndex

The index of the network card.

Type: Integer

Required: No

networkPerformance

The network performance of the network card.

Type: String

Required: No

peakBandwidthInGbps

The peak (burst) network performance of the network card, in Gbps.

Type: Double

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
NetworkInfo

Describes the networking features of the instance type.

Contents

**defaultNetworkCardIndex**

The index of the default network card, starting at 0.

Type: Integer

Required: No

**efaInfo**

Describes the Elastic Fabric Adapters for the instance type.

Type: [EfaInfo](#) object

Required: No

**efaSupported**

Indicates whether Elastic Fabric Adapter (EFA) is supported.

Type: Boolean

Required: No

**enaSrdSupported**

Indicates whether the instance type supports ENA Express. ENA Express uses AWS Scalable Reliable Datagram (SRD) technology to increase the maximum bandwidth used per stream and minimize tail latency of network traffic between EC2 instances.

Type: Boolean

Required: No

**enaSupport**

Indicates whether Elastic Network Adapter (ENA) is supported.

Type: String
Valid Values: unsupported | supported | required

Required: No

**encryptionInTransitSupported**

Indicates whether the instance type automatically encrypts in-transit traffic between instances.

Type: Boolean

Required: No

**ipv4AddressesPerInterface**

The maximum number of IPv4 addresses per network interface.

Type: Integer

Required: No

**ipv6AddressesPerInterface**

The maximum number of IPv6 addresses per network interface.

Type: Integer

Required: No

**ipv6Supported**

Indicates whether IPv6 is supported.

Type: Boolean

Required: No

**maximumNetworkCards**

The maximum number of physical network cards that can be allocated to the instance.

Type: Integer

Required: No

**maximumNetworkInterfaces**

The maximum number of network interfaces for the instance type.
Type: Integer
Required: No

**networkCards**

Describes the network cards for the instance type.

Type: Array of [NetworkCardInfo](#) objects

Required: No

**networkPerformance**

The network performance.

Type: String

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
NetworkInsightsAccessScope

Describes a Network Access Scope.

Contents

createdDate

The creation date.

Type: Timestamp

Required: No

networkInsightsAccessScopeArn

The Amazon Resource Name (ARN) of the Network Access Scope.

Type: String


Required: No

networkInsightsAccessScopeId

The ID of the Network Access Scope.

Type: String

Required: No

tagSet

The tags.

Type: Array of Tag objects

Required: No

updatedDate

The last updated date.

Type: Timestamp
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
NetworkInsightsAccessScopeAnalysis

Describes a Network Access Scope analysis.

Contents

analyzedEniCount

The number of network interfaces analyzed.

Type: Integer

Required: No

endDate

The analysis end date.

Type: Timestamp

Required: No

findingsFound

Indicates whether there are findings.

Type: String

Valid Values: true | false | unknown

Required: No

networkInsightsAccessScopeAnalysisArn

The Amazon Resource Name (ARN) of the Network Access Scope analysis.

Type: String


Required: No

networkInsightsAccessScopeAnalysisId

The ID of the Network Access Scope analysis.
networkInsightsAccessScopeId

The ID of the Network Access Scope.

Type: String

Required: No

startDate

The analysis start date.

Type: Timestamp

Required: No

status

The status.

Type: String

Valid Values: running | succeeded | failed

Required: No

statusMessage

The status message.

Type: String

Required: No

tagSet

The tags.

Type: Array of Tag objects

Required: No

warningMessage

The warning message.
Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
NetworkInsightsAccessScopeContent

Describes the Network Access Scope content.

Contents

excludePathSet

The paths to exclude.

Type: Array of AccessScopePath objects

Required: No

matchPathSet

The paths to match.

Type: Array of AccessScopePath objects

Required: No

networkInsightsAccessScopeId

The ID of the Network Access Scope.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
NetworkInsightsAnalysis

Describes a network insights analysis.

Contents

additionalAccountSet

The member accounts that contain resources that the path can traverse.

Type: Array of strings

Required: No

alternatePathHintSet

Potential intermediate components.

Type: Array of AlternatePathHint objects

Required: No

explanationSet

The explanations. For more information, see Reachability Analyzer explanation codes.

Type: Array of Explanation objects

Required: No

filterInArnSet

The Amazon Resource Names (ARN) of the resources that the path must traverse.

Type: Array of strings


Required: No

forwardPathComponentSet

The components in the path from source to destination.

Type: Array of PathComponent objects
networkInsightsArn

The Amazon Resource Name (ARN) of the network insights analysis.

Type: String


Required: No

networkInsightsAnalysisId

The ID of the network insights analysis.

Type: String

Required: No

networkInsightsPathId

The ID of the path.

Type: String

Required: No

networkPathFound

Indicates whether the destination is reachable from the source.

Type: Boolean

Required: No

returnPathComponentSet

The components in the path from destination to source.

Type: Array of PathComponent objects

Required: No

startDate

The time the analysis started.
Type: Timestamp
Required: No

**status**

The status of the network insights analysis.

Type: String

Valid Values: running | succeeded | failed

Required: No

**statusMessage**

The status message, if the status is failed.

Type: String

Required: No

**suggestedAccountSet**

Potential intermediate accounts.

Type: Array of strings

Required: No

**tagSet**

The tags.

Type: Array of Tag objects

Required: No

**warningMessage**

The warning message.

Type: String

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp)
- [AWS SDK for Go](https://aws.amazon.com/sdk-for-go)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby)
NetworkInsightsPath

Describes a path.

Contents

createdDate

The time stamp when the path was created.

Type: Timestamp

Required: No

destination

The ID of the destination.

Type: String

Required: No

destinationArn

The Amazon Resource Name (ARN) of the destination.

Type: String


Required: No

destinationIp

The IP address of the destination.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 15.

Pattern: ^([0-9]{1,3}\.){3}[0-9]{1,3}$

Required: No

destinationPort

The destination port.
**Type**: Integer  
**Required**: No

**filterAtDestination**

Scopes the analysis to network paths that match specific filters at the destination.

**Type**: [PathFilter](#) object  
**Required**: No

**filterAtSource**

Scopes the analysis to network paths that match specific filters at the source.

**Type**: [PathFilter](#) object  
**Required**: No

**networkInsightsPathArn**

The Amazon Resource Name (ARN) of the path.

**Type**: String  
**Length Constraints**: Minimum length of 1. Maximum length of 1283.  
**Required**: No

**networkInsightsPathId**

The ID of the path.

**Type**: String  
**Required**: No

**protocol**

The protocol.

**Type**: String  
**Valid Values**: tcp | udp  
**Required**: No
source

The ID of the source.

Type: String

Required: No

sourceArn

The Amazon Resource Name (ARN) of the source.

Type: String


Required: No

sourceIp

The IP address of the source.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 15.

Pattern: ^([0-9]{1,3}.){3}[0-9]{1,3}$

Required: No

tagSet

The tags associated with the path.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for Ruby V3**
NetworkInterface

Describes a network interface.

Contents

**association**

The association information for an Elastic IP address (IPv4) associated with the network interface.

Type: [NetworkInterfaceAssociation](#) object

Required: No

**attachment**

The network interface attachment.

Type: [NetworkInterfaceAttachment](#) object

Required: No

**availabilityZone**

The Availability Zone.

Type: String

Required: No

**connectionTrackingConfiguration**

A security group connection tracking configuration that enables you to set the timeout for connection tracking on an Elastic network interface. For more information, see [Connection tracking timeouts](#) in the *Amazon Elastic Compute Cloud User Guide*.

Type: [ConnectionTrackingConfiguration](#) object

Required: No

**denyAllIgwTraffic**

Indicates whether a network interface with an IPv6 address is unreachable from the public internet. If the value is `true`, inbound traffic from the internet is dropped and you cannot...
assign an elastic IP address to the network interface. The network interface is reachable from peered VPCs and resources connected through a transit gateway, including on-premises networks.

Type: Boolean

Required: No

description

A description.

Type: String

Required: No

groupSet

Any security groups for the network interface.

Type: Array of GroupIdentifier objects

Required: No

interfaceType

The type of network interface.

Type: String

Valid Values: api_gateway_managed | aws_codestar_connections_managed | branch | ec2_instance_connect_endpoint | efa | efs | gateway_load_balancer | gateway_load_balancer_endpoint | global_accelerator_managed | interface | iot_rules_managed | lambda | load_balancer | nat_gateway | network_load_balancer | quicksight | transit_gateway | trunk | vpc_endpoint

Required: No

ipv4PrefixSet

The IPv4 prefixes that are assigned to the network interface.

Type: Array of Ipv4PrefixSpecification objects
**ipv6Address**

The IPv6 globally unique address associated with the network interface.

Type: String

Required: No

**ipv6AddressesSet**

The IPv6 addresses associated with the network interface.

Type: Array of [NetworkInterfaceIpv6Address](#) objects

Required: No

**ipv6Native**

Indicates whether this is an IPv6 only network interface.

Type: Boolean

Required: No

**ipv6PrefixSet**

The IPv6 prefixes that are assigned to the network interface.

Type: Array of [Ipv6PrefixSpecification](#) objects

Required: No

**macAddress**

The MAC address.

Type: String

Required: No

**networkInterfaceId**

The ID of the network interface.

Type: String
outpostArn
The Amazon Resource Name (ARN) of the Outpost.
Type: String
Required: No

ownerId
The AWS account ID of the owner of the network interface.
Type: String
Required: No

privateDnsName
The private DNS name.
Type: String
Required: No

privateIpAddress
The IPv4 address of the network interface within the subnet.
Type: String
Required: No

privateIpAddressesSet
The private IPv4 addresses associated with the network interface.
Type: Array of NetworkInterfacePrivateIpAddress objects
Required: No

requesterId
The alias or AWS account ID of the principal or service that created the network interface.
Type: String
Required: No

**requesterManaged**

Indicates whether the network interface is being managed by AWS.

Type: Boolean

Required: No

**sourceDestCheck**

Indicates whether source/destination checking is enabled.

Type: Boolean

Required: No

**status**

The status of the network interface.

Type: String

Valid Values: available | associated | attaching | in-use | detaching

Required: No

**subnetId**

The ID of the subnet.

Type: String

Required: No

**tagSet**

Any tags assigned to the network interface.

Type: Array of [Tag](#) objects

Required: No

**vpcId**

The ID of the VPC.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
NetworkInterfaceAssociation

Describes association information for an Elastic IP address (IPv4 only), or a Carrier IP address (for a network interface which resides in a subnet in a Wavelength Zone).

Contents

allocationId

The allocation ID.

Type: String

Required: No

associationId

The association ID.

Type: String

Required: No

carrierIp

The carrier IP address associated with the network interface.

This option is only available when the network interface is in a subnet which is associated with a Wavelength Zone.

Type: String

Required: No

customerOwnedIp

The customer-owned IP address associated with the network interface.

Type: String

Required: No

ipOwnerId

The ID of the Elastic IP address owner.
Type: String
Required: No

**publicDnsName**

The public DNS name.

Type: String
Required: No

**publicIp**

The address of the Elastic IP address bound to the network interface.

Type: String
Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](aws-sdk-cpp)
- [AWS SDK for Go](aws-sdk-go)
- [AWS SDK for Java V2](aws-sdk-java-v2)
- [AWS SDK for Ruby V3](aws-sdk-ruby-v3)
NetworkInterfaceAttachment

Describes a network interface attachment.

Contents

attachmentId

The ID of the network interface attachment.

Type: String

Required: No

attachTime

The timestamp indicating when the attachment initiated.

Type: Timestamp

Required: No

deleteOnTermination

Indicates whether the network interface is deleted when the instance is terminated.

Type: Boolean

Required: No

deviceIndex

The device index of the network interface attachment on the instance.

Type: Integer

Required: No

enaSrdSpecification

Configures ENA Express for the network interface that this action attaches to the instance.

Type: AttachmentEnaSrdSpecification object

Required: No
instanceId

The ID of the instance.

Type: String

Required: No

instanceOwnerId

The AWS account ID of the owner of the instance.

Type: String

Required: No

networkCardIndex

The index of the network card.

Type: Integer

Required: No

status

The attachment state.

Type: String

Valid Values: attaching | attached | detaching | detached

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
NetworkInterfaceAttachmentChanges

Describes an attachment change.

Contents

AttachmentId

The ID of the network interface attachment.

Type: String

Required: No

DeleteOnTermination

Indicates whether the network interface is deleted when the instance is terminated.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
NetworkInterfaceCount

The minimum and maximum number of network interfaces.

Contents

**Max** (request), **max** (response)

The maximum number of network interfaces. If this parameter is not specified, there is no maximum limit.

Type: Integer

Required: No

**Min** (request), **min** (response)

The minimum number of network interfaces. If this parameter is not specified, there is no minimum limit.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
NetworkInterfaceCountRequest

The minimum and maximum number of network interfaces.

Contents

Max

The maximum number of network interfaces. To specify no maximum limit, omit this parameter.

Type: Integer

Required: No

Min

The minimum number of network interfaces. To specify no minimum limit, omit this parameter.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
NetworkInterfaceIpv6Address

Describes an IPv6 address associated with a network interface.

Contents

ipv6Address

The IPv6 address.

Type: String

Required: No

isPrimaryIpv6

Determines if an IPv6 address associated with a network interface is the primary IPv6 address. When you enable an IPv6 GUA address to be a primary IPv6, the first IPv6 GUA will be made the primary IPv6 address until the instance is terminated or the network interface is detached. For more information, see ModifyNetworkInterfaceAttribute.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
NetworkInterfacePermission

Describes a permission for a network interface.

Contents

awsAccountId

The AWS account ID.

Type: String

Required: No

awsService

The AWS service.

Type: String

Required: No

networkInterfaceId

The ID of the network interface.

Type: String

Required: No

networkInterfacePermissionId

The ID of the network interface permission.

Type: String

Required: No

permission

The type of permission.

Type: String

Valid Values: INSTANCE-ATTACH | EIP-ASSOCIATE
Required: No

**permissionState**

Information about the state of the permission.

Type: [NetworkInterfacePermissionState](#) object

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
NetworkInterfacePermissionState

Describes the state of a network interface permission.

Contents

state

The state of the permission.

Type: String

Valid Values: pending | granted | revoking | revoked

Required: No

statusMessage

A status message, if applicable.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
NetworkInterfacePrivateIpAddress

Describes the private IPv4 address of a network interface.

Contents

association

The association information for an Elastic IP address (IPv4) associated with the network interface.

Type: NetworkInterfaceAssociation object

Required: No

primary

Indicates whether this IPv4 address is the primary private IPv4 address of the network interface.

Type: Boolean

Required: No

privateDnsName

The private DNS name.

Type: String

Required: No

privateIpAddress

The private IPv4 address.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
NewDhcpConfiguration

Contents

Key

Type: String

Required: No

Values

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
NitroTpmInfo

Describes the supported NitroTPM versions for the instance type.

Contents

supportedVersions

Indicates the supported NitroTPM versions.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
OidcOptions

Describes the options for an OpenID Connect-compatible user-identity trust provider.

Contents

authorizationEndpoint

The OIDC authorization endpoint.

Type: String

Required: No

clientId

The client identifier.

Type: String

Required: No

clientSecret

The client secret.

Type: String

Required: No

issuer

The OIDC issuer.

Type: String

Required: No

scope

The OpenID Connect (OIDC) scope specified.

Type: String

Required: No
tokenEndpoint

The OIDC token endpoint.

Type: String

Required: No

userInfoEndpoint

The OIDC user info endpoint.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/c++)
- [AWS SDK for Go](https://aws.amazon.com/go)
- [AWS SDK for Java V2](https://aws.amazon.com/java)
- [AWS SDK for Ruby V3](https://aws.amazon.com/ruby)
OnDemandOptions

Describes the configuration of On-Demand Instances in an EC2 Fleet.

Contents

allocationStrategy

The strategy that determines the order of the launch template overrides to use in fulfilling On-Demand capacity.

lowest-price - EC2 Fleet uses price to determine the order, launching the lowest price first.

prioritized - EC2 Fleet uses the priority that you assigned to each launch template override, launching the highest priority first.

Default: lowest-price

Type: String

Valid Values: lowest-price | prioritized

Required: No

capacityReservationOptions

The strategy for using unused Capacity Reservations for fulfilling On-Demand capacity.

Supported only for fleets of type instant.

Type: CapacityReservationOptions object

Required: No

maxTotalPrice

The maximum amount per hour for On-Demand Instances that you're willing to pay.

Note

If your fleet includes T instances that are configured as unlimited, and if their average CPU usage exceeds the baseline utilization, you will incur a charge for surplus credits.
The `maxTotalPrice` does not account for surplus credits, and, if you use surplus credits, your final cost might be higher than what you specified for `maxTotalPrice`. For more information, see [Surplus credits can incur charges](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/EC2_User_Guide.html) in the *EC2 User Guide*.

**Type**: String  
**Required**: No

### `minTargetCapacity`

The minimum target capacity for On-Demand Instances in the fleet. If the minimum target capacity is not reached, the fleet launches no instances.

Supported only for fleets of type `instant`.

At least one of the following must be specified: `SingleAvailabilityZone` | `SingleInstanceType`

**Type**: Integer  
**Required**: No

### `singleAvailabilityZone`

Indicates that the fleet launches all On-Demand Instances into a single Availability Zone.

Supported only for fleets of type `instant`.

**Type**: Boolean  
**Required**: No

### `singleInstanceType`

Indicates that the fleet uses a single instance type to launch all On-Demand Instances in the fleet.

Supported only for fleets of type `instant`.

**Type**: Boolean  
**Required**: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
OnDemandOptionsRequest

Describes the configuration of On-Demand Instances in an EC2 Fleet.

Contents

AllocationStrategy

The strategy that determines the order of the launch template overrides to use in fulfilling On-Demand capacity.

lowest-price - EC2 Fleet uses price to determine the order, launching the lowest price first.

prioritized - EC2 Fleet uses the priority that you assigned to each launch template override, launching the highest priority first.

Default: lowest-price

Type: String

Valid Values: lowest-price | prioritized

Required: No

CapacityReservationOptions

The strategy for using unused Capacity Reservations for fulfilling On-Demand capacity.

Supported only for fleets of type instant.

Type: CapacityReservationOptionsRequest object

Required: No

MaxTotalPrice

The maximum amount per hour for On-Demand Instances that you're willing to pay.

Note

If your fleet includes T instances that are configured as unlimited, and if their average CPU usage exceeds the baseline utilization, you will incur a charge for surplus credits.
The `MaxTotalPrice` does not account for surplus credits, and, if you use surplus credits, your final cost might be higher than what you specified for `MaxTotalPrice`. For more information, see [Surplus credits can incur charges](#) in the EC2 User Guide.

**Type**: String  
**Required**: No

**MinTargetCapacity**

The minimum target capacity for On-Demand Instances in the fleet. If the minimum target capacity is not reached, the fleet launches no instances.

Supported only for fleets of type `instant`.

At least one of the following must be specified: `SingleAvailabilityZone` | `SingleInstanceType`

**Type**: Integer  
**Required**: No

**SingleAvailabilityZone**

Indicates that the fleet launches all On-Demand Instances into a single Availability Zone.

Supported only for fleets of type `instant`.

**Type**: Boolean  
**Required**: No

**SingleInstanceType**

Indicates that the fleet uses a single instance type to launch all On-Demand Instances in the fleet.

Supported only for fleets of type `instant`.

**Type**: Boolean  
**Required**: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
PacketHeaderStatement

Describes a packet header statement.

Contents

destinationAddressSet

The destination addresses.

Type: Array of strings

Required: No

destinationPortSet

The destination ports.

Type: Array of strings

Required: No

destinationPrefixListSet

The destination prefix lists.

Type: Array of strings

Required: No

protocolSet

The protocols.

Type: Array of strings

Valid Values: tcp | udp

Required: No

sourceAddressSet

The source addresses.

Type: Array of strings
Required: No

**sourcePortSet**

The source ports.

Type: Array of strings

Required: No

**sourcePrefixListSet**

The source prefix lists.

Type: Array of strings

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws-sdk.github.io/aws-sdk-cpp)
- [AWS SDK for Go](https://github.com/aws/aws-sdk-go)
- [AWS SDK for Java V2](https://github.com/aws/aws-sdk-java)
- [AWS SDK for Ruby V3](https://github.com/aws/aws-sdk-ruby)
PacketHeaderStatementRequest

Describes a packet header statement.

Contents

**DestinationAddresses**

The destination addresses.

Type: Array of strings

Required: No

**DestinationPorts**

The destination ports.

Type: Array of strings

Required: No

**DestinationPrefixLists**

The destination prefix lists.

Type: Array of strings

Required: No

**Protocols**

The protocols.

Type: Array of strings

Valid Values: tcp | udp

Required: No

**SourceAddresses**

The source addresses.

Type: Array of strings
Required: No

**SourcePorts**

The source ports.

Type: Array of strings

Required: No

**SourcePrefixLists**

The source prefix lists.

Type: Array of strings

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
PathComponent

Describes a path component.

Contents

aclRule

The network ACL rule.

Type: AnalysisAclRule object

Required: No

additionalDetailSet

The additional details.

Type: Array of AdditionalDetail objects

Required: No

attachedTo

The resource to which the path component is attached.

Type: AnalysisComponent object

Required: No

tComponent

The component.

Type: AnalysisComponent object

Required: No

destinationVpc

The destination VPC.

Type: AnalysisComponent object

Required: No
elasticLoadBalancerListener

The load balancer listener.

Type: **AnalysisComponent** object

Required: No

explanationSet

The explanation codes.

Type: Array of **Explanation** objects

Required: No

firewallStatefulRule

The Network Firewall stateful rule.

Type: **FirewallStatefulRule** object

Required: No

firewallStatelessRule

The Network Firewall stateless rule.

Type: **FirewallStatelessRule** object

Required: No

inboundHeader

The inbound header.

Type: **AnalysisPacketHeader** object

Required: No

outboundHeader

The outbound header.

Type: **AnalysisPacketHeader** object

Required: No
routeTableRoute

The route table route.

Type: `AnalysisRouteTableRoute` object

Required: No

securityGroupRule

The security group rule.

Type: `AnalysisSecurityGroupRule` object

Required: No

sequenceNumber

The sequence number.

Type: Integer

Required: No

serviceName

The name of the VPC endpoint service.

Type: String

Required: No

sourceVpc

The source VPC.

Type: `AnalysisComponent` object

Required: No

subnet

The subnet.

Type: `AnalysisComponent` object

Required: No
transitGateway

The transit gateway.

Type: `AnalysisComponent` object

Required: No

transitGatewayRouteTableRoute

The route in a transit gateway route table.

Type: `TransitGatewayRouteTableRoute` object

Required: No

vpc

The component VPC.

Type: `AnalysisComponent` object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
PathFilter

Describes a set of filters for a path analysis. Use path filters to scope the analysis when there can be multiple resulting paths.

Contents

destinationAddress

The destination IPv4 address.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 15.

Pattern: `^([0-9]{1,3}\.){3}[0-9]{1,3}$`

Required: No

destinationPortRange

The destination port range.

Type: `FilterPortRange` object

Required: No

sourceAddress

The source IPv4 address.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 15.

Pattern: `^([0-9]{1,3}\.){3}[0-9]{1,3}$`

Required: No

sourcePortRange

The source port range.

Type: `FilterPortRange` object
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
PathRequestFilter

Describes a set of filters for a path analysis. Use path filters to scope the analysis when there can be multiple resulting paths.

Contents

DestinationAddress

The destination IPv4 address.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 15.

Pattern: ^([0-9]{1,3}\.)\{3\}[0-9]{1,3}$

Required: No

DestinationPortRange

The destination port range.

Type: RequestFilterPortRange object

Required: No

SourceAddress

The source IPv4 address.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 15.

Pattern: ^([0-9]{1,3}\.)\{3\}[0-9]{1,3}$

Required: No

SourcePortRange

The source port range.

Type: RequestFilterPortRange object
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
PathStatement

Describes a path statement.

Contents

packetHeaderStatement

The packet header statement.

Type: PacketHeaderStatement object

Required: No

resourceStatement

The resource statement.

Type: ResourceStatement object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PathStatementRequest

Describes a path statement.

Contents

PacketHeaderStatement

The packet header statement.

Type: PacketHeaderStatementRequest object

Required: No

ResourceStatement

The resource statement.

Type: ResourceStatementRequest object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PcId

Describes the data that identifies an Amazon FPGA image (AFI) on the PCI bus.

Contents

DeviceId

The ID of the device.

Type: String

Required: No

SubsystemId

The ID of the subsystem.

Type: String

Required: No

SubsystemVendorId

The ID of the vendor for the subsystem.

Type: String

Required: No

VendorId

The ID of the vendor.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for Ruby V3**
PeeringAttachmentStatus

The status of the transit gateway peering attachment.

Contents

code

The status code.

Type: String

Required: No

message

The status message, if applicable.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PeeringConnectionOptions

Describes the VPC peering connection options.

Contents

allowDnsResolutionFromRemoteVpc

If true, the public DNS hostnames of instances in the specified VPC resolve to private IP addresses when queried from instances in the peer VPC.

Type: Boolean

Required: No

allowEgressFromLocalClassicLinkToRemoteVpc

Deprecated.

Type: Boolean

Required: No

allowEgressFromLocalVpcToRemoteClassicLink

Deprecated.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PeeringConnectionOptionsRequest

The VPC peering connection options.

Contents

AllowDnsResolutionFromRemoteVpc

If true, enables a local VPC to resolve public DNS hostnames to private IP addresses when queried from instances in the peer VPC.

Type: Boolean

Required: No

AllowEgressFromLocalClassicLinkToRemoteVpc

Deprecated.

Type: Boolean

Required: No

AllowEgressFromLocalVpcToRemoteClassicLink

Deprecated.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
### PeeringTgwInfo

Information about the transit gateway in the peering attachment.

#### Contents

**coreNetworkId**

The ID of the core network where the transit gateway peer is located.

Type: String

Required: No

**ownerId**

The ID of the AWS account that owns the transit gateway.

Type: String

Required: No

**region**

The Region of the transit gateway.

Type: String

Required: No

**transitGatewayId**

The ID of the transit gateway.

Type: String

Required: No

#### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for Ruby V3**
Phase1DHGroupNumbersListValue

The Diffie-Hellmann group number for phase 1 IKE negotiations.

Contents

value

The Diffie-Hellmann group number.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Phase1DHGroupNumbersRequestListValue

Specifies a Diffie-Hellman group number for the VPN tunnel for phase 1 IKE negotiations.

Contents

Value

The Diffie-Hellmann group number.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Phase1EncryptionAlgorithmsListValue

The encryption algorithm for phase 1 IKE negotiations.

Contents

value

The value for the encryption algorithm.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Phase1EncryptionAlgorithmsRequestListValue

Specifies the encryption algorithm for the VPN tunnel for phase 1 IKE negotiations.

Contents

Value

The value for the encryption algorithm.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Phase1IntegrityAlgorithmsListValue

The integrity algorithm for phase 1 IKE negotiations.

Contents

value

The value for the integrity algorithm.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Phase1IntegrityAlgorithmsRequestListValue

Specifies the integrity algorithm for the VPN tunnel for phase 1 IKE negotiations.

Contents

Value

  The value for the integrity algorithm.

  Type: String

  Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
Phase2DHGroupNumbersListValue

The Diffie-Hellmann group number for phase 2 IKE negotiations.

Contents

value

The Diffie-Hellmann group number.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Phase2DHGroupNumbersRequestListValue

Specifies a Diffie-Hellman group number for the VPN tunnel for phase 2 IKE negotiations.

Contents

Value

The Diffie-Hellmann group number.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Phase2EncryptionAlgorithmsListValue

The encryption algorithm for phase 2 IKE negotiations.

Contents

value

The encryption algorithm.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Phase2EncryptionAlgorithmsRequestListValue

Specifies the encryption algorithm for the VPN tunnel for phase 2 IKE negotiations.

Contents

Value

The encryption algorithm.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Phase2IntegrityAlgorithmsListValue

The integrity algorithm for phase 2 IKE negotiations.

Contents

value

The integrity algorithm.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Phase2IntegrityAlgorithmsRequestListValue

Specifies the integrity algorithm for the VPN tunnel for phase 2 IKE negotiations.

Contents

Value

The integrity algorithm.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
**Placement**

Describes the placement of an instance.

**Contents**

**Affinity** (request), **affinity** (response)

The affinity setting for the instance on the Dedicated Host.

This parameter is not supported for `CreateFleet` or `ImportInstance`.

Type: String  
Required: No

**AvailabilityZone** (request), **availabilityZone** (response)

The Availability Zone of the instance.

If not specified, an Availability Zone will be automatically chosen for you based on the load balancing criteria for the Region.

This parameter is not supported for `CreateFleet`.

Type: String  
Required: No

**GroupId** (request), **groupId** (response)

The ID of the placement group that the instance is in. If you specify GroupId, you can't specify GroupName.

Type: String  
Required: No

**GroupName** (request), **groupName** (response)

The name of the placement group that the instance is in. If you specify GroupName, you can't specify GroupId.

Type: String
HostId (request), hostId (response)

The ID of the Dedicated Host on which the instance resides.

This parameter is not supported for CreateFleet or ImportInstance.

Type: String

Required: No

HostResourceGroupArn (request), hostResourceGroupArn (response)

The ARN of the host resource group in which to launch the instances.

If you specify this parameter, either omit the Tenancy parameter or set it to host.

This parameter is not supported for CreateFleet.

Type: String

Required: No

PartitionNumber (request), partitionNumber (response)

The number of the partition that the instance is in. Valid only if the placement group strategy is set to partition.

This parameter is not supported for CreateFleet.

Type: Integer

Required: No

SpreadDomain (request), spreadDomain (response)

Reserved for future use.

Type: String

Required: No

Tenancy (request), tenancy (response)

The tenancy of the instance. An instance with a tenancy of dedicated runs on single-tenant hardware.
This parameter is not supported for CreateFleet. The host tenancy is not supported for ImportInstance or for T3 instances that are configured for the unlimited CPU credit option.

Type: String

Valid Values: default | dedicated | host

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PlacementGroup

Describes a placement group.

Contents

groupArn

The Amazon Resource Name (ARN) of the placement group.

Type: String

Required: No

groupId

The ID of the placement group.

Type: String

Required: No

groupName

The name of the placement group.

Type: String

Required: No

partitionCount

The number of partitions. Valid only if strategy is set to partition.

Type: Integer

Required: No

spreadLevel

The spread level for the placement group. Only Outpost placement groups can be spread across hosts.

Type: String

Valid Values: host | rack
Required: No

**state**

The state of the placement group.

Type: String

Valid Values: pending | available | deleting | deleted

Required: No

**strategy**

The placement strategy.

Type: String

Valid Values: cluster | spread | partition

Required: No

**tagSet**

Any tags applied to the placement group.

Type: Array of Tag objects

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
PlacementGroupInfo

Describes the placement group support of the instance type.

Contents

supportedStrategies

The supported placement group types.

Type: Array of strings

Valid Values: cluster | partition | spread

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PlacementResponse

Describes the placement of an instance.

Contents

groupName

The name of the placement group that the instance is in.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PoolCidrBlock

Describes a CIDR block for an address pool.

Contents

poolCidrBlock

The CIDR block.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PortRange

Describes a range of ports.

Contents

From (request), from (response)

The first port in the range.

Type: Integer

Required: No

To (request), to (response)

The last port in the range.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PrefixList

Describes prefixes for AWS services.

Contents

cidrSet

The IP address range of the AWS service.

Type: Array of strings

Required: No

prefixListId

The ID of the prefix.

Type: String

Required: No

prefixListName

The name of the prefix.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PrefixListAssociation

Describes the resource with which a prefix list is associated.

Contents

resourceId

The ID of the resource.

Type: String

Required: No

resourceOwner

The owner of the resource.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PrefixListEntry

Describes a prefix list entry.

Contents

cidr

The CIDR block.

Type: String

Required: No

description

The description.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PrefixListId

Describes a prefix list ID.

Contents

**Description** *(request)*, **description** *(response)*

A description for the security group rule that references this prefix list ID.

Constraints: Up to 255 characters in length. Allowed characters are a-z, A-Z, 0-9, spaces, and .-:/()#,@[*]

Type: String

Required: No

**PrefixListId** *(request)*, **prefixListId** *(response)*

The ID of the prefix.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
PriceSchedule

Describes the price for a Reserved Instance.

Contents

active

The current price schedule, as determined by the term remaining for the Reserved Instance in the listing.

A specific price schedule is always in effect, but only one price schedule can be active at any time. Take, for example, a Reserved Instance listing that has five months remaining in its term. When you specify price schedules for five months and two months, this means that schedule 1, covering the first three months of the remaining term, will be active during months 5, 4, and 3. Then schedule 2, covering the last two months of the term, will be active for months 2 and 1.

Type: Boolean

Required: No

currencyCode

The currency for transacting the Reserved Instance resale. At this time, the only supported currency is USD.

Type: String

Valid Values: USD

Required: No

price

The fixed price for the term.

Type: Double

Required: No

term

The number of months remaining in the reservation. For example, 2 is the second to the last month before the capacity reservation expires.
Type: Long

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
PriceScheduleSpecification

Describes the price for a Reserved Instance.

Contents

CurrencyCode

The currency for transacting the Reserved Instance resale. At this time, the only supported currency is USD.

Type: String

Valid Values: USD

Required: No

Price

The fixed price for the term.

Type: Double

Required: No

Term

The number of months remaining in the reservation. For example, 2 is the second to the last month before the capacity reservation expires.

Type: Long

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
• AWS SDK for Ruby V3
PricingDetail

Describes a Reserved Instance offering.

Contents

count

The number of reservations available for the price.

Type: Integer

Required: No

price

The price per instance.

Type: Double

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PrincipalIdFormat

PrincipalIdFormat description

Contents

arn

PrincipalIdFormatARN description

Type: String

Required: No

statusSet

PrincipalIdFormatStatuses description

Type: Array of IdFormat objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PrivateDnsDetails

Information about the Private DNS name for interface endpoints.

Contents

privateDnsName

The private DNS name assigned to the VPC endpoint service.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/cpp)
- [AWS SDK for Go](https://aws.amazon.com/go)
- [AWS SDK for Java V2](https://aws.amazon.com/java)
- [AWS SDK for Ruby V3](https://aws.amazon.com/ruby)
PrivateDnsNameConfiguration

Information about the private DNS name for the service endpoint.

Contents

name

The name of the record subdomain the service provider needs to create. The service provider adds the value text to the name.

Type: String

Required: No

state

The verification state of the VPC endpoint service.

>Consumers of the endpoint service can use the private name only when the state is verified.

Type: String

Valid Values: pendingVerification | verified | failed

Required: No

type

The endpoint service verification type, for example TXT.

Type: String

Required: No

value

The value the service provider adds to the private DNS name domain record before verification.

Type: String

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PrivateDnsNameOptionsOnLaunch

Describes the options for instance hostnames.

Contents

enableResourceNameDnsAAAARecord

Indicates whether to respond to DNS queries for instance hostname with DNS AAAA records.

Type: Boolean
Required: No

enableResourceNameDnsARecord

Indicates whether to respond to DNS queries for instance hostnames with DNS A records.

Type: Boolean
Required: No

hostnameType

The type of hostname for EC2 instances. For IPv4 only subnets, an instance DNS name must be based on the instance IPv4 address. For IPv6 only subnets, an instance DNS name must be based on the instance ID. For dual-stack subnets, you can specify whether DNS names use the instance IPv4 address or the instance ID.

Type: String

Valid Values: ip-name | resource-name

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
PrivateDnsNameOptionsRequest

Describes the options for instance hostnames.

Contents

EnableResourceNameDnsAAAARecord

Indicates whether to respond to DNS queries for instance hostnames with DNS AAAA records.

Type: Boolean

Required: No

EnableResourceNameDnsARecord

Indicates whether to respond to DNS queries for instance hostnames with DNS A records.

Type: Boolean

Required: No

HostnameType

The type of hostname for EC2 instances. For IPv4 only subnets, an instance DNS name must be based on the instance IPv4 address. For IPv6 only subnets, an instance DNS name must be based on the instance ID. For dual-stack subnets, you can specify whether DNS names use the instance IPv4 address or the instance ID.

Type: String

Valid Values: ip-name | resource-name

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PrivateDnsNameOptionsResponse

Describes the options for instance hostnames.

Contents

enableResourceNameDnsAAAARecord

Indicates whether to respond to DNS queries for instance hostnames with DNS AAAA records.

Type: Boolean

Required: No

enableResourceNameDnsARecord

Indicates whether to respond to DNS queries for instance hostnames with DNS A records.

Type: Boolean

Required: No

hostnameType

The type of hostname to assign to an instance.

Type: String

Valid Values: ip-name | resource-name

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
**PrivateIpAddressSpecification**

Describes a secondary private IPv4 address for a network interface.

**Contents**

**Primary** (request), **primary** (response)

Indicates whether the private IPv4 address is the primary private IPv4 address. Only one IPv4 address can be designated as primary.

Type: Boolean

Required: No

**PrivateIpAddress** (request), **privatelpAddress** (response)

The private IPv4 address.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ProcessorInfo

Describes the processor used by the instance type.

Contents

manufacturer

The manufacturer of the processor.

Type: String

Required: No

supportedArchitectures

The architectures supported by the instance type.

Type: Array of strings

Valid Values: i386 | x86_64 | arm64 | x86_64_mac | arm64_mac

Required: No

supportedFeatures

Indicates whether the instance type supports AMD SEV-SNP. If the request returns amd-sev-snp, AMD SEV-SNP is supported. Otherwise, it is not supported. For more information, see AMD SEV-SNP.

Type: Array of strings

Valid Values: amd-sev-snp

Required: No

sustainedClockSpeedInGhz

The speed of the processor, in GHz.

Type: Double

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
**ProductCode**

Describes a product code.

**Contents**

**productCode**

The product code.

Type: String

Required: No

**type**

The type of product code.

Type: String

Valid Values: devpay | marketplace

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
PropagatingVgw

Describes a virtual private gateway propagating route.

Contents

gatewayId

The ID of the virtual private gateway.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ProvisionedBandwidth

Reserved. If you need to sustain traffic greater than the documented limits, contact us through the Support Center.

Contents

provisioned

Reserved. If you need to sustain traffic greater than the documented limits, contact us through the Support Center.

Type: String

Required: No

provisionTime

Reserved. If you need to sustain traffic greater than the documented limits, contact us through the Support Center.

Type: Timestamp

Required: No

requested

Reserved. If you need to sustain traffic greater than the documented limits, contact us through the Support Center.

Type: String

Required: No

requestTime

Reserved. If you need to sustain traffic greater than the documented limits, contact us through the Support Center.

Type: Timestamp

Required: No
Reserved. If you need to sustain traffic greater than the documented limits, contact us through the Support Center.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PtrUpdateStatus

The status of an updated pointer (PTR) record for an Elastic IP address.

Contents

reason

The reason for the PTR record update.

Type: String

Required: No

status

The status of the PTR record update.

Type: String

Required: No

value

The value for the PTR record update.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
PublicIpv4Pool

Describes an IPv4 address pool.

Contents

description

A description of the address pool.

Type: String

Required: No

networkBorderGroup

The name of the location from which the address pool is advertised. A network border group is a unique set of Availability Zones or Local Zones from where AWS advertises public IP addresses.

Type: String

Required: No

poolAddressRangeSet

The address ranges.

Type: Array of PublicIpv4PoolRange objects

Required: No

poolId

The ID of the address pool.

Type: String

Required: No

tagSet

Any tags for the address pool.

Type: Array of Tag objects
Required: No

**totalAddressCount**

The total number of addresses.

Type: Integer

Required: No

**totalAvailableAddressCount**

The total number of available addresses.

Type: Integer

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
PublicIpv4PoolRange

Describes an address range of an IPv4 address pool.

Contents

addressCount

The number of addresses in the range.

Type: Integer

Required: No

availableAddressCount

The number of available addresses in the range.

Type: Integer

Required: No

firstAddress

The first IP address in the range.

Type: String

Required: No

lastAddress

The last IP address in the range.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
Purchase

Describes the result of the purchase.

Contents

currencyCode

The currency in which the UpfrontPrice and HourlyPrice amounts are specified. At this time, the only supported currency is USD.

Type: String

Valid Values: USD

Required: No

duration

The duration of the reservation's term in seconds.

Type: Integer

Required: No

hostIdSet

The IDs of the Dedicated Hosts associated with the reservation.

Type: Array of strings

Required: No

hostReservationId

The ID of the reservation.

Type: String

Required: No

hourlyPrice

The hourly price of the reservation per hour.

Type: String
instanceFamily

The instance family on the Dedicated Host that the reservation can be associated with.

Type: String

Required: No

paymentOption

The payment option for the reservation.

Type: String

Valid Values: AllUpfront | PartialUpfront | NoUpfront

Required: No

upfrontPrice

The upfront price of the reservation.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://github.com/aws/aws-sdk-go)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)
**PurchaseRequest**

Describes a request to purchase Scheduled Instances.

**Contents**

**InstanceCount**

The number of instances.

Type: Integer

Required: Yes

**PurchaseToken**

The purchase token.

Type: String

Required: Yes

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
RecurringCharge

Describes a recurring charge.

Contents

amount

The amount of the recurring charge.

Type: Double

Required: No

frequency

The frequency of the recurring charge.

Type: String

Valid Values: Hourly

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ReferencedSecurityGroup

Describes the security group that is referenced in the security group rule.

Contents

groupId

The ID of the security group.

Type: String

Required: No

peeringStatus

The status of a VPC peering connection, if applicable.

Type: String

Required: No

userId

The AWS account ID.

Type: String

Required: No

vpcId

The ID of the VPC.

Type: String

Required: No

vpcPeeringConnectionId

The ID of the VPC peering connection (if applicable).

Type: String

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Region

Describes a Region.

Contents

**optInStatus**

The Region opt-in status. The possible values are opt-in-not-required, opted-in, and not-opted-in.

Type: String

Required: No

**regionEndpoint**

The Region service endpoint.

Type: String

Required: No

**regionName**

The name of the Region.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://github.com/aws/aws-sdk-go)
- [AWS SDK for Java V2](https://docs.aws.amazon.com/sdk-for-java/latest/developer-guide/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)
RegisterInstanceTagAttributeRequest

Information about the tag keys to register for the current Region. You can either specify individual tag keys or register all tag keys in the current Region. You must specify either IncludeAllTagsOfInstance or InstanceTagKeys in the request.

Contents

IncludeAllTagsOfInstance

Indicates whether to register all tag keys in the current Region. Specify true to register all tag keys.

Type: Boolean
Required: No

InstanceTagKeys

The tag keys to register.

Type: Array of strings
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
RemoveIpamOperatingRegion

Remove an operating Region from an IPAM. Operating Regions are AWS Regions where the IPAM is allowed to manage IP address CIDRs. IPAM only discovers and monitors resources in the AWS Regions you select as operating Regions.

For more information about operating Regions, see Create an IPAM in the Amazon VPC IPAM User Guide

Contents

RegionName

The name of the operating Region you want to remove.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
RemovePrefixListEntry

An entry for a prefix list.

Contents

Cidr

The CIDR block.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ReplaceRootVolumeTask

Information about a root volume replacement task.

Contents

completeTime

   The time the task completed.

   Type: String

   Required: No

deleteReplacedRootVolume

   Indicates whether the original root volume is to be deleted after the root volume replacement task completes.

   Type: Boolean

   Required: No

imageId

   The ID of the AMI used to create the replacement root volume.

   Type: String

   Required: No

instanceId

   The ID of the instance for which the root volume replacement task was created.

   Type: String

   Required: No

replaceRootVolumeTaskId

   The ID of the root volume replacement task.

   Type: String
SnapshotId

The ID of the snapshot used to create the replacement root volume.

Type: String

Required: No

StartTime

The time the task was started.

Type: String

Required: No

tagSet

The tags assigned to the task.

Type: Array of Tag objects

Required: No

taskState

The state of the task. The task can be in one of the following states:

- pending - the replacement volume is being created.
- in-progress - the original volume is being detached and the replacement volume is being attached.
- succeeded - the replacement volume has been successfully attached to the instance and the instance is available.
- failing - the replacement task is in the process of failing.
- failed - the replacement task has failed but the original root volume is still attached.
- failing-detached - the replacement task is in the process of failing. The instance might have no root volume attached.
- failed-detached - the replacement task has failed and the instance has no root volume attached.

Type: String
Valid Values: pending | in-progress | failing | succeeded | failed | failed-detached

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
RequestFilterPortRange

Describes a port range.

Contents

FromPort

The first port in the range.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 65535.

Required: No

ToPort

The last port in the range.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 65535.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
RequestIpamResourceTag

A tag on an IPAM resource.

Contents

Key

The key of a tag assigned to the resource. Use this filter to find all resources assigned a tag with a specific key, regardless of the tag value.

Type: String

Required: No

Value

The value for the tag.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
RequestLaunchTemplateData

The information to include in the launch template.

ℹ️ Note
You must specify at least one parameter for the launch template data.

Contents

BlockDeviceMappings

The block device mapping.

Type: Array of LaunchTemplateBlockDeviceMappingRequest objects

Required: No

CapacityReservationSpecification

The Capacity Reservation targeting option. If you do not specify this parameter, the instance's Capacity Reservation preference defaults to open, which enables it to run in any open Capacity Reservation that has matching attributes (instance type, platform, Availability Zone).

Type: LaunchTemplateCapacityReservationSpecificationRequest object

Required: No

CpuOptions

The CPU options for the instance. For more information, see Optimizing CPU Options in the Amazon Elastic Compute Cloud User Guide.

Type: LaunchTemplateCpuOptionsRequest object

Required: No

CreditSpecification

The credit option for CPU usage of the instance. Valid only for T instances.

Type: CreditSpecificationRequest object

Required: No
**DisableApiStop**

Indicates whether to enable the instance for stop protection. For more information, see Stop protection in the Amazon Elastic Compute Cloud User Guide.

Type: Boolean

Required: No

**DisableApiTermination**

If you set this parameter to `true`, you can't terminate the instance using the Amazon EC2 console, CLI, or API; otherwise, you can. To change this attribute after launch, use `ModifyInstanceAttribute`. Alternatively, if you set `InstanceInitiatedShutdownBehavior` to `terminate`, you can terminate the instance by running the shutdown command from the instance.

Type: Boolean

Required: No

**EbsOptimized**

Indicates whether the instance is optimized for Amazon EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal Amazon EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS-optimized instance.

Type: Boolean

Required: No

**ElasticGpuSpecifications**

An elastic GPU to associate with the instance.

Type: Array of `ElasticGpuSpecification` objects

Required: No

**ElasticInferenceAccelerators**

An elastic inference accelerator to associate with the instance. Elastic inference accelerators are a resource you can attach to your Amazon EC2 instances to accelerate your Deep Learning (DL) inference workloads.
You cannot specify accelerators from different generations in the same request.

**Note**
Starting April 15, 2023, AWS will not onboard new customers to Amazon Elastic Inference (EI), and will help current customers migrate their workloads to options that offer better price and performance. After April 15, 2023, new customers will not be able to launch instances with Amazon EI accelerators in Amazon SageMaker, Amazon ECS, or Amazon EC2. However, customers who have used Amazon EI at least once during the past 30-day period are considered current customers and will be able to continue using the service.

Type: Array of LaunchTemplateElasticInferenceAccelerator objects
Required: No

**EnclaveOptions**
Indicates whether the instance is enabled for AWS Nitro Enclaves. For more information, see What is AWS Nitro Enclaves? in the AWS Nitro Enclaves User Guide.

You can’t enable AWS Nitro Enclaves and hibernation on the same instance.

Type: LaunchTemplateEnclaveOptionsRequest object
Required: No

**HibernationOptions**
Indicates whether an instance is enabled for hibernation. This parameter is valid only if the instance meets the hibernation prerequisites. For more information, see Hibernate your instance in the Amazon Elastic Compute Cloud User Guide.

Type: LaunchTemplateHibernationOptionsRequest object
Required: No

**IamInstanceProfile**
The name or Amazon Resource Name (ARN) of an IAM instance profile.

Type: LaunchTemplateIamInstanceProfileSpecificationRequest object
Required: No
ImageId

The ID of the AMI. Alternatively, you can specify a Systems Manager parameter, which will resolve to an AMI ID on launch.

Valid formats:

- ami-17characters00000
- resolve:ssm:parameter-name
- resolve:ssm:parameter-name:version-number
- resolve:ssm:parameter-name:label
- resolve:ssm:public-parameter

**Note**

Currently, EC2 Fleet and Spot Fleet do not support specifying a Systems Manager parameter. If the launch template will be used by an EC2 Fleet or Spot Fleet, you must specify the AMI ID.

For more information, see Use a Systems Manager parameter instead of an AMI ID in the Amazon Elastic Compute Cloud User Guide.

Type: String

Required: No

InstanceInitiatedShutdownBehavior

Indicates whether an instance stops or terminates when you initiate shutdown from the instance (using the operating system command for system shutdown).

Default: stop

Type: String

Valid Values: stop | terminate

Required: No

InstanceMarketOptions

The market (purchasing) option for the instances.
Type: LaunchTemplateInstanceMarketOptionsRequest object

Required: No

**InstanceRequirements**

The attributes for the instance types. When you specify instance attributes, Amazon EC2 will identify instance types with these attributes.

You must specify VCPUCount and MemoryMiB. All other attributes are optional. Any unspecified optional attribute is set to its default.

When you specify multiple attributes, you get instance types that satisfy all of the specified attributes. If you specify multiple values for an attribute, you get instance types that satisfy any of the specified values.

To limit the list of instance types from which Amazon EC2 can identify matching instance types, you can use one of the following parameters, but not both in the same request:

- AllowedInstanceTypes - The instance types to include in the list. All other instance types are ignored, even if they match your specified attributes.
- ExcludedInstanceTypes - The instance types to exclude from the list, even if they match your specified attributes.

**Note**

If you specify InstanceRequirements, you can't specify InstanceType. Attribute-based instance type selection is only supported when using Auto Scaling groups, EC2 Fleet, and Spot Fleet to launch instances. If you plan to use the launch template in the launch instance wizard, or with the RunInstances API or AWS::EC2::Instance AWS CloudFormation resource, you can't specify InstanceRequirements.

For more information, see Attribute-based instance type selection for EC2 Fleet, Attribute-based instance type selection for Spot Fleet, and Spot placement score in the Amazon EC2 User Guide.

Type: InstanceRequirementsRequest object

Required: No
InstanceType

The instance type. For more information, see Instance types in the Amazon Elastic Compute Cloud User Guide.

If you specify InstanceType, you can't specify InstanceRequirements.

Type: String

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metal | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5d.metal | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c5n.9xlarge | c5n.18xlarge | c5n.metal | c6g.medium | c6g.large | c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.metal | c6gd.medium | c6gd.large | c6gd.xlarge | c6gd.2xlarge | c6gd.4xlarge | c6gd.8xlarge | c6gd.12xlarge | c6gd.16xlarge | c6gd.metal | c6gn.medium | c6gn.large | c6gn.xlarge | c6gn.2xlarge | c6gn.4xlarge | c6gn.8xlarge | c6gn.12xlarge | c6gn.16xlarge | c6i.large | c6i.xlarge | c6i.2xlarge | c6i.4xlarge | c6i.8xlarge | c6i.12xlarge | c6i.16xlarge | c6i.24xlarge | c6i.32xlarge | c6i.metal | cc1.4xlarge | cc2.8xlarge | ccg1.4xlarge | cr1.8xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | d3.xlarge | d3.2xlarge | d3.4xlarge | d3.8xlarge | d3en.xlarge | d3en.2xlarge | d3en.4xlarge | d3en.6xlarge | d3en.8xlarge | d3en.12xlarge | dl1.24xlarge | f1.2xlarge | f1.4xlarge | f1.16xlarge | g2.2xlarge | g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | g3s.xlarge | g4ad.xlarge | g4ad.2xlarge | g4ad.4xlarge | g4ad.8xlarge | g4ad.16xlarge | g4dn.xlarge | g4dn.2xlarge | g4dn.4xlarge | g4dn.8xlarge | g4dn.12xlarge | g4dn.16xlarge | g4dn.metal | g5.xlarge | g5.2xlarge | g5.4xlarge | g5.8xlarge | g5.12xlarge | g5.16xlarge | g5.24xlarge |
| g5.48xlarge | g5g.xlarge | g5g.2xlarge | g5g.4xlarge | g5g.8xlarge | g5g.16xlarge | g5g.metal | hi1.4xlarge | hpc6a.48xlarge | hs1.8xlarge |
| h1.2xlarge | h1.4xlarge | h1.8xlarge | h1.16xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge |
| i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.metal | i3en.large | i3en.xlarge | i3en.2xlarge | i3en.3xlarge | i3en.6xlarge |
| i3en.12xlarge | i3en.24xlarge | i3en.metal | im4gn.large | im4gn.xlarge | im4gn.2xlarge | im4gn.4xlarge | im4gn.8xlarge | im4gn.16xlarge | inf1.xlarge | inf1.2xlarge | inf1.6xlarge | inf1.24xlarge | is4gen.medium | is4gen.xlarge | is4gen.2xlarge |
| is4gen.4xlarge | is4gen.8xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m5.large | m5.xlarge | m5.2xlarge | m5.4xlarge | m5.8xlarge | m5.12xlarge | m5.16xlarge | m5.24xlarge | m5.metal | m5a.large | m5a.xlarge | m5a.2xlarge | m5a.4xlarge | m5a.8xlarge | m5a.12xlarge | m5a.16xlarge | m5a.24xlarge | m5ad.large | m5ad.xlarge | m5ad.2xlarge | m5ad.4xlarge | m5ad.8xlarge | m5ad.12xlarge | m5ad.16xlarge | m5ad.24xlarge | m5d.large | m5d.xlarge | m5d.2xlarge | m5d.4xlarge | m5d.8xlarge | m5d.12xlarge | m5d.16xlarge | m5d.24xlarge | m5d.metal | m5dn.large | m5dn.xlarge | m5dn.2xlarge | m5dn.4xlarge | m5dn.8xlarge | m5dn.12xlarge | m5dn.16xlarge | m5dn.24xlarge | m5dn.metal | m5n.large | m5n.xlarge | m5n.2xlarge | m5n.4xlarge | m5n.8xlarge | m5n.12xlarge | m5n.16xlarge | m5n.24xlarge | m5n.metal | m5zn.large | m5zn.xlarge | m5zn.2xlarge | m5zn.3xlarge | m5zn.6xlarge | m5zn.12xlarge | m5zn.metal | m6a.large | m6a.xlarge | m6a.2xlarge | m6a.4xlarge | m6a.8xlarge | m6a.12xlarge | m6a.16xlarge | m6a.24xlarge | m6a.32xlarge | m6a.48xlarge | m6g.medium | m6g.large | m6g.xlarge | m6g.2xlarge | m6g.4xlarge | m6g.8xlarge | m6g.12xlarge | m6g.16xlarge | m6gd.medium | m6gd.large | m6gd.xlarge | m6gd.2xlarge | m6gd.4xlarge | m6gd.8xlarge | m6gd.12xlarge | m6gd.16xlarge | m6i.large | m6i.xlarge | m6i.2xlarge | m6i.4xlarge | m6i.8xlarge | m6i.12xlarge | m6i.16xlarge | m6i.24xlarge | m6i.32xlarge | m6i.metal | mac1.metal | p2.xlarge | p2.8xlarge | p2.16xlarge | p3.2xlarge | p3.8xlarge | p3.16xlarge | p3dn.24xlarge | p4d.24xlarge | r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge | r4.large | m6i.24xlarge | m6i.32xlarge | m6i.4xlarge | m6i.8xlarge | m6i.12xlarge | m6i.16xlarge | m6i.24xlarge | m6i.32xlarge | m6i.metal | mac1.metal | p2.xlarge | p2.8xlarge | p2.16xlarge | p3.2xlarge | p3.8xlarge | p3.16xlarge | p3dn.24xlarge | p4d.24xlarge | r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge | r4.large |
| r4.xlarge | r4.2xlarge | r4.4xlarge | r4.8xlarge | r4.16xlarge | r5.large | r5.xlarge | r5.2xlarge | r5.4xlarge | r5.8xlarge | r5.12xlarge | r5.16xlarge | r5.24xlarge | r5.metal | r5a.large | r5a.xlarge | r5a.2xlarge | r5a.4xlarge | r5a.8xlarge | r5a.12xlarge | r5a.16xlarge | r5a.24xlarge | r5ad.1large | r5ad.xlarge | r5ad.2xlarge | r5ad.4xlarge | r5ad.8xlarge | r5ad.12xlarge | r5ad.16xlarge | r5ad.24xlarge | r5b.large | r5b.xlarge | r5b.2xlarge | r5b.4xlarge | r5b.8xlarge | r5b.12xlarge | r5b.16xlarge | r5b.24xlarge | r5b.metal | r5d.large | r5d.xlarge | r5d.2xlarge | r5d.4xlarge | r5d.8xlarge | r5d.12xlarge | r5d.16xlarge | r5d.24xlarge | r5d.metal | r5dn.large | r5dn.xlarge | r5dn.2xlarge | r5dn.4xlarge | r5dn.8xlarge | r5dn.12xlarge | r5dn.16xlarge | r5dn.24xlarge | r5dn.metal | r5n.large | r5n.xlarge | r5n.2xlarge | r5n.4xlarge | r5n.8xlarge | r5n.12xlarge | r5n.16xlarge | r5n.24xlarge | r5n.metal | r6g.medium | r6g.large | r6g.xlarge | r6g.2xlarge | r6g.4xlarge | r6g.8xlarge | r6g.12xlarge | r6g.16xlarge | r6g.metal | r6gd.medium | r6gd.large | r6gd.xlarge | r6gd.2xlarge | r6gd.4xlarge | r6gd.8xlarge | r6gd.12xlarge | r6gd.16xlarge | r6gd.metal | r6i.large | r6i.xlarge | r6i.2xlarge | r6i.4xlarge | r6i.8xlarge | r6i.12xlarge | r6i.16xlarge | r6i.24xlarge | r6i.32xlarge | r6i.metal | t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | t3.nano | t3.micro | t3.small | t3.medium | t3.large | t3.xlarge | t3.2xlarge | t3a.nano | t3a.micro | t3a.small | t3a.medium | t3a.large | t3a.xlarge | t3a.2xlarge | t4g.nano | t4g.micro | t4g.small | t4g.medium | t4g.large | t4g.xlarge | t4g.2xlarge | u-6tb1.56xlarge | u-6tb1.112xlarge | u-9tb1.112xlarge | u-12tb1.112xlarge | u-6tb1.metal | u-9tb1.metal | u-12tb1.metal | u-18tb1.metal | u-24tb1.metal | vt1.3xlarge | vt1.6xlarge | vt1.24xlarge | x1.16xlarge | x1.32xlarge | x1e.xlarge | x1e.2xlarge | x1e.4xlarge | x1e.8xlarge | x1e.16xlarge | x1e.32xlarge | x2iezn.2xlarge | x2iezn.4xlarge | x2iezn.6xlarge | x2iezn.8xlarge | x2iezn.12xlarge | x2iezn.metal | x2gd.medium | x2gd.large | x2gd.xlarge | x2gd.2xlarge | x2gd.4xlarge | x2gd.8xlarge | x2gd.12xlarge | x2gd.16xlarge | x2gd.metal | z1d.large | z1d.xlarge | z1d.2xlarge | z1d.3xlarge | z1d.6xlarge | z1d.12xlarge | z1d.metal | x2idn.16xlarge | x2idn.24xlarge | x2idn.32xlarge | x2iedn.xlarge | x2iedn.2xlarge | x2iedn.4xlarge | x2iedn.8xlarge | x2iedn.16xlarge | x2iedn.24xlarge | x2iedn.32xlarge |
| c6a.large | c6a.xlarge | c6a.2xlarge | c6a.4xlarge | c6a.8xlarge |
| c6a.12xlarge | c6a.16xlarge | c6a.24xlarge | c6a.32xlarge | c6a.48xlarge |
| c6a.large | m6a.metal | i4i.large | i4i.xlarge | i4i.2xlarge |
| i4i.4xlarge | i4i.8xlarge | i4i.16xlarge | i4i.32xlarge | i4i.metal |
| x2idn.metal | x2iedn.metal | c7g.medium | c7g.large | c7g.xlarge |
| c7g.2xlarge | c7g.4xlarge | c7g.8xlarge | c7g.12xlarge | c7g.16xlarge |
| mac2.metal | c6id.4xlarge | c6id.xlarge | c6id.2xlarge | c6id.4xlarge |
| c6id.8xlarge | c6id.12xlarge | c6id.16xlarge | c6id.24xlarge | c6id.32xlarge |
| c6id.xlarge | m6id.large | m6id.xlarge | m6id.2xlarge |
| m6id.4xlarge | m6id.8xlarge | m6id.12xlarge | m6id.16xlarge |
| m6id.24xlarge | m6id.32xlarge | m6id.metal | r6id.large | r6id.xlarge |
| r6id.2xlarge | r6id.4xlarge | r6id.8xlarge | r6id.12xlarge |
| r6id.16xlarge | r6id.24xlarge | r6id.32xlarge | r6id.metal | r6a.large |
| r6a.xlarge | r6a.2xlarge | r6a.4xlarge | r6a.8xlarge | r6a.12xlarge |
| r6a.16xlarge | r6a.24xlarge | r6a.32xlarge | r6a.48xlarge | r6a.metal |
| p4de.24xlarge | u-3tb1.56xlarge | u-18tb1.112xlarge |
| u-24tb1.112xlarge | trn1.2xlarge | trn1.32xlarge | hpc6id.32xlarge |
| c6in.large | c6in.xlarge | c6in.2xlarge | c6in.4xlarge | c6in.8xlarge |
| c6in.12xlarge | c6in.16xlarge | c6in.24xlarge | c6in.32xlarge |
| m6in.large | m6in.xlarge | m6in.2xlarge | m6in.4xlarge |
| m6in.8xlarge | m6in.12xlarge | m6in.16xlarge | m6in.24xlarge |
| m6in.32xlarge | r6in.large | r6in.xlarge | r6in.2xlarge | r6in.4xlarge |
| r6in.8xlarge | r6in.12xlarge | r6in.16xlarge | r6in.24xlarge |
| r6in.32xlarge | r6idn.large | r6idn.xlarge | r6idn.2xlarge |
| r6idn.4xlarge | r6idn.8xlarge | r6idn.12xlarge | r6idn.16xlarge |
| r6idn.24xlarge | r6idn.32xlarge | c7g.metal | m7g.medium | m7g.large |
| m7g.xlarge | m7g.2xlarge | m7g.4xlarge | m7g.8xlarge | m7g.12xlarge |
| m7g.16xlarge | m7g.32xlarge | r7g.medium | r7g.large | r7g.xlarge |
| r7g.2xlarge | r7g.4xlarge | r7g.8xlarge | r7g.12xlarge | r7g.16xlarge |
| r7g.16xlarge | c6in.metal | m6in.metal | m6idn.metal | r6in.metal |
| r6idn.metal | inf2.xlarge | inf2.8xlarge | inf2.24xlarge | inf2.48xlarge |
| trn1n.32xlarge | i4g.large | i4g.xlarge | i4g.2xlarge | i4g.4xlarge |
| i4g.8xlarge | i4g.16xlarge | hpc7g.4xlarge | hpc7g.8xlarge |
| hpc7g.16xlarge | c7gn.medium | c7gn.large | c7gn.xlarge | c7gn.2xlarge |
| c7gn.4xlarge | c7gn.8xlarge | c7gn.12xlarge | c7gn.16xlarge | p5.48xlarge | m7i.large | m7i.xlarge | m7i.2xlarge | m7i.4xlarge | m7i.8xlarge | m7i.12xlarge | m7i.16xlarge | m7i.24xlarge | m7i.48xlarge | m7i-fflex.1xlarge | m7i-fflex.2xlarge | m7i-fflex.4xlarge | m7i-fflex.8xlarge | m7a.medium | m7a.large | m7a.xlarge | m7a.2xlarge | m7a.4xlarge | m7a.8xlarge | m7a.12xlarge | m7a.16xlarge | m7a.24xlarge | m7a.32xlarge | m7a.48xlarge | m7a.metal-48xlarge | hpc7a.12xlarge | hpc7a.24xlarge | hpc7a.48xlarge | hpc7a.96xlarge | c7gd.large | c7gd.xlarge | c7gd.2xlarge | c7gd.4xlarge | c7gd.8xlarge | c7gd.12xlarge | c7gd.16xlarge | m7gd.medium | m7gd.large | m7gd.xlarge | m7gd.2xlarge | m7gd.4xlarge | m7gd.8xlarge | m7gd.12xlarge | m7gd.16xlarge | r7gd.medium | r7gd.large | r7gd.xlarge | r7gd.2xlarge | r7gd.4xlarge | r7gd.8xlarge | r7gd.12xlarge | r7gd.16xlarge | r7a.medium | r7a.large | r7a.xlarge | r7a.2xlarge | r7a.4xlarge | r7a.8xlarge | r7a.12xlarge | r7a.16xlarge | r7a.24xlarge | r7a.32xlarge | r7a.48xlarge | c7i.large | c7i.xlarge | c7i.2xlarge | c7i.4xlarge | c7i.8xlarge | c7i.12xlarge | c7i.16xlarge | c7i.24xlarge | c7i.48xlarge | mac2-m2pro.metal | r7iz.large | r7iz.xlarge | r7iz.2xlarge | r7iz.4xlarge | r7iz.8xlarge | r7iz.12xlarge | r7iz.16xlarge | r7iz.32xlarge | r7iz.64xlarge | c7a.large | c7a.xlarge | c7a.2xlarge | c7a.4xlarge | c7a.8xlarge | c7a.12xlarge | c7a.16xlarge | c7a.24xlarge | c7a.48xlarge | c7a.96xlarge | r7a.large | r7a.xlarge | r7a.2xlarge | r7a.4xlarge | r7a.8xlarge | r7a.12xlarge | r7a.16xlarge | r7a.24xlarge | r7a.32xlarge | r7a.48xlarge | r7i.large | r7i.xlarge | r7i.2xlarge | r7i.4xlarge | r7i.8xlarge | r7i.12xlarge | r7i.16xlarge | r7i.24xlarge | r7i.48xlarge | d12q.24xlarge | mac2-m2.metal | i4i.12xlarge | i4i.24xlarge | c7i.metal-24xlarge | c7i.metal-48xlarge | m7i.metal-24xlarge | m7i.metal-48xlarge | r7i.metal-24xlarge | r7i.metal-48xlarge | r7iz.metal-16xlarge | r7iz.metal-32xlarge |

**Required:** No

**KernelId**

The ID of the kernel.

⚠️ **Important**

We recommend that you use PV-GRUB instead of kernels and RAM disks. For more information, see [User provided kernels](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/user-provided-kernels.html) in the *Amazon Elastic Compute Cloud User Guide*. 
Type: String
Required: No

**KeyName**

The name of the key pair. You can create a key pair using [CreateKeyPair](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/APIReference/API_CreateKeyPair.html) or [ImportKeyPair](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/APIReference/API_ImportKeyPair.html).

⚠️ **Important**

If you do not specify a key pair, you can't connect to the instance unless you choose an AMI that is configured to allow users another way to log in.

Type: String
Required: No

**LicenseSpecifications**

The license configurations.

Type: Array of [LaunchTemplateLicenseConfigurationRequest](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/APIReference/API_LaunchTemplateLicenseConfigurationRequest.html) objects

Required: No

**MaintenanceOptions**

The maintenance options for the instance.

Type: [LaunchTemplateInstanceMaintenanceOptionsRequest](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/APIReference/API_LaunchTemplateInstanceMaintenanceOptionsRequest.html) object

Required: No

**MetadataOptions**

The metadata options for the instance. For more information, see [Instance metadata and user data](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/UserGuide/instance-metadata-user-data.html) in the *Amazon Elastic Compute Cloud User Guide*.

Type: [LaunchTemplateInstanceMetadataOptionsRequest](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/APIReference/API_LaunchTemplateInstanceMetadataOptionsRequest.html) object

Required: No

**Monitoring**

The monitoring for the instance.
Type: `LaunchTemplatesMonitoringRequest` object

Required: No

**NetworkInterfaces**

One or more network interfaces. If you specify a network interface, you must specify any security groups and subnets as part of the network interface.

Type: Array of `LaunchTemplateInstanceNetworkInterfaceSpecificationRequest` objects

Required: No

**Placement**

The placement for the instance.

Type: `LaunchTemplatePlacementRequest` object

Required: No

**PrivateDnsNameOptions**

The options for the instance hostname. The default values are inherited from the subnet.

Type: `LaunchTemplatePrivateDnsNameOptionsRequest` object

Required: No

**RamDiskId**

The ID of the RAM disk.

⚠️ **Important**

We recommend that you use PV-GRUB instead of kernels and RAM disks. For more information, see [User provided kernels](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/user-provided-kernels.html) in the *Amazon Elastic Compute Cloud User Guide*.

Type: String

Required: No

**SecurityGroups**

One or more security group names. For a nondefault VPC, you must use security group IDs instead.
Type: Array of strings

Required: No

**SecurityGroupIds**

One or more security group IDs. You can create a security group using `CreateSecurityGroup`.

Type: Array of strings

Required: No

**TagSpecifications**

The tags to apply to the resources that are created during instance launch. These tags are not applied to the launch template.

Type: Array of `LaunchTemplateTagSpecificationRequest` objects

Required: No

**UserData**

The user data to make available to the instance. You must provide base64-encoded text. User data is limited to 16 KB. For more information, see Run commands on your Linux instance at launch (Linux) or Work with instance user data (Windows) in the Amazon Elastic Compute Cloud User Guide.

If you are creating the launch template for use with AWS Batch, the user data must be provided in the MIME multi-part archive format. For more information, see Amazon EC2 user data in launch templates in the AWS Batch User Guide.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
RequestSpotLaunchSpecification

Describes the launch specification for an instance.

Contents

AddressingType

Deprecated.

Type: String

Required: No

BlockDeviceMappings

The block device mapping entries. You can't specify both a snapshot ID and an encryption value. This is because only blank volumes can be encrypted on creation. If a snapshot is the basis for a volume, it is not blank and its encryption status is used for the volume encryption status.

Type: Array of BlockDeviceMapping objects

Required: No

EbsOptimized

 Indicates whether the instance is optimized for EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS Optimized instance.

Default: false

Type: Boolean

Required: No

IamInstanceProfile

The IAM instance profile.

Type: IamInstanceProfileSpecification object

Required: No
ImageId

The ID of the AMI.

Type: String

Required: No

InstanceType

The instance type. Only one instance type can be specified.

Type: String

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metalm | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5d.metal | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c5n.9xlarge | c5n.18xlarge | c5n.metal | c6g.medium | c6g.large | c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.metal | c6gd.medium | c6gd.large | c6gd.xlarge | c6gd.2xlarge | c6gd.4xlarge | c6gd.8xlarge | c6gd.12xlarge | c6gd.16xlarge | c6gd.metal | c6gn.medium | c6gn.large | c6gn.xlarge | c6gn.2xlarge | c6gn.4xlarge | c6gn.8xlarge | c6gn.12xlarge | c6gn.16xlarge | c6i.large | c6i.xlarge | c6i.2xlarge | c6i.4xlarge | c6i.8xlarge | c6i.12xlarge | c6i.16xlarge | c6i.24xlarge | c6i.32xlarge | c6i.metal | cc1.4xlarge | cc2.8xlarge | cg1.4xlarge | cr1.8xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | d3.xlarge | d3.2xlarge | d3.4xlarge | d3.8xlarge | d3en.xlarge | d3en.2xlarge | d3en.4xlarge | d3en.6xlarge | d3en.8xlarge | d3en.12xlarge | dl1.24xlarge | f1.2xlarge | f1.4xlarge | f1.16xlarge | g2.2xlarge | g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | g3s.xlarge | g4ad.xlarge | g4ad.2xlarge | g4ad.4xlarge | g4ad.8xlarge | g4ad.16xlarge
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**Required**: No

**KernelId**

The ID of the kernel.

**Type**: String
Required: No

**KeyName**

The name of the key pair.

Type: String

Required: No

**Monitoring**

Indicates whether basic or detailed monitoring is enabled for the instance.

Default: Disabled

Type: `RunInstancesMonitoringEnabled` object

Required: No

**NetworkInterfaces**

The network interfaces. If you specify a network interface, you must specify subnet IDs and security group IDs using the network interface.

Type: Array of `InstanceNetworkInterfaceSpecification` objects

Required: No

**Placement**

The placement information for the instance.

Type: `SpotPlacement` object

Required: No

**RamdiskId**

The ID of the RAM disk.

Type: String

Required: No

**SecurityGroups**

Not supported.
Type: Array of strings
Required: No

**SecurityGroupIds**

The IDs of the security groups.

Type: Array of strings
Required: No

**SubnetId**

The ID of the subnet in which to launch the instance.

Type: String
Required: No

**UserData**

The base64-encoded user data that instances use when starting up. User data is limited to 16 KB.

Type: String
Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
Reservation

Describes a launch request for one or more instances, and includes owner, requester, and security group information that applies to all instances in the launch request.

Contents

groupSet

Not supported.

Type: Array of GroupIdentifier objects

Required: No

instancesSet

The instances.

Type: Array of Instance objects

Required: No

ownerId

The ID of the AWS account that owns the reservation.

Type: String

Required: No

requesterId

The ID of the requester that launched the instances on your behalf (for example, AWS Management Console or Auto Scaling).

Type: String

Required: No

reservationId

The ID of the reservation.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ReservationFleetInstanceSpecification

Information about an instance type to use in a Capacity Reservation Fleet.

Contents

AvailabilityZone

The Availability Zone in which the Capacity Reservation Fleet reserves the capacity. A Capacity Reservation Fleet can't span Availability Zones. All instance type specifications that you specify for the Fleet must use the same Availability Zone.

Type: String
Required: No

AvailabilityZoneId

The ID of the Availability Zone in which the Capacity Reservation Fleet reserves the capacity. A Capacity Reservation Fleet can't span Availability Zones. All instance type specifications that you specify for the Fleet must use the same Availability Zone.

Type: String
Required: No

EbsOptimized

Indicates whether the Capacity Reservation Fleet supports EBS-optimized instances types. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using EBS-optimized instance types.

Type: Boolean
Required: No

InstancePlatform

The type of operating system for which the Capacity Reservation Fleet reserves capacity.

Type: String

Valid Values: Linux/UNIX | Red Hat Enterprise Linux | SUSE Linux | Windows | Windows with SQL Server | Windows with SQL Server Enterprise | Windows
InstanceType

The instance type for which the Capacity Reservation Fleet reserves capacity.

Type: String

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metal | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5d.metal | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c5n.9xlarge | c5n.18xlarge | c5n.metal | c6g.medium | c6g.large | c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.metal | c6gd.medium | c6gd.large | c6gd.xlarge | c6gd.2xlarge | c6gd.4xlarge | c6gd.8xlarge | c6gd.12xlarge | c6gd.16xlarge | c6gd.metal | c6gn.medium | c6gn.large | c6gn.xlarge | c6gn.2xlarge | c6gn.4xlarge | c6gn.8xlarge | c6gn.12xlarge | c6gn.16xlarge | c6i.large | c6i.xlarge | c6i.2xlarge | c6i.4xlarge | c6i.8xlarge | c6i.12xlarge | c6i.16xlarge | c6i.24xlarge | c6i.32xlarge | c6i.metal | cc1.4xlarge | cc2.8xlarge | cg1.4xlarge | cr1.8xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | d3.xlarge | d3.2xlarge | d3.4xlarge | d3.8xlarge | d3en.xlarge | d3en.2xlarge | d3en.4xlarge | d3en.6xlarge | d3en.8xlarge | d3en.12xlarge | dl1.24xlarge | f1.2xlarge | f1.4xlarge | f1.16xlarge | g2.2xlarge
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Required: No
Priority

The priority to assign to the instance type. This value is used to determine which of the instance types specified for the Fleet should be prioritized for use. A lower value indicates a high priority. For more information, see Instance type priority in the Amazon EC2 User Guide.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

Weight

The number of capacity units provided by the specified instance type. This value, together with the total target capacity that you specify for the Fleet determine the number of instances for which the Fleet reserves capacity. Both values are based on units that make sense for your workload. For more information, see Total target capacity in the Amazon EC2 User Guide.

Type: Double

Valid Range: Minimum value of 0.001. Maximum value of 99.999.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ReservationValue

The cost associated with the Reserved Instance.

Contents

**hourlyPrice**

The hourly rate of the reservation.

Type: String

Required: No

**remainingTotalValue**

The balance of the total value (the sum of remainingUpfrontValue + hourlyPrice * number of hours remaining).

Type: String

Required: No

**remainingUpfrontValue**

The remaining upfront cost of the reservation.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ReservedInstanceLimitPrice

Describes the limit price of a Reserved Instance offering.

Contents

Amount

Used for Reserved Instance Marketplace offerings. Specifies the limit price on the total order (instanceCount * price).

Type: Double

Required: No

CurrencyCode

The currency in which the limitPrice amount is specified. At this time, the only supported currency is USD.

Type: String

Valid Values: USD

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ReservedInstanceReservationValue

The total value of the Convertible Reserved Instance.

Contents

reservationValue

The total value of the Convertible Reserved Instance that you are exchanging.

Type: ReservationValue object

Required: No

reservedInstanceId

The ID of the Convertible Reserved Instance that you are exchanging.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ReservedInstances

Describes a Reserved Instance.

Contents

availabilityZone

The Availability Zone in which the Reserved Instance can be used.

Type: String

Required: No

currencyCode

The currency of the Reserved Instance. It's specified using ISO 4217 standard currency codes. At this time, the only supported currency is USD.

Type: String

Valid Values: USD

Required: No

duration

The duration of the Reserved Instance, in seconds.

Type: Long

Required: No

date

The time when the Reserved Instance expires.

Type: Timestamp

Required: No

fixedPrice

The purchase price of the Reserved Instance.

Type: Float

Required: No
instanceCount

The number of reservations purchased.

Type: Integer

Required: No

instanceTenancy

The tenancy of the instance.

Type: String

Valid Values: default | dedicated | host

Required: No

instanceType

The instance type on which the Reserved Instance can be used.

Type: String

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metal | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5d.metal | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c5n.9xlarge | c5n.18xlarge | c5n.metal | c6g.medium | c6g.large | c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.metal | c6gd.medium | c6gd.large | c6gd.xlarge | c6gd.2xlarge | c6gd.4xlarge | c6gd.8xlarge | c6gd.12xlarge | c6gd.16xlarge | c6gd.metal | c6gn.medium | c6gn.large | c6gn.xlarge | c6gn.2xlarge | c6gn.4xlarge | c6gn.8xlarge | c6gn.12xlarge | c6gn.16xlarge | c6i.large | c6i.xlarge | c6i.2xlarge | c6i.4xlarge |
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API Reference

Contents

API Version 2016-11-15 3232
| m7i.metal-24x1 | m7i.metal-48x1 | r7i.metal-24x1 | r7i.metal-48x1 | r7iz.metal-16x1 | r7iz.metal-32x1 |

Required: No

**offeringClass**

The offering class of the Reserved Instance.

Type: String

Valid Values: standard | convertible

Required: No

**offeringType**

The Reserved Instance offering type.

Type: String

Valid Values: Heavy Utilization | Medium Utilization | Light Utilization | No Upfront | Partial Upfront | All Upfront

Required: No

**productDescription**

The Reserved Instance product platform description.

Type: String

Valid Values: Linux/UNIX | Linux/UNIX (Amazon VPC) | Windows | Windows (Amazon VPC)

Required: No

**recurringCharges**

The recurring charge tag assigned to the resource.

Type: Array of **RecurringCharge** objects

Required: No
reservedInstancesId

The ID of the Reserved Instance.

Type: String

Required: No

description

The scope of the Reserved Instance.

Type: String

Valid Values: Availability Zone | Region

Required: No

start

The date and time the Reserved Instance started.

Type: Timestamp

Required: No

state

The state of the Reserved Instance purchase.

Type: String

Valid Values: payment-pending | active | payment-failed | retired | queued | queued-deleted

Required: No

tagSet

Any tags assigned to the resource.

Type: Array of Tag objects

Required: No

usagePrice

The usage price of the Reserved Instance, per hour.
Type: Float

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://docs.aws.amazon.com/sdk-for-cpp/v1/en/index.html)
- [AWS SDK for Go](https://docs.aws.amazon.com/sdk-for-golang/v1/en/index.html)
- [AWS SDK for Java V2](https://docs.aws.amazon.com/sdk-for-java/v2/en/index.html)
ReservedInstancesConfiguration

Describes the configuration settings for the modified Reserved Instances.

Contents

AvailabilityZone (request), availabilityZone (response)

The Availability Zone for the modified Reserved Instances.

Type: String

Required: No

InstanceCount (request), instanceCount (response)

The number of modified Reserved Instances.

Note

This is a required field for a request.

Type: Integer

Required: No

InstanceType (request), instanceType (response)

The instance type for the modified Reserved Instances.

Type: String

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metal | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge
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h1.2xlarge | h1.4xlarge | h1.8xlarge | h1.16xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge | i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.meta | i3en.large |
i3en.xlarge | i3en.2xlarge | i3en.3xlarge | i3en.6xlarge | i3en.12xlarge | i3en.24xlarge | i3en.metal | im4gn.large | im4gn.xlarge | im4gn.2xlarge | im4gn.4xlarge | im4gn.8xlarge | im4gn.16xlarge | im4gn.32xlarge | im4gn.64xlarge | im4gn.128xlarge | im4gn.256xlarge | im4gn.512xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge |
m4.4xlarge | m4.10xlarge | m4.16xlarge | m5.large | m5.xlarge | m5.2xlarge | m5.4xlarge | m5.8xlarge | m5.12xlarge | m5.16xlarge | m5.24xlarge | m5.metal | m5a.large | m5a.xlarge | m5a.2xlarge | m5a.4xlarge | m5a.8xlarge | m5a.12xlarge | m5a.16xlarge | m5a.24xlarge
| m5ad.large | m5ad.xlarge | m5ad.2xlarge | m5ad.4xlarge | m5ad.8xlarge | m5ad.12xlarge | m5ad.16xlarge | m5ad.24xlarge | m5d.large | m5d.xlarge | m5d.2xlarge | m5d.4xlarge | m5d.8xlarge | m5d.12xlarge | m5d.16xlarge | m5d.24xlarge | m5d.metal | m5dn.large | m5dn.xlarge | m5dn.2xlarge | m5dn.4xlarge | m5dn.8xlarge | m5dn.12xlarge | m5dn.16xlarge | m5dn.24xlarge | m5dn.metal | m5n.large | m5n.xlarge | m5n.2xlarge | m5n.4xlarge | m5n.8xlarge | m5n.12xlarge | m5n.16xlarge | m5n.24xlarge | m5n.metal | m5zn.large | m5zn.xlarge | m5zn.2xlarge | m5zn.3xlarge | m5zn.6xlarge | m5zn.12xlarge | m5zn.metal | m6a.large | m6a.xlarge | m6a.2xlarge | m6a.4xlarge | m6a.8xlarge | m6a.12xlarge | m6a.16xlarge | m6a.24xlarge | m6a.32xlarge | m6a.48xlarge | m6g.metal | m6g.medium | m6g.large | m6g.xlarge | m6g.2xlarge | m6g.4xlarge | m6g.8xlarge | m6g.12xlarge | m6g.16xlarge | m6gd.metal | m6gd.medium | m6gd.large | m6gd.xlarge | m6gd.2xlarge | m6gd.4xlarge | m6gd.8xlarge | m6gd.12xlarge | m6gd.16xlarge | m6i.large | m6i.xlarge | m6i.2xlarge | m6i.4xlarge | m6i.8xlarge | m6i.12xlarge | m6i.16xlarge | m6i.24xlarge | m6i.32xlarge | m6i.metal | mac1.metal | p2.xlarge | p2.8xlarge | p2.16xlarge | p3.2xlarge | p3.8xlarge | p3.16xlarge | p3dn.24xlarge | p4d.24xlarge | r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge | r4.large | r4.xlarge | r4.2xlarge | r4.4xlarge | r4.8xlarge | r4.16xlarge | r5.large | r5.xlarge | r5.2xlarge | r5.4xlarge | r5.8xlarge | r5.12xlarge | r5.16xlarge | r5.24xlarge | r5.metal | r5a.large | r5a.xlarge | r5a.2xlarge | r5a.4xlarge | r5a.8xlarge | r5a.12xlarge | r5a.16xlarge | r5a.24xlarge | r5ad.large | r5ad.xlarge | r5ad.2xlarge | r5ad.4xlarge | r5ad.8xlarge | r5ad.12xlarge | r5ad.16xlarge | r5ad.24xlarge | r5b.large | r5b.xlarge | r5b.2xlarge | r5b.4xlarge | r5b.8xlarge | r5b.12xlarge | r5b.16xlarge | r5b.24xlarge | r5b.metal | r5d.large | r5d.xlarge | r5d.2xlarge | r5d.4xlarge | r5d.8xlarge | r5d.12xlarge | r5d.16xlarge | r5d.24xlarge | r5d.metal | r5dn.large | r5dn.xlarge | r5dn.2xlarge | r5dn.4xlarge | r5dn.8xlarge | r5dn.12xlarge | r5dn.16xlarge | r5dn.24xlarge | r5dn.metal | r5n.large | r5n.xlarge | r5n.2xlarge | r5n.4xlarge | r5n.8xlarge | r5n.12xlarge | r5n.16xlarge | r5n.24xlarge | r5n.metal | r6g.medium | r6g.large | r6g.xlarge | r6g.2xlarge | r6g.4xlarge | r6g.8xlarge | r6g.12xlarge | r6g.16xlarge | r6g.metal | r6gd.medium | r6gd.large | r6gd.xlarge | r6gd.2xlarge | r6gd.4xlarge | r6gd.8xlarge | r6gd.12xlarge | r6gd.16xlarge |
### Contents

- API Version 2016-11-15

- r6gd.metal | r6i.large | r6i.xlarge | r6i.2xlarge | r6i.4xlarge |
  - r6i.8xlarge | r6i.12xlarge | r6i.16xlarge | r6i.24xlarge | r6i.32xlarge |
  - r6i.metal | t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t3.nano | t3.micro | t3.small | t3.medium | t3.large | t3.xlarge | t3a.nano | t3a.micro | t3a.small | t3a.medium | t3a.large | t3a.xlarge | t3a.2xlarge |
  - t4g.nano | t4g.micro | t4g.small | t4g.medium | t4g.large | t4g.xlarge |
  - t4g.2xlarge | u-6tb1.56xlarge | u-6tb1.112xlarge | u-9tb1.112xlarge |
  - u-12tb1.112xlarge | u-6tb1.metal | u-9tb1.metal | u-12tb1.metal | u-18tb1.metal | u-24tb1.metal | vt1.3xlarge | vt1.6xlarge | vt1.24xlarge |
  - x1.16xlarge | x1.32xlarge | x1e.xlarge | x1e.2xlarge | x1e.4xlarge |
  - x1e.8xlarge | x1e.16xlarge | x1e.32xlarge | x2iezn.2xlarge |
  - x2iezn.4xlarge | x2iezn.6xlarge | x2iezn.8xlarge | x2iezn.12xlarge |
  - x2iezn.metal | x2gd.medium | x2gd.large | x2gd.xlarge | x2gd.2xlarge |
  - x2gd.4xlarge | x2gd.8xlarge | x2gd.12xlarge | x2gd.16xlarge |
  - x2gd.metal | z1d.large | z1d.xlarge | z1d.2xlarge | z1d.3xlarge |
  - z1d.6xlarge | z1d.12xlarge | z1d.metal | x2idn.16xlarge | x2idn.24xlarge |
  - x2idn.32xlarge | x2iedn.xlarge | x2iedn.2xlarge | x2iedn.4xlarge |
  - x2iedn.8xlarge | x2iedn.16xlarge | x2iedn.24xlarge | x2iedn.32xlarge |
  - c6a.large | c6a.xlarge | c6a.2xlarge | c6a.4xlarge | c6a.8xlarge |
  - c6a.12xlarge | c6a.16xlarge | c6a.24xlarge | c6a.32xlarge | c6a.48xlarge |
  - c6a.metal | m6a.metal | i4i.large | i4i.xlarge | i4i.2xlarge |
  - i4i.4xlarge | i4i.8xlarge | i4i.16xlarge | i4i.32xlarge | i4i.metal |
  - x2idn.metal | x2iedn.metal | c7g.medium | c7g.large | c7g.xlarge |
  - c7g.2xlarge | c7g.4xlarge | c7g.8xlarge | c7g.12xlarge | c7g.16xlarge |
  - mac2.metal | c6id.large | c6id.xlarge | c6id.2xlarge | c6id.4xlarge |
  - c6id.8xlarge | c6id.12xlarge | c6id.16xlarge | c6id.24xlarge |
  - c6id.32xlarge | c6id.metal | m6id.large | m6id.xlarge | m6id.2xlarge |
  - m6id.4xlarge | m6id.8xlarge | m6id.12xlarge | m6id.16xlarge |
  - m6id.24xlarge | m6id.32xlarge | m6id.metal | r6id.large | r6id.xlarge |
  - r6id.2xlarge | r6id.4xlarge | r6id.8xlarge | r6id.12xlarge |
  - r6id.16xlarge | r6id.24xlarge | r6id.32xlarge | r6id.metal | r6a.large |
  - r6a.xlarge | r6a.2xlarge | r6a.4xlarge | r6a.8xlarge | r6a.12xlarge |
  - r6a.16xlarge | r6a.24xlarge | r6a.32xlarge | r6a.48xlarge |
  - r6a.metal | p4de.24xlarge | u-3tb1.56xlarge | u-18tb1.112xlarge |
  - u-24tb1.112xlarge | trn1.2xlarge | trn1.32xlarge | hpc6id.32xlarge |
m2pro.metal | r7iz.large | r7iz.xlarge | r7iz.2xlarge | r7iz.4xlarge | r7iz.8xlarge | r7iz.12xlarge | r7iz.16xlarge | r7iz.32xlarge | c7a.medium | c7a.large | c7a.xlarge | c7a.2xlarge | c7a.4xlarge | c7a.8xlarge | c7a.12xlarge | c7a.16xlarge | c7a.24xlarge | c7a.32xlarge | c7a.48xlarge | c7a.metal-48x1 | r7a.metal-48x1 | r7i.large | r7i.xlarge | r7i.2xlarge | r7i.4xlarge | r7i.8xlarge | r7i.12xlarge | r7i.16xlarge | r7i.24xlarge | r7i.48xlarge | dl2q.24xlarge | mac2-m2.metal | i4i.12xlarge | i4i.24xlarge | c7i.metal-24x1 | c7i.metal-48x1 | m7i.metal-24x1 | m7i.metal-48x1 | r7i.metal-24x1 | r7i.metal-48x1 | r7iz.metal-16x1 | r7iz.metal-32x1

Required: No

**Platform** (request), **platform** (response)

The network platform of the modified Reserved Instances.

Type: String

Required: No

**Scope** (request), **scope** (response)

Whether the Reserved Instance is applied to instances in a Region or instances in a specific Availability Zone.

Type: String

Valid Values: Availability Zone | Region

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
• AWS SDK for Ruby V3
ReservedInstancesId

Describes the ID of a Reserved Instance.

Contents

reservedInstancesId

The ID of the Reserved Instance.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ReservedInstancesListing

Describes a Reserved Instance listing.

Contents

clientToken

A unique, case-sensitive key supplied by the client to ensure that the request is idempotent. For more information, see Ensuring Idempotency.

Type: String

Required: No

createDate

The time the listing was created.

Type: Timestamp

Required: No

instanceCounts

The number of instances in this state.

Type: Array of InstanceCount objects

Required: No

priceSchedules

The price of the Reserved Instance listing.

Type: Array of PriceSchedule objects

Required: No

reservedInstancesId

The ID of the Reserved Instance.

Type: String

Required: No
**reservedInstancesListingId**

The ID of the Reserved Instance listing.

Type: String

Required: No

**status**

The status of the Reserved Instance listing.

Type: String

Valid Values: active | pending | cancelled | closed

Required: No

**statusMessage**

The reason for the current status of the Reserved Instance listing. The response can be blank.

Type: String

Required: No

**tagSet**

Any tags assigned to the resource.

Type: Array of Tag objects

Required: No

**updateDate**

The last modified timestamp of the listing.

Type: Timestamp

Required: No

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**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
ReservedInstancesModification

Describes a Reserved Instance modification.

Contents

cientToken

A unique, case-sensitive key supplied by the client to ensure that the request is idempotent. For more information, see Ensuring Idempotency.

Type: String

Required: No

createDate

The time when the modification request was created.

Type: Timestamp

Required: No

effectiveDate

The time for the modification to become effective.

Type: Timestamp

Required: No

modificationResultSet

Contains target configurations along with their corresponding new Reserved Instance IDs.

Type: Array of ReservedInstancesModificationResult objects

Required: No

reservedInstancesModificationId

A unique ID for the Reserved Instance modification.

Type: String

Required: No
**reservedInstancesSet**

The IDs of one or more Reserved Instances.

Type: Array of `ReservedInstancesId` objects

Required: No

**status**

The status of the Reserved Instances modification request.

Type: String

Required: No

**statusMessage**

The reason for the status.

Type: String

Required: No

**updateDate**

The time when the modification request was last updated.

Type: Timestamp

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://aws.amazon.com/sdk-for-go/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)

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**See Also**

API Version 2016-11-15 3248
ReservedInstancesModificationResult

Describes the modification request/s.

Contents

reservedInstancesId

The ID for the Reserved Instances that were created as part of the modification request. This field is only available when the modification is fulfilled.

Type: String

Required: No

targetConfiguration

The target Reserved Instances configurations supplied as part of the modification request.

Type: ReservedInstancesConfiguration object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ReservedInstancesOffering

Describes a Reserved Instance offering.

Contents

availabilityZone

The Availability Zone in which the Reserved Instance can be used.

Type: String

Required: No

currencyCode

The currency of the Reserved Instance offering you are purchasing. It's specified using ISO 4217 standard currency codes. At this time, the only supported currency is USD.

Type: String

Valid Values: USD

Required: No

duration

The duration of the Reserved Instance, in seconds.

Type: Long

Required: No

fixedPrice

The purchase price of the Reserved Instance.

Type: Float

Required: No

instanceTenancy

The tenancy of the instance.

Type: String

Valid Values: default | dedicated | host
Required: No

**instanceType**

The instance type on which the Reserved Instance can be used.

**Type:** String

**Valid Values:** a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.large | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metal | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.1large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.1large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5d.metal | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c5n.9xlarge | c5n.12xlarge | c5n.metal | c6g.medium | c6g.large | c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.large | c6g.16xlarge | c6g.metal | c6g.medium | c6g.large | c6gn.2xlarge | c6gn.4xlarge | c6gn.8xlarge | c6gn.12xlarge | c6gn.16xlarge | c6i.large | c6i.xlarge | c6i.2xlarge | c6i.4xlarge | c6i.8xlarge | c6i.12xlarge | c6i.16xlarge | c6i.24xlarge | c6i.32xlarge | c6i.metal | cc1.4xlarge | cc2.8xlarge | cg1.4xlarge | cr1.8xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | d3.xlarge | d3.2xlarge | d3.4xlarge | d3.8xlarge | d3en.xlarge | d3en.2xlarge | d3en.4xlarge | d3en.6xlarge | d3en.8xlarge | d3en.12xlarge | dl1.24xlarge | f1.2xlarge | f1.4xlarge | f1.16xlarge | g2.2xlarge | g2.8xlarge | g3.xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | g3s.xlarge | g4ad.xlarge | g4ad.2xlarge | g4ad.4xlarge | g4ad.8xlarge | g4ad.16xlarge | g4dn.xlarge | g4dn.2xlarge | g4dn.4xlarge | g4dn.8xlarge | g4dn.12xlarge | g4dn.16xlarge | g4dn.metal | g5.xlarge | g5.2xlarge | g5.4xlarge | g5.8xlarge | g5.12xlarge | g5.16xlarge | g5.24xlarge | g5.48xlarge | g5g.xlarge | g5g.2xlarge | g5g.4xlarge | g5g.8xlarge |
| g5g.16xlarge | g5g.metal | hi1.4xlarge | hpc6a.48xlarge | hs1.8xlarge |
| h1.2xlarge | h1.4xlarge | h1.8xlarge | h1.16xlarge | i2.xlarge |
| i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge |
| i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.metal |
| i3en.large | i3en.xlarge | i3en.2xlarge | i3en.3xlarge | i3en.6xlarge |
| i3en.12xlarge | i3en.24xlarge | i3en.metal | im4gn.large | im4gn.xlarge |
| im4gn.2xlarge | im4gn.4xlarge | im4gn.8xlarge | im4gn.16xlarge |
| inf1.xlarge | inf1.2xlarge | inf1.6xlarge | inf1.24xlarge |
| is4gen.medium | is4gen.large | is4gen.xlarge | is4gen.2xlarge |
| is4gen.4xlarge | is4gen.8xlarge | m1.small | m1.medium | m1.large |
| m1.xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | m3.medium |
| m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge |
| m4.4xlarge | m4.10xlarge | m4.16xlarge | m5.large | m5.xlarge |
| m5.2xlarge | m5.4xlarge | m5.8xlarge | m5.12xlarge | m5.16xlarge |
| m5.24xlarge | m5.metal | m5a.large | m5a.xlarge | m5a.2xlarge |
| m5a.4xlarge | m5a.8xlarge | m5a.12xlarge | m5a.16xlarge | m5a.24xlarge |
| m5ad.large | m5ad.xlarge | m5ad.2xlarge | m5ad.4xlarge | m5ad.8xlarge |
| m5ad.12xlarge | m5ad.16xlarge | m5ad.24xlarge | m5d.large | m5d.xlarge |
| m5d.2xlarge | m5d.4xlarge | m5d.8xlarge | m5d.12xlarge | m5d.16xlarge |
| m5d.24xlarge | m5d.metal | m5dn.large | m5dn.xlarge | m5dn.2xlarge |
| m5dn.4xlarge | m5dn.8xlarge | m5dn.12xlarge | m5dn.16xlarge |
| m5dn.24xlarge | m5dn.metal | m5n.large | m5n.xlarge | m5n.2xlarge |
| m5n.4xlarge | m5n.8xlarge | m5n.12xlarge | m5n.16xlarge | m5n.24xlarge |
| m5n.metal | m5zn.large | m5zn.xlarge | m5zn.2xlarge | m5zn.3xlarge |
| m5zn.6xlarge | m5zn.12xlarge | m5zn.metal | m6a.large | m6a.xlarge |
| m6a.2xlarge | m6a.4xlarge | m6a.8xlarge | m6a.12xlarge | m6a.16xlarge |
| m6a.24xlarge | m6a.32xlarge | m6a.48xlarge | m6g.metal | m6g.medium |
| m6g.large | m6g.xlarge | m6g.2xlarge | m6g.4xlarge | m6g.8xlarge |
| m6g.12xlarge | m6g.16xlarge | m6gd.metal | m6gd.medium | m6gd.large |
| m6gd.xlarge | m6gd.2xlarge | m6gd.4xlarge | m6gd.8xlarge | m6gd.12xlarge |
| m6gd.16xlarge | m6i.large | m6i.xlarge | m6i.2xlarge | m6i.4xlarge |
| m6i.8xlarge | m6i.12xlarge | m6i.16xlarge | m6i.24xlarge | m6i.32xlarge |
| m6i.8large | mac1.metal | p2.xlarge | p2.8xlarge | p2.16xlarge |
| p3.2xlarge | p3.8xlarge | p3.16xlarge | p3dn.24xlarge | p4d.24xlarge |
| r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge |
| r4.large | r4.xlarge | r4.2xlarge | r4.4xlarge | r4.8xlarge | r4.16xlarge |
| c6a.12xlarge | c6a.16xlarge | c6a.24xlarge | c6a.32xlarge | c6a.48xlarge |
| c6a.metal | m6a.metal | i4i.large | i4i.xlarge | i4i.2xlarge |
| i4i.4xlarge | i4i.8xlarge | i4i.16xlarge | i4i.32xlarge | i4i.metal |
| x2idn.metal | x2iedn.metal | c7g.medium | c7g.large | c7g.xlarge |
| c7g.2xlarge | c7g.4xlarge | c7g.8xlarge | c7g.12xlarge | c7g.16xlarge |
| mac2.metal | c6id.large | c6id.xlarge | c6id.2xlarge | c6id.4xlarge |
| c6id.8xlarge | c6id.12xlarge | c6id.16xlarge | c6id.24xlarge | c6id.32xlarge |
| c6id.metal | m6id.large | m6id.xlarge | m6id.2xlarge |
| m6id.4xlarge | m6id.8xlarge | m6id.12xlarge | m6id.16xlarge |
| m6id.24xlarge | m6id.32xlarge | m6id.metal | r6id.large | r6id.xlarge |
| r6id.2xlarge | r6id.4xlarge | r6id.8xlarge | r6id.12xlarge | r6id.16xlarge |
| r6id.24xlarge | r6id.32xlarge | r6id.4xlarge | r6id.12xlarge | r6a.xlarge |
| r6a.2xlarge | r6a.4xlarge | r6a.8xlarge | r6a.12xlarge | r6a.16xlarge |
| r6a.24xlarge | r6a.32xlarge | r6a.4xlarge | r6a.12xlarge | r6a.metal |
| p4de.24xlarge | u-3tb1.56xlarge | u-18tb1.112xlarge | u-24tb1.112xlarge | trn1.2xlarge |
| trn1.32xlarge | hpc6id.32xlarge | c6in.large | c6in.xlarge | c6in.2xlarge |
| c6in.4xlarge | c6in.8xlarge | c6in.12xlarge | c6in.16xlarge | c6in.24xlarge |
| c6in.32xlarge | m6in.large | m6in.xlarge | m6in.2xlarge | m6in.4xlarge |
| m6in.8xlarge | m6in.12xlarge | m6in.16xlarge | m6in.24xlarge | m6in.32xlarge |
| m6in.metal | r6in.large | r6in.xlarge | r6in.2xlarge | r6in.4xlarge |
| r6in.8xlarge | r6in.12xlarge | r6in.16xlarge | r6in.24xlarge | r6in.32xlarge |
| r6in.4xlarge | r6idn.xlarge | r6idn.2xlarge | r6idn.4xlarge | r6idn.metal |
| m6idn.large | m
| p5.48xlarge | m7i.large | m7i.xlarge | m7i.2xlarge | m7i.4xlarge | m7i.8xlarge | m7i.12xlarge | m7i.16xlarge | m7i.24xlarge | m7i.48xlarge |
| m7i-flex.large | m7i-flex.xlarge | m7i-flex.2xlarge | m7i-flex.4xlarge | m7i-flex.8xlarge | m7a.medium | m7a.large | m7a.xlarge | m7a.2xlarge | m7a.4xlarge | m7a.8xlarge | m7a.12xlarge | m7a.16xlarge | m7a.24xlarge | m7a.32xlarge | m7a.48xlarge | m7a.metal-48x1 | hpc7a.12xlarge | hpc7a.24xlarge | hpc7a.48xlarge | hpc7a.96xlarge | c7gd.medium | c7gd.large | c7gd.xlarge | c7gd.2xlarge | c7gd.4xlarge | c7gd.8xlarge | c7gd.12xlarge | c7gd.16xlarge | m7gd.medium | m7gd.large | m7gd.xlarge | m7gd.2xlarge | m7gd.4xlarge | m7gd.8xlarge | m7gd.12xlarge | m7gd.16xlarge | r7gd.medium | r7gd.large | r7gd.xlarge | r7gd.2xlarge | r7gd.4xlarge | r7gd.8xlarge | r7gd.12xlarge | r7gd.16xlarge | r7a.medium | r7a.large | r7a.xlarge | r7a.2xlarge | r7a.4xlarge | r7a.8xlarge | r7a.12xlarge | r7a.16xlarge | r7a.24xlarge | r7a.32xlarge | r7a.48xlarge | c7i.large | c7i.xlarge | c7i.2xlarge | c7i.4xlarge | c7i.8xlarge | c7i.12xlarge | c7i.16xlarge | c7i.24xlarge | c7i.48xlarge | mac2-m2pro.metal | r7iz.large | r7iz.xlarge | r7iz.2xlarge | r7iz.4xlarge | r7iz.8xlarge | r7iz.12xlarge | r7iz.16xlarge | r7iz.32xlarge | c7a.medium | c7a.large | c7a.xlarge | c7a.2xlarge | c7a.4xlarge | c7a.8xlarge | c7a.12xlarge | c7a.16xlarge | c7a.24xlarge | c7a.32xlarge | c7a.48xlarge | c7a.metal-48x1 | r7a.metal-48x1 | r7i.large | r7i.xlarge | r7i.2xlarge | r7i.4xlarge | r7i.8xlarge | r7i.12xlarge | r7i.16xlarge | r7i.24xlarge | r7i.48xlarge | d12q.24xlarge | mac2-m2.metal | i4i.12xlarge | i4i.24xlarge | c7i.metal-24x1 | c7i.metal-48x1 | m7i.metal-24x1 | m7i.metal-48x1 | r7i.metal-24x1 | r7i.metal-48x1 | r7iz.metal-16x1 | r7iz.metal-32x1 |

**marketplace**

Indicates whether the offering is available through the Reserved Instance Marketplace (resale) or AWS. If it's a Reserved Instance Marketplace offering, this is true.

**Type:** Boolean

**Required:** No
offeringClass

If convertible it can be exchanged for Reserved Instances of the same or higher monetary value, with different configurations. If standard, it is not possible to perform an exchange.

Type: String

Valid Values: standard | convertible

Required: No

offeringType

The Reserved Instance offering type.

Type: String

Valid Values: Heavy Utilization | Medium Utilization | Light Utilization | No Upfront | Partial Upfront | All Upfront

Required: No

pricingDetailsSet

The pricing details of the Reserved Instance offering.

Type: Array of PricingDetail objects

Required: No

productDescription

The Reserved Instance product platform description.

Type: String

Valid Values: Linux/UNIX | Linux/UNIX (Amazon VPC) | Windows | Windows (Amazon VPC)

Required: No

recurringCharges

The recurring charge tag assigned to the resource.

Type: Array of RecurringCharge objects
Required: No

reservedInstancesOfferingId

The ID of the Reserved Instance offering. This is the offering ID used in `GetReservedInstancesExchangeQuote` to confirm that an exchange can be made.

Type: String

Required: No

scope

Whether the Reserved Instance is applied to instances in a Region or an Availability Zone.

Type: String

Valid Values: Availability Zone | Region

Required: No

usagePrice

The usage price of the Reserved Instance, per hour.

Type: Float

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://docs.aws.amazon.com/sdk-for-cpp/v1/developer-guide/)
- [AWS SDK for Go](https://docs.aws.amazon.com/sdk-for-go/v1/)
- [AWS SDK for Java V2](https://docs.aws.amazon.com/amazonjava2-sdk/latest/)
- [AWS SDK for Ruby V3](https://docs.aws.amazon.com/sdk-for-ruby/latest/)
ResourceStatement

Describes a resource statement.

Contents

resourceSet

The resources.

Type: Array of strings

Required: No

resourceTypeSet

The resource types.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ResourceStatementRequest

Describes a resource statement.

Contents

Resources

The resources.

Type: Array of strings

Required: No

ResourceTypes

The resource types.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ResponseError

Describes the error that's returned when you cannot delete a launch template version.

Contents

code

The error code.

Type: String

Valid Values: launchTemplateIdDoesNotExist | launchTemplateIdMalformed | launchTemplateNameDoesNotExists | launchTemplateNameMalformed | launchTemplateVersionDoesNotExist | unexpectedError

Required: No

message

The error message, if applicable.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ResponseLaunchTemplateData

The information for a launch template.

Contents

blockDeviceMappingSet

The block device mappings.

Type: Array of LaunchTemplateBlockDeviceMapping objects

Required: No

capacityReservationSpecification

Information about the Capacity Reservation targeting option.

Type: LaunchTemplateCapacityReservationSpecificationResponse object

Required: No

cpuOptions

The CPU options for the instance. For more information, see Optimizing CPU options in the Amazon Elastic Compute Cloud User Guide.

Type: LaunchTemplateCpuOptions object

Required: No

creditSpecification

The credit option for CPU usage of the instance.

Type: CreditSpecification object

Required: No

disableApiStop

Indicates whether the instance is enabled for stop protection. For more information, see Stop protection in the Amazon Elastic Compute Cloud User Guide.
disableApiTermination

If set to `true`, indicates that the instance cannot be terminated using the Amazon EC2 console, command line tool, or API.

Type: Boolean

Required: No

ebsOptimized

Indicates whether the instance is optimized for Amazon EBS I/O.

Type: Boolean

Required: No

elasticGpuSpecificationSet

The elastic GPU specification.

Type: Array of `ElasticGpuSpecificationResponse` objects

Required: No

elasticInferenceAcceleratorSet

An elastic inference accelerator to associate with the instance. Elastic inference accelerators are a resource you can attach to your Amazon EC2 instances to accelerate your Deep Learning (DL) inference workloads.

You cannot specify accelerators from different generations in the same request.

Note

Starting April 15, 2023, AWS will not onboard new customers to Amazon Elastic Inference (EI), and will help current customers migrate their workloads to options that offer better price and performance. After April 15, 2023, new customers will not be able to launch instances with Amazon EI accelerators in Amazon SageMaker, Amazon ECS, or Amazon EC2. However, customers who have used Amazon EI at least once during the
past 30-day period are considered current customers and will be able to continue using the service.

Type: Array of LaunchTemplateElasticInferenceAcceleratorResponse objects

Required: No

enclaveOptions

Indicates whether the instance is enabled for AWS Nitro Enclaves.

Type: LaunchTemplateEnclaveOptions object

Required: No

hibernationOptions

Indicates whether an instance is configured for hibernation. For more information, see Hibernate your instance in the Amazon Elastic Compute Cloud User Guide.

Type: LaunchTemplateHibernationOptions object

Required: No

iamInstanceProfile

The IAM instance profile.

Type: LaunchTemplateIamInstanceProfileSpecification object

Required: No

imageId

The ID of the AMI or a Systems Manager parameter. The Systems Manager parameter will resolve to the ID of the AMI at instance launch.

The value depends on what you specified in the request. The possible values are:

- If an AMI ID was specified in the request, then this is the AMI ID.
- If a Systems Manager parameter was specified in the request, and ResolveAlias was configured as true, then this is the AMI ID that the parameter is mapped to in the Parameter Store.
- If a Systems Manager parameter was specified in the request, and ResolveAlias was configured as false, then this is the parameter value.

For more information, see Use a Systems Manager parameter instead of an AMI ID in the Amazon Elastic Compute Cloud User Guide.

Type: String

Required: No

**instanceInitiatedShutdownBehavior**

Indicates whether an instance stops or terminates when you initiate shutdown from the instance (using the operating system command for system shutdown).

Type: String

Valid Values: stop | terminate

Required: No

**instanceMarketOptions**

The market (purchasing) option for the instances.

Type: LaunchTemplateInstanceMarketOptions object

Required: No

**instanceRequirements**

The attributes for the instance types. When you specify instance attributes, Amazon EC2 will identify instance types with these attributes.

If you specify InstanceRequirements, you can't specify InstanceTypes.

Type: InstanceRequirements object

Required: No

**instanceType**

The instance type.
Type: String

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metal | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5d.metal | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c5n.9xlarge | c5n.18xlarge | c5n.metal | c6g.medium | c6g.large | c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.metal | c6gd.medium | c6gd.large | c6gd.xlarge | c6gd.2xlarge | c6gd.4xlarge | c6gd.8xlarge | c6gd.12xlarge | c6gd.16xlarge | c6gd.metal | c6gn.medium | c6gn.large | c6gn.xlarge | c6gn.2xlarge | c6gn.4xlarge | c6gn.8xlarge | c6gn.12xlarge | c6gn.16xlarge | c6i.large | c6i.xlarge | c6i.2xlarge | c6i.4xlarge | c6i.8xlarge | c6i.12xlarge | c6i.16xlarge | c6i.24xlarge | c6i.32xlarge | c6i.metal | cc1.4xlarge | cc2.8xlarge | cg1.4xlarge | cr1.8xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | d3.xlarge | d3.2xlarge | d3.4xlarge | d3.8xlarge | d3en.xlarge | d3en.2xlarge | d3en.4xlarge | d3en.6xlarge | d3en.8xlarge | d3en.12xlarge | dl1.24xlarge | f1.2xlarge | f1.4xlarge | f1.16xlarge | g2.2xlarge | g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | g3s.xlarge | g4ad.xlarge | g4ad.2xlarge | g4ad.4xlarge | g4ad.8xlarge | g4ad.16xlarge | g4dn.xlarge | g4dn.2xlarge | g4dn.4xlarge | g4dn.8xlarge | g4dn.12xlarge | g4dn.16xlarge | g4dn.metal | g5.xlarge | g5.2xlarge | g5.4xlarge | g5.8xlarge | g5.12xlarge | g5.16xlarge | g5.24xlarge | g5.48xlarge | g5g.xlarge | g5g.2xlarge | g5g.4xlarge | g5g.8xlarge | g5g.16xlarge | g5g.metal | hi1.4xlarge | hpc6a.48xlarge | hs1.8xlarge | h1.2xlarge | h1.4xlarge | h1.8xlarge | h1.16xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge | i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.metal | i3en.large | i3en.xlarge | i3en.2xlarge | i3en.3xlarge | i3en.6xlarge |
| i3en.12xlarge | i3en.24xlarge | i3en.metal | im4gn.large | im4gn.xlarge |
| im4gn.2xlarge | im4gn.4xlarge | im4gn.8xlarge | im4gn.16xlarge |
| inf1.xlarge | inf1.2xlarge | inf1.6xlarge | inf1.24xlarge |
| is4gen.medium | is4gen.large | is4gen.xlarge | is4gen.2xlarge |
| is4gen.4xlarge | is4gen.8xlarge | m1.small | m1.medium | m1.large |
| m1.xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | m3.medium |
| m3.large | m3.xlarge | m3.2xlarge | m3.4xlarge | m4.large |
| m4.4xlarge | m4.10xlarge | m4.16xlarge | m5.large | m5.xlarge |
| m5.2xlarge | m5.4xlarge | m5.8xlarge | m5.12xlarge | m5.16xlarge |
| m5.24xlarge | m5.metal | m5a.large | m5a.xlarge | m5a.2xlarge |
| m5a.4xlarge | m5a.8xlarge | m5a.12xlarge | m5a.16xlarge | m5a.24xlarge |
| m5ad.large | m5ad.xlarge | m5ad.2xlarge | m5ad.4xlarge | m5ad.8xlarge |
| m5ad.12xlarge | m5ad.16xlarge | m5ad.24xlarge | m5d.large | m5d.xlarge |
| m5d.2xlarge | m5d.4xlarge | m5d.8xlarge | m5d.12xlarge | m5d.16xlarge |
| m5d.24xlarge | m5d.metal | m5dn.large | m5dn.xlarge | m5dn.2xlarge |
| m5dn.4xlarge | m5dn.8xlarge | m5dn.12xlarge | m5dn.16xlarge | m5dn.24xlarge |
| m5dn.4xlarge | m5n.large | m5n.xlarge | m5n.2xlarge | m5n.4xlarge |
| m5n.8xlarge | m5n.12xlarge | m5n.16xlarge | m5n.24xlarge |
| m5n.4xlarge | m5n.8xlarge | m5zn.large | m5zn.xlarge | m5zn.2xlarge |
| m5zn.3xlarge | m5zn.6xlarge | m5zn.12xlarge | m5zn.metal | m6a.large |
| m6a.xlarge | m6a.2xlarge | m6a.4xlarge | m6a.8xlarge | m6a.12xlarge |
| m6a.16xlarge | m6a.24xlarge | m6a.32xlarge | m6a.48xlarge | m6g.metal |
| m6g.large | m6g.xlarge | m6g.2xlarge | m6g.4xlarge | m6g.8xlarge |
| m6g.12xlarge | m6g.16xlarge | m6gd.metal | m6gd.medium | m6gd.large |
| m6gd.xlarge | m6gd.2xlarge | m6gd.4xlarge | m6gd.8xlarge | m6gd.12xlarge |
| m6gd.16xlarge | m6i.large | m6i.xlarge | m6i.2xlarge | m6i.4xlarge |
| m6i.8xlarge | m6i.12xlarge | m6i.16xlarge | m6i.24xlarge | m6i.32xlarge |
| m6i.4xlarge | m6i.8xlarge | m6i.12xlarge | m6i.16xlarge | m6i.24xlarge |
| m6i.32xlarge | m6i.64xlarge | m6i.xlarge | m6i.2xlarge | m6i.4xlarge |
| m6i.8xlarge | m6i.12xlarge | m6i.16xlarge | m6i.24xlarge | m6i.32xlarge |
| m6i.64xlarge | m6i.metal | mac1.metal | p2.xlarge | p2.8xlarge |
| p2.16xlarge | p3.2xlarge | p3.8xlarge | p3.16xlarge | p3dn.24xlarge |
| p3dn.48xlarge | p4d.24xlarge | r3.large | r3.xlarge | r3.2xlarge |
| r3.4xlarge | r3.8xlarge | r4.large | r4.xlarge | r4.2xlarge |
| r4.4xlarge | r4.8xlarge | r4.16xlarge | r5.large | r5.2xlarge |
| r5.4xlarge | r5.8xlarge | r5.12xlarge | r5.16xlarge | r5.24xlarge |
| r5.48xlarge | r5.96xlarge | r5a.large | r5a.xlarge | r5a.2xlarge |
| r5a.4xlarge | r5a.8xlarge | r5a.12xlarge | r5a.16xlarge | r5a.24xlarge |
| r5ad.large | r5ad.xlarge | r5ad.2xlarge | r5ad.4xlarge | r5ad.8xlarge | r5ad.12xlarge | r5ad.16xlarge |
| mac2.metal | c6id.large | c6id.xlarge | c6id.2xlarge | c6id.4xlarge |
| c6id.8xlarge | c6id.12xlarge | c6id.16xlarge | c6id.24xlarge |
| c6id.32xlarge | c6id.metal | m6id.large | m6id.xlarge | m6id.2xlarge |
| m6id.4xlarge | m6id.8xlarge | m6id.12xlarge | m6id.16xlarge |
| m6id.24xlarge | m6id.32xlarge | m6id.metal | r6id.large | r6id.xlarge |
| r6id.2xlarge | r6id.4xlarge | r6id.8xlarge | r6id.12xlarge |
| r6id.16xlarge | r6id.24xlarge | r6id.32xlarge | r6id.metal | r6a.large |
| r6a.xlarge | r6a.2xlarge | r6a.4xlarge | r6a.8xlarge | r6a.12xlarge |
| r6a.16xlarge | r6a.24xlarge | r6a.32xlarge | r6a.48xlarge |
| r6a.metal | p4de.24xlarge | u-3tb1.56xlarge | u-18tb1.112xlarge |
| u-24tb1.112xlarge | trn1.2xlarge | trn1.32xlarge | hpc6id.32xlarge |
| c6in.large | c6in.xlarge | c6in.2xlarge | c6in.4xlarge |
| c6in.8xlarge | c6in.12xlarge | c6in.16xlarge | c6in.24xlarge |
| c6in.32xlarge | m6in.large | m6in.xlarge | m6in.2xlarge | m6in.4xlarge |
| m6in.8xlarge | m6in.12xlarge | m6in.16xlarge | m6in.24xlarge |
| m6in.32xlarge | m6idn.large | m6idn.xlarge | m6idn.2xlarge |
| m6idn.8xlarge | m6idn.12xlarge | m6idn.16xlarge | m6idn.24xlarge |
| m6idn.32xlarge | r6in.large | r6in.xlarge | r6in.2xlarge | r6in.4xlarge |
| r6in.8xlarge | r6in.12xlarge | r6in.16xlarge | r6in.24xlarge |
| r6in.32xlarge | r6idn.large | r6idn.xlarge | r6idn.2xlarge |
| r6idn.4xlarge | r6idn.8xlarge | r6idn.12xlarge | r6idn.16xlarge |
| r6idn.24xlarge | r6idn.32xlarge | c7g.metal | m7g.medium | m7g.large |
| m7g.xlarge | m7g.2xlarge | m7g.4xlarge | m7g.8xlarge | m7g.12xlarge |
| m7g.16xlarge | m7g.metal | r7g.medium | r7g.large | r7g.xlarge |
| r7g.2xlarge | r7g.4xlarge | r7g.8xlarge | r7g.12xlarge | r7g.16xlarge |
| r7g.metal | c6in.metal | m6in.metal | m6idn.metal | r6in.metal |
| r6idn.metal | inf2.xlarge | inf2.8xlarge | inf2.24xlarge | inf2.48xlarge |
| trn1n.32xlarge | i4g.large | i4g.xlarge | i4g.2xlarge | i4g.4xlarge |
| i4g.8xlarge | i4g.16xlarge | hpc7g.4xlarge | hpc7g.8xlarge |
| hpc7g.16xlarge | c7gn.medium | c7gn.large | c7gn.xlarge | c7gn.2xlarge |
| c7gn.4xlarge | c7gn.8xlarge | c7gn.12xlarge | c7gn.16xlarge |
| p5.48xlarge | m7i.large | m7i.xlarge | m7i.2xlarge | m7i.4xlarge |
| m7i.8xlarge | m7i.12xlarge | m7i.16xlarge | m7i.24xlarge | m7i.48xlarge |
| m7i-flex.large | m7i-flex.xlarge | m7i-flex.2xlarge | m7i-flex.4xlarge |
| m7i-flex.8xlarge | m7a.medium | m7a.large | m7a.xlarge | m7a.2xlarge |
| m7a.4xlarge | m7a.8xlarge | m7a.12xlarge | m7a.16xlarge | m7a.24xlarge |
| m7a.32xlarge | m7a.48xlarge | m7a.metal-48x1 | hpc7a.12xlarge | hpc7a.24xlarge | hpc7a.48xlarge | hpc7a.96xlarge | c7gd.medium | c7gd.large | c7gd.xlarge | c7gd.2xlarge | c7gd.4xlarge | c7gd.8xlarge | c7gd.12xlarge | c7gd.16xlarge | m7gd.medium | m7gd.large | m7gd.xlarge | m7gd.2xlarge | m7gd.4xlarge | m7gd.8xlarge | m7gd.12xlarge | m7gd.16xlarge | r7gd.medium | r7gd.large | r7gd.xlarge | r7gd.2xlarge | r7gd.4xlarge | r7gd.8xlarge | r7gd.12xlarge | r7gd.16xlarge | r7a.medium | r7a.large | r7a.xlarge | r7a.2xlarge | r7a.4xlarge | r7a.8xlarge | r7a.12xlarge | r7a.16xlarge | r7a.24xlarge | r7a.32xlarge | r7a.48xlarge | c7i.large | c7i.xlarge | c7i.2xlarge | c7i.4xlarge | c7i.8xlarge | c7i.12xlarge | c7i.16xlarge | c7i.24xlarge | c7i.48xlarge | mac2-m2pro.metal | r7iz.large | r7iz.xlarge | r7iz.2xlarge | r7iz.4xlarge | r7iz.8xlarge | r7iz.12xlarge | r7iz.16xlarge | r7iz.32xlarge | c7a.medium | c7a.large | c7a.xlarge | c7a.2xlarge | c7a.4xlarge | c7a.8xlarge | c7a.12xlarge | c7a.16xlarge | c7a.24xlarge | c7a.32xlarge | c7a.48xlarge | c7a.metal-48x1 | r7a.metal-48x1 | r7i.large | r7i.xlarge | r7i.2xlarge | r7i.4xlarge | r7i.8xlarge | r7i.12xlarge | r7i.16xlarge | r7i.24xlarge | r7i.48xlarge | dl2q.24xlarge | mac2-m2.selfmetal | i4i.12xlarge | i4i.24xlarge | c7i.metal-24x1 | c7i.metal-48x1 | m7i.metal-24x1 | m7i.metal-48x1 | r7i.metal-24x1 | r7i.metal-48x1 | r7iz.metal-16x1 | r7iz.metal-32x1

**kernelId**

The ID of the kernel, if applicable.

**Type:** String

**Required:** No

**keyName**

The name of the key pair.

**Type:** String

**Required:** No
licenseSet

The license configurations.

Type: Array of LaunchTemplateLicenseConfiguration objects

Required: No

maintenanceOptions

The maintenance options for your instance.

Type: LaunchTemplateInstanceMaintenanceOptions object

Required: No

metadataOptions

The metadata options for the instance. For more information, see Instance metadata and user data in the Amazon Elastic Compute Cloud User Guide.

Type: LaunchTemplateInstanceMetadataOptions object

Required: No

monitoring

The monitoring for the instance.

Type: LaunchTemplatesMonitoring object

Required: No

networkInterfaceSet

The network interfaces.

Type: Array of LaunchTemplateInstanceNetworkInterfaceSpecification objects

Required: No

placement

The placement of the instance.

Type: LaunchTemplatePlacement object
Required: No

**privateDnsNameOptions**

The options for the instance hostname.

Type: `LaunchTemplatePrivateDnsNameOptions` object

Required: No

**ramDiskId**

The ID of the RAM disk, if applicable.

Type: String

Required: No

**securityGroupIdSet**

The security group IDs.

Type: Array of strings

Required: No

**securityGroupSet**

The security group names.

Type: Array of strings

Required: No

**tagSpecificationSet**

The tags that are applied to the resources that are created during instance launch.

Type: Array of `LaunchTemplateTagSpecification` objects

Required: No

**userData**

The user data for the instance.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
Route

Describes a route in a route table.

Contents

carrierGatewayId

The ID of the carrier gateway.

Type: String

Required: No

coreNetworkArn

The Amazon Resource Name (ARN) of the core network.

Type: String

Required: No

destinationCidrBlock

The IPv4 CIDR block used for the destination match.

Type: String

Required: No

destinationIpv6CidrBlock

The IPv6 CIDR block used for the destination match.

Type: String

Required: No

destinationPrefixListId

The prefix of the AWS service.

Type: String

Required: No
**egressOnlyInternetGatewayId**

The ID of the egress-only internet gateway.

*Type:* String

*Required:* No

**gatewayId**

The ID of a gateway attached to your VPC.

*Type:* String

*Required:* No

**instanceId**

The ID of a NAT instance in your VPC.

*Type:* String

*Required:* No

**instanceOwnerId**

The ID of AWS account that owns the instance.

*Type:* String

*Required:* No

**localGatewayId**

The ID of the local gateway.

*Type:* String

*Required:* No

**natGatewayId**

The ID of a NAT gateway.

*Type:* String

*Required:* No
networkInterfaceId

The ID of the network interface.

Type: String

Required: No

origin

Describes how the route was created.

- CreateRouteTable - The route was automatically created when the route table was created.
- CreateRoute - The route was manually added to the route table.
- EnableVgwRoutePropagation - The route was propagated by route propagation.

Type: String

Valid Values: CreateRouteTable | CreateRoute | EnableVgwRoutePropagation

Required: No

state

The state of the route. The blackhole state indicates that the route's target isn't available (for example, the specified gateway isn't attached to the VPC, or the specified NAT instance has been terminated).

Type: String

Valid Values: active | blackhole

Required: No

transitGatewayId

The ID of a transit gateway.

Type: String

Required: No

vpcPeeringConnectionId

The ID of a VPC peering connection.
Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
RouteTable

Describes a route table.

Contents

associationSet

The associations between the route table and one or more subnets or a gateway.

Type: Array of `RouteTableAssociation` objects

Required: No

ownerId

The ID of the AWS account that owns the route table.

Type: String

Required: No

propagatingVgwSet

Any virtual private gateway (VGW) propagating routes.

Type: Array of `PropagatingVgw` objects

Required: No

routeSet

The routes in the route table.

Type: Array of `Route` objects

Required: No

routeTableId

The ID of the route table.

Type: String

Required: No
tagSet

Any tags assigned to the route table.

Type: Array of Tag objects

Required: No

vpcId

The ID of the VPC.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
RouteTableAssociation

Describes an association between a route table and a subnet or gateway.

Contents

associationState

The state of the association.

Type: RouteTableAssociationState object

Required: No

gatewayId

The ID of the internet gateway or virtual private gateway.

Type: String

Required: No

main

Indicates whether this is the main route table.

Type: Boolean

Required: No

routeTableAssociationId

The ID of the association.

Type: String

Required: No

routeTableId

The ID of the route table.

Type: String

Required: No
subnetId

The ID of the subnet. A subnet ID is not returned for an implicit association.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
RouteTableAssociationState

Describes the state of an association between a route table and a subnet or gateway.

Contents

state

The state of the association.

Type: String

Valid Values: associating | associated | disassociating | disassociated | failed

Required: No

statusMessage

The status message, if applicable.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
RuleGroupRuleOptionsPair

Describes the rule options for a stateful rule group.

Contents

ruleGroupArn

The ARN of the rule group.

Type: String


Required: No

ruleOptionSet

The rule options.

Type: Array of RuleOption objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
RuleGroupTypePair

Describes the type of a stateful rule group.

Contents

ruleGroupArn

The ARN of the rule group.

Type: String


Required: No

ruleGroupType

The rule group type. The possible values are Domain List and Suricata.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
RuleOption

Describes additional settings for a stateful rule.

Contents

keyword

The Suricata keyword.

Type: String

Required: No

settingSet

The settings for the keyword.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
RunInstancesMonitoringEnabled

Describes the monitoring of an instance.

Contents

**Enabled** (request), **enabled** (response)

Indicates whether detailed monitoring is enabled. Otherwise, basic monitoring is enabled.

Type: Boolean

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
S3ObjectTag

The tags to apply to the AMI object that will be stored in the Amazon S3 bucket. For more information, see [Categorizing your storage using tags](#) in the *Amazon Simple Storage Service User Guide*.

**Contents**

**Key**

The key of the tag.

Constraints: Tag keys are case-sensitive and can be up to 128 Unicode characters in length. May not begin with `aws:`.

Type: String

Required: No

**Value**

The value of the tag.

Constraints: Tag values are case-sensitive and can be up to 256 Unicode characters in length.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
S3Storage

Describes the storage parameters for Amazon S3 and Amazon S3 buckets for an instance store-backed AMI.

Contents

**AWSAccessKeyId** (request), **AWSAccessKeyId** (response)

The access key ID of the owner of the bucket. Before you specify a value for your access key ID, review and follow the guidance in [Best Practices for AWS accounts](https://docs.aws.amazon.com/AmazonS3/latest/dev/BestPractices.html) in the *AWS Account Management Reference Guide*.

Type: String

Required: No

**Bucket** (request), **bucket** (response)

The bucket in which to store the AMI. You can specify a bucket that you already own or a new bucket that Amazon EC2 creates on your behalf. If you specify a bucket that belongs to someone else, Amazon EC2 returns an error.

Type: String

Required: No

**Prefix** (request), **prefix** (response)

The beginning of the file name of the AMI.

Type: String

Required: No

**UploadPolicy** (request), **uploadPolicy** (response)

An Amazon S3 upload policy that gives Amazon EC2 permission to upload items into Amazon S3 on your behalf.

Type: Base64-encoded binary data object

Required: No
UploadPolicySignature (request), uploadPolicySignature (response)

The signature of the JSON document.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ScheduledInstance

Describes a Scheduled Instance.

Contents

availabilityZone

The Availability Zone.

Type: String

Required: No

createDate

The date when the Scheduled Instance was purchased.

Type: Timestamp

Required: No

hourlyPrice

The hourly price for a single instance.

Type: String

Required: No

instanceCount

The number of instances.

Type: Integer

Required: No

instanceType

The instance type.

Type: String

Required: No
networkPlatform

The network platform.

Type: String

Required: No

nextSlotStartTime

The time for the next schedule to start.

Type: Timestamp

Required: No

platform

The platform (Linux/UNIX or Windows).

Type: String

Required: No

previousSlotEndTime

The time that the previous schedule ended or will end.

Type: Timestamp

Required: No

recurrence

The schedule recurrence.

Type: ScheduledInstanceRecurrence object

Required: No

scheduledInstanceId

The Scheduled Instance ID.

Type: String

Required: No
slotDurationInHours

The number of hours in the schedule.

Type: Integer

Required: No

termEndDate

The end date for the Scheduled Instance.

Type: Timestamp

Required: No

termStartDate

The start date for the Scheduled Instance.

Type: Timestamp

Required: No

totalScheduledInstanceHours

The total number of hours for a single instance for the entire term.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://aws.amazon.com/sdk-for-go/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)
ScheduledInstanceAvailability

Describes a schedule that is available for your Scheduled Instances.

Contents

availabilityZone

  The Availability Zone.

  Type: String

  Required: No

availableInstanceCount

  The number of available instances.

  Type: Integer

  Required: No

firstSlotStartTime

  The time period for the first schedule to start.

  Type: Timestamp

  Required: No

hourlyPrice

  The hourly price for a single instance.

  Type: String

  Required: No

instanceType

  The instance type. You can specify one of the C3, C4, M4, or R3 instance types.

  Type: String

  Required: No
maxTermDurationInDays

The maximum term. The only possible value is 365 days.

Type: Integer

Required: No

minTermDurationInDays

The minimum term. The only possible value is 365 days.

Type: Integer

Required: No

networkPlatform

The network platform.

Type: String

Required: No

platform

The platform (Linux/UNIX or Windows).

Type: String

Required: No

purchaseToken

The purchase token. This token expires in two hours.

Type: String

Required: No

recurrence

The schedule recurrence.

Type: ScheduledInstanceRecurrence object

Required: No
slotDurationInHours

The number of hours in the schedule.

Type: Integer

Required: No

totalScheduledInstanceHours

The total number of hours for a single instance for the entire term.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://github.com/aws/aws-sdk-go)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)

ScheduledInstanceRecurrence

Describes the recurring schedule for a Scheduled Instance.

Contents

frequency

The frequency (Daily, Weekly, or Monthly).

Type: String

Required: No

interval

The interval quantity. The interval unit depends on the value of frequency. For example, every 2 weeks or every 2 months.

Type: Integer

Required: No

occurrenceDaySet

The days. For a monthly schedule, this is one or more days of the month (1-31). For a weekly schedule, this is one or more days of the week (1-7, where 1 is Sunday).

Type: Array of integers

Required: No

occurrenceRelativeToEnd

Indicates whether the occurrence is relative to the end of the specified week or month.

Type: Boolean

Required: No

occurrenceUnit

The unit for occurrenceDaySet (DayOfWeek or DayOfMonth).

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ScheduledInstanceRecurrenceRequest

Describes the recurring schedule for a Scheduled Instance.

Contents

Frequency

The frequency (Daily, Weekly, or Monthly).

Type: String

Required: No

Interval

The interval quantity. The interval unit depends on the value of Frequency. For example, every 2 weeks or every 2 months.

Type: Integer

Required: No

OccurrenceDays

The days. For a monthly schedule, this is one or more days of the month (1-31). For a weekly schedule, this is one or more days of the week (1-7, where 1 is Sunday). You can't specify this value with a daily schedule. If the occurrence is relative to the end of the month, you can specify only a single day.

Type: Array of integers

Required: No

OccurrenceRelativeToEnd

Indicates whether the occurrence is relative to the end of the specified week or month. You can't specify this value with a daily schedule.

Type: Boolean

Required: No
OccurrenceUnit

The unit for OccurrenceDays (DayOfWeek or DayOfMonth). This value is required for a monthly schedule. You can't specify DayOfWeek with a weekly schedule. You can't specify this value with a daily schedule.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ScheduledInstancesBlockDeviceMapping

Describes a block device mapping for a Scheduled Instance.

Contents

DeviceName

The device name (for example, /dev/sdh or xvdh).

Type: String

Required: No

Ebs

Parameters used to set up EBS volumes automatically when the instance is launched.

Type: ScheduledInstancesEbs object

Required: No

NoDevice

To omit the device from the block device mapping, specify an empty string.

Type: String

Required: No

VirtualName

The virtual device name (ephemeralN). Instance store volumes are numbered starting from 0. An instance type with two available instance store volumes can specify mappings for ephemeral0 and ephemeral1. The number of available instance store volumes depends on the instance type. After you connect to the instance, you must mount the volume.

Constraints: For M3 instances, you must specify instance store volumes in the block device mapping for the instance. When you launch an M3 instance, we ignore any instance store volumes specified in the block device mapping for the AMI.

Type: String

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ScheduledInstancesEbs

Describes an EBS volume for a Scheduled Instance.

Contents

DeleteOnTermination

  Indicates whether the volume is deleted on instance termination.

  Type: Boolean

  Required: No

Encrypted

  Indicates whether the volume is encrypted. You can attached encrypted volumes only to instances that support them.

  Type: Boolean

  Required: No

Iops

  The number of I/O operations per second (IOPS) to provision for a gp3, io1, or io2 volume.

  Type: Integer

  Required: No

SnapshotId

  The ID of the snapshot.

  Type: String

  Required: No

VolumeSize

  The size of the volume, in GiB.

  Default: If you're creating the volume from a snapshot and don't specify a volume size, the default is the snapshot size.
Type: Integer
Required: No

**VolumeType**

The volume type.

Default: gp2

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ScheduledInstancesIamInstanceProfile

Describes an IAM instance profile for a Scheduled Instance.

Contents

Arn

The Amazon Resource Name (ARN).

Type: String

Required: No

Name

The name.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ScheduledInstancesIpv6Address

Describes an IPv6 address.

Contents

Ipv6Address

The IPv6 address.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ScheduledInstancesLaunchSpecification

Describes the launch specification for a Scheduled Instance.

If you are launching the Scheduled Instance in EC2-VPC, you must specify the ID of the subnet. You can specify the subnet using either SubnetId or NetworkInterface.

Contents

**ImageId**

The ID of the Amazon Machine Image (AMI).

Type: String

Required: Yes

**BlockDeviceMappings**

The block device mapping entries.

Type: Array of ScheduledInstancesBlockDeviceMapping objects

Required: No

**EbsOptimized**

Indicates whether the instances are optimized for EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS-optimized instance.

Default: false

Type: Boolean

Required: No

**IamInstanceProfile**

The IAM instance profile.

Type: ScheduledInstancesIamInstanceProfile object
InstanceType

The instance type.

Type: String

Required: No

KernelId

The ID of the kernel.

Type: String

Required: No

KeyName

The name of the key pair.

Type: String

Required: No

Monitoring

Enable or disable monitoring for the instances.

Type: ScheduledInstancesMonitoring object

Required: No

NetworkInterfaces

The network interfaces.

Type: Array of ScheduledInstancesNetworkInterface objects

Required: No

Placement

The placement information.

Type: ScheduledInstancesPlacement object
Required: No

**RamdiskId**

The ID of the RAM disk.

Type: String

Required: No

**SecurityGroupIds**

The IDs of the security groups.

Type: Array of strings

Required: No

**SubnetId**

The ID of the subnet in which to launch the instances.

Type: String

Required: No

**UserData**

The base64-encoded MIME user data.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ScheduledInstancesMonitoring

Describes whether monitoring is enabled for a Scheduled Instance.

Contents

Enabled

   Indicates whether monitoring is enabled.

   Type: Boolean

   Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ScheduledInstancesNetworkInterface

Describes a network interface for a Scheduled Instance.

Contents

**AssociatePublicIpAddress**

Indicates whether to assign a public IPv4 address to instances launched in a VPC. The public IPv4 address can only be assigned to a network interface for eth0, and can only be assigned to a new network interface, not an existing one. You cannot specify more than one network interface in the request. If launching into a default subnet, the default value is true.

Starting on February 1, 2024, AWS will charge for all public IPv4 addresses, including public IPv4 addresses associated with running instances and Elastic IP addresses. For more information, see the Public IPv4 Address tab on the Amazon VPC pricing page.

Type: Boolean

Required: No

**DeleteOnTermination**

Indicates whether to delete the interface when the instance is terminated.

Type: Boolean

Required: No

**Description**

The description.

Type: String

Required: No

**DeviceIndex**

The index of the device for the network interface attachment.

Type: Integer

Required: No
Groups

The IDs of the security groups.

Type: Array of strings

Required: No

I Pv6Addresses

The specific IPv6 addresses from the subnet range.

Type: Array of ScheduledInstancesIpv6Address objects

Required: No

I Pv6AddressCount

The number of IPv6 addresses to assign to the network interface. The IPv6 addresses are automatically selected from the subnet range.

Type: Integer

Required: No

NetworkInterfaceId

The ID of the network interface.

Type: String

Required: No

Privat eIpAddress

The IPv4 address of the network interface within the subnet.

Type: String

Required: No

Privat eIpAddressConfigs

The private IPv4 addresses.

Type: Array of ScheduledInstancesPrivat eIpAddressConfig objects
Required: No

**SecondaryPrivateIpAddressCount**

The number of secondary private IPv4 addresses.

Type: Integer

Required: No

**SubnetId**

The ID of the subnet.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ScheduledInstancesPlacement

Describes the placement for a Scheduled Instance.

Contents

AvailabilityZone

The Availability Zone.

Type: String

Required: No

GroupName

The name of the placement group.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ScheduledInstancesPrivateIpAddressConfig

Describes a private IPv4 address for a Scheduled Instance.

Contents

Primary

Indicates whether this is a primary IPv4 address. Otherwise, this is a secondary IPv4 address.

Type: Boolean

Required: No

PrivateIpAddress

The IPv4 address.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SecurityGroup

Describes a security group.

Contents

groupDescription

A description of the security group.

Type: String

Required: No

groupId

The ID of the security group.

Type: String

Required: No

groupName

The name of the security group.

Type: String

Required: No

ipPermissions

The inbound rules associated with the security group.

Type: Array of IpPermission objects

Required: No

ipPermissionsEgress

The outbound rules associated with the security group.

Type: Array of IpPermission objects

Required: No
ownerId

The AWS account ID of the owner of the security group.

Type: String

Required: No

tagSet

Any tags assigned to the security group.

Type: Array of Tag objects

Required: No

dcId

The ID of the VPC for the security group.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SecurityGroupForVpc

A security group that can be used by interfaces in the VPC.

Contents

description

The security group's description.

Type: String

Required: No

groupId

The security group ID.

Type: String

Required: No

groupName

The security group name.

Type: String

Required: No

ownerId

The security group owner ID.

Type: String

Required: No

primaryVpcId

The VPC ID in which the security group was created.

Type: String

Required: No
tagSet

The security group tags.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SecurityGroupIdentifier

Describes a security group.

Contents

groupId

The ID of the security group.

Type: String

Required: No

groupName

The name of the security group.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SecurityGroupReference

Describes a VPC with a security group that references your security group.

Contents

groupId

The ID of your security group.

Type: String

Required: No

referencingVpcId

The ID of the VPC with the referencing security group.

Type: String

Required: No

vpcPeeringConnectionId

The ID of the VPC peering connection (if applicable). For more information about security group referencing for peering connections, see Update your security groups to reference peer security groups in the VPC Peering Guide.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SecurityGroupRule

Describes a security group rule.

Contents

cidrIpv4

The IPv4 CIDR range.

Type: String

Required: No

cidrIpv6

The IPv6 CIDR range.

Type: String

Required: No
description

The security group rule description.

Type: String

Required: No

fromPort

If the protocol is TCP or UDP, this is the start of the port range. If the protocol is ICMP or ICMPv6, this is the type number. A value of -1 indicates all ICMP/ICMPv6 types. If you specify all ICMP/ICMPv6 types, you must specify all ICMP/ICMPv6 codes.

Type: Integer

Required: No
groupId

The ID of the security group.

Type: String
### groupOwnerId

The ID of the AWS account that owns the security group.

- **Type:** String
- **Required:** No

### ipProtocol

The IP protocol name (tcp, udp, icmp, icmpv6) or number (see [Protocol Numbers](#)).

Use -1 to specify all protocols.

- **Type:** String
- **Required:** No

### isEgress

Indicates whether the security group rule is an outbound rule.

- **Type:** Boolean
- **Required:** No

### prefixListId

The ID of the prefix list.

- **Type:** String
- **Required:** No

### referencedGroupInfo

Describes the security group that is referenced in the rule.

- **Type:** [ReferencedSecurityGroup](#) object
- **Required:** No

### securityGroupRuleId

The ID of the security group rule.
Type: String

Required: No

tagSet

The tags applied to the security group rule.

Type: Array of Tag objects

Required: No

toPort

If the protocol is TCP or UDP, this is the end of the port range. If the protocol is ICMP or ICMPv6, this is the type number. A value of -1 indicates all ICMP/ICMPv6 codes. If you specify all ICMP/ICMPv6 types, you must specify all ICMP/ICMPv6 codes.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SecurityGroupRuleDescription

Describes the description of a security group rule.

You can use this when you want to update the security group rule description for either an inbound or outbound rule.

Contents

Description

The description of the security group rule.

Type: String

Required: No

SecurityGroupRuleId

The ID of the security group rule.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
SecurityGroupRuleRequest

Describes a security group rule.

You must specify exactly one of the following parameters, based on the rule type:

- CidrIpv4
- CidrIpv6
- PrefixListId
- ReferencedGroupId

When you modify a rule, you cannot change the rule type. For example, if the rule uses an IPv4 address range, you must use CidrIpv4 to specify a new IPv4 address range.

Contents

CidrIpv4

The IPv4 CIDR range. To specify a single IPv4 address, use the /32 prefix length.

Type: String

Required: No

CidrIpv6

The IPv6 CIDR range. To specify a single IPv6 address, use the /128 prefix length.

Type: String

Required: No

Description

The description of the security group rule.

Type: String

Required: No
FromPort

If the protocol is TCP or UDP, this is the start of the port range. If the protocol is ICMP or ICMPv6, this is the type number. A value of -1 indicates all ICMP/ICMPv6 types. If you specify all ICMP/ICMPv6 types, you must specify all ICMP/ICMPv6 codes.

Type: Integer
Required: No

IpProtocol

The IP protocol name (tcp, udp, icmp, icmpv6) or number (see Protocol Numbers).
Use -1 to specify all protocols.

Type: String
Required: No

PrefixListId

The ID of the prefix list.

Type: String
Required: No

ReferencedGroupId

The ID of the security group that is referenced in the security group rule.

Type: String
Required: No

ToPort

If the protocol is TCP or UDP, this is the end of the port range. If the protocol is ICMP or ICMPv6, this is the code. A value of -1 indicates all ICMP/ICMPv6 codes. If you specify all ICMP/ICMPv6 types, you must specify all ICMP/ICMPv6 codes.

Type: Integer
Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SecurityGroupRuleUpdate

Describes an update to a security group rule.

Contents

SecurityGroupRuleId

The ID of the security group rule.

Type: String

Required: Yes

SecurityGroupRule

Information about the security group rule.

Type: SecurityGroupRuleRequest object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ServiceConfiguration

Describes a service configuration for a VPC endpoint service.

Contents

acceptanceRequired

Indicates whether requests from other AWS accounts to create an endpoint to the service must first be accepted.

Type: Boolean
Required: No

availabilityZoneSet

The Availability Zones in which the service is available.

Type: Array of strings
Required: No

baseEndpointDnsNameSet

The DNS names for the service.

Type: Array of strings
Required: No

gatewayLoadBalancerArnSet

The Amazon Resource Names (ARNs) of the Gateway Load Balancers for the service.

Type: Array of strings
Required: No

managesVpcEndpoints

Indicates whether the service manages its VPC endpoints. Management of the service VPC endpoints using the VPC endpoint API is restricted.

Type: Boolean
networkLoadBalancerArnSet

The Amazon Resource Names (ARNs) of the Network Load Balancers for the service.

Type: Array of strings

Required: No

payerResponsibility

The payer responsibility.

Type: String

Valid Values: ServiceOwner

Required: No

privateDnsName

The private DNS name for the service.

Type: String

Required: No

privateDnsNameConfiguration

Information about the endpoint service private DNS name configuration.

Type: `PrivateDnsNameConfiguration` object

Required: No

serviceId

The ID of the service.

Type: String

Required: No

serviceName

The name of the service.
serviceState

The service state.

Type: String

Valid Values: Pending | Available | Deleting | Deleted | Failed

Required: No

serviceType

The type of service.

Type: Array of ServiceTypeDetail objects

Required: No

supportedIpAddressTypeSet

The supported IP address types.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 2 items.

Valid Values: ipv4 | ipv6

Required: No

tagSet

The tags assigned to the service.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
**ServiceDetail**

Describes a VPC endpoint service.

**Contents**

**acceptanceRequired**

Indicates whether VPC endpoint connection requests to the service must be accepted by the service owner.

Type: Boolean

Required: No

**availabilityZoneSet**

The Availability Zones in which the service is available.

Type: Array of strings

Required: No

**baseEndpointDnsNameSet**

The DNS names for the service.

Type: Array of strings

Required: No

**managesVpcEndpoints**

Indicates whether the service manages its VPC endpoints. Management of the service VPC endpoints using the VPC endpoint API is restricted.

Type: Boolean

Required: No

**owner**

The AWS account ID of the service owner.

Type: String
payerResponsibility

The payer responsibility.

Type: String

Valid Values: ServiceOwner

privateDnsName

The private DNS name for the service.

Type: String

Required: No

privateDnsNameSet

The private DNS names assigned to the VPC endpoint service.

Type: Array of PrivateDnsDetails objects

Required: No

privateDnsNameVerificationState

The verification state of the VPC endpoint service.

Consumers of the endpoint service cannot use the private name when the state is not verified.

Type: String

Valid Values: pendingVerification | verified | failed

Required: No

serviceId

The ID of the endpoint service.

Type: String
Required: No

**serviceName**

The name of the service.

Type: String

Required: No

**serviceType**

The type of service.

Type: Array of `ServiceTypeDetail` objects

Required: No

**supportedIpAddressTypeSet**

The supported IP address types.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 2 items.

Valid Values: ipv4 | ipv6

Required: No

**tagSet**

The tags assigned to the service.

Type: Array of `Tag` objects

Required: No

**vpcEndpointPolicySupported**

Indicates whether the service supports endpoint policies.

Type: Boolean

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ServiceTypeDetail

Describes the type of service for a VPC endpoint.

Contents

serviceType

The type of service.

Type: String

Valid Values: Interface | Gateway | GatewayLoadBalancer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SlotDateTimeRangeRequest

Describes the time period for a Scheduled Instance to start its first schedule. The time period must span less than one day.

Contents

EarliestTime

The earliest date and time, in UTC, for the Scheduled Instance to start.

Type: Timestamp

Required: Yes

LatestTime

The latest date and time, in UTC, for the Scheduled Instance to start. This value must be later than or equal to the earliest date and at most three months in the future.

Type: Timestamp

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SlotStartTimeRangeRequest

Describes the time period for a Scheduled Instance to start its first schedule.

Contents

EarliestTime

The earliest date and time, in UTC, for the Scheduled Instance to start.

Type: Timestamp

Required: No

LatestTime

The latest date and time, in UTC, for the Scheduled Instance to start.

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Snapshot

Describes a snapshot.

**Contents**

**dataEncryptionKeyId**

The data encryption key identifier for the snapshot. This value is a unique identifier that corresponds to the data encryption key that was used to encrypt the original volume or snapshot copy. Because data encryption keys are inherited by volumes created from snapshots, and vice versa, if snapshots share the same data encryption key identifier, then they belong to the same volume/snapshot lineage. This parameter is only returned by [DescribeSnapshots](#).  

Type: String  
Required: No

description

The description for the snapshot.

Type: String  
Required: No

**encrypted**

Indicates whether the snapshot is encrypted.

Type: Boolean  
Required: No

**kmsKeyId**

The Amazon Resource Name (ARN) of the AWS Key Management Service (AWS KMS) KMS key that was used to protect the volume encryption key for the parent volume.

Type: String  
Required: No
**outpostArn**

The ARN of the Outpost on which the snapshot is stored. For more information, see Amazon EBS local snapshots on Outposts in the Amazon Elastic Compute Cloud User Guide.

Type: String

Required: No

**ownerAlias**

The AWS owner alias, from an Amazon-maintained list (amazon). This is not the user-configured AWS account alias set using the IAM console.

Type: String

Required: No

**ownerId**

The ID of the AWS account that owns the EBS snapshot.

Type: String

Required: No

**progress**

The progress of the snapshot, as a percentage.

Type: String

Required: No

**restoreExpiryTime**

Only for archived snapshots that are temporarily restored. Indicates the date and time when a temporarily restored snapshot will be automatically re-archived.

Type: Timestamp

Required: No

**snapshotId**

The ID of the snapshot. Each snapshot receives a unique identifier when it is created.

Type: String
Required: No

**sseType**

Reserved for future use.

Type: String

Valid Values: sse-ebs | sse-kms | none

Required: No

**startTime**

The time stamp when the snapshot was initiated.

Type: Timestamp

Required: No

**status**

The snapshot state.

Type: String

Valid Values: pending | completed | error | recoverable | recovering

Required: No

**statusMessage**

Encrypted Amazon EBS snapshots are copied asynchronously. If a snapshot copy operation fails (for example, if the proper AWS Key Management Service (AWS KMS) permissions are not obtained) this field displays error state details to help you diagnose why the error occurred. This parameter is only returned by DescribeSnapshots.

Type: String

Required: No

**storageTier**

The storage tier in which the snapshot is stored. standard indicates that the snapshot is stored in the standard snapshot storage tier and that it is ready for use. archive indicates that the snapshot is currently archived and that it must be restored before it can be used.
Type: String

Valid Values: archive | standard

Required: No

tagSet

Any tags assigned to the snapshot.

Type: Array of Tag objects

Required: No

volumeId

The ID of the volume that was used to create the snapshot. Snapshots created by the CopySnapshot action have an arbitrary volume ID that should not be used for any purpose.

Type: String

Required: No

volumeSize

The size of the volume, in GiB.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SnapshotDetail

Describes the snapshot created from the imported disk.

Contents

description

A description for the snapshot.

Type: String

Required: No

deviceName

The block device mapping for the snapshot.

Type: String

Required: No

diskImageSize

The size of the disk in the snapshot, in GiB.

Type: Double

Required: No

format

The format of the disk image from which the snapshot is created.

Type: String

Required: No

progress

The percentage of progress for the task.

Type: String

Required: No
snapshotId

The snapshot ID of the disk being imported.

Type: String

Required: No

status

A brief status of the snapshot creation.

Type: String

Required: No

statusMessage

A detailed status message for the snapshot creation.

Type: String

Required: No

url

The URL used to access the disk image.

Type: String

Required: No

userBucket

The Amazon S3 bucket for the disk image.

Type: UserBucketDetails object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
See Also

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SnapshotDiskContainer

The disk container object for the import snapshot request.

Contents

Description

The description of the disk image being imported.

Type: String

Required: No

Format

The format of the disk image being imported.

Valid values: VHD | VMDK | RAW

Type: String

Required: No

Url

The URL to the Amazon S3-based disk image being imported. It can either be a https URL (https://..) or an Amazon S3 URL (s3://..).

Type: String

Required: No

UserBucket

The Amazon S3 bucket for the disk image.

Type: UserBucket object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
SnapshotInfo

Information about a snapshot.

Contents

description

Description specified by the CreateSnapshotRequest that has been applied to all snapshots.

Type: String
Required: No

encrypted

Indicates whether the snapshot is encrypted.

Type: Boolean
Required: No

outpostArn

The ARN of the Outpost on which the snapshot is stored. For more information, see Amazon EBS local snapshots on Outposts in the Amazon Elastic Compute Cloud User Guide.

Type: String
Required: No

ownerId

Account id used when creating this snapshot.

Type: String
Required: No

progress

Progress this snapshot has made towards completing.

Type: String
Required: No
snapshotId

Snapshot id that can be used to describe this snapshot.

Type: String

Required: No

sseType

Reserved for future use.

Type: String

Valid Values: sse-ebs | sse-kms | none

Required: No

startTime

Time this snapshot was started. This is the same for all snapshots initiated by the same request.

Type: Timestamp

Required: No

state

Current state of the snapshot.

Type: String

Valid Values: pending | completed | error | recoverable | recovering

Required: No

tagSet

Tags associated with this snapshot.

Type: Array of Tag objects

Required: No

volumeId

Source volume from which this snapshot was created.
Type: String

Required: No

**volumeSize**

Size of the volume from which this snapshot was created.

Type: Integer

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
SnapshotRecycleBinInfo

Information about a snapshot that is currently in the Recycle Bin.

Contents

description

The description for the snapshot.

Type: String

Required: No

recycleBinEnterTime

The date and time when the snapshot entered the Recycle Bin.

Type: Timestamp

Required: No

recycleBinExitTime

The date and time when the snapshot is to be permanently deleted from the Recycle Bin.

Type: Timestamp

Required: No

snapshotId

The ID of the snapshot.

Type: String

Required: No

volumeId

The ID of the volume from which the snapshot was created.

Type: String

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
SnapshotTaskDetail

Details about the import snapshot task.

Contents

description

The description of the snapshot.

Type: String

Required: No

diskImageSize

The size of the disk in the snapshot, in GiB.

Type: Double

Required: No

encrypted

Indicates whether the snapshot is encrypted.

Type: Boolean

Required: No

format

The format of the disk image from which the snapshot is created.

Type: String

Required: No

kmsKeyId

The identifier for the KMS key that was used to create the encrypted snapshot.

Type: String

Required: No
**progress**

The percentage of completion for the import snapshot task.

Type: String

Required: No

**snapshotId**

The snapshot ID of the disk being imported.

Type: String

Required: No

**status**

A brief status for the import snapshot task.

Type: String

Required: No

**statusMessage**

A detailed status message for the import snapshot task.

Type: String

Required: No

**url**

The URL of the disk image from which the snapshot is created.

Type: String

Required: No

**userBucket**

The Amazon S3 bucket for the disk image.

Type: [UserBucketDetails](#) object

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
**SnapshotTierStatus**

Provides information about a snapshot's storage tier.

**Contents**

**archivalCompleteTime**

The date and time when the last archive process was completed.

Type: Timestamp

Required: No

**lastTieringOperationStatus**

The status of the last archive or restore process.

Type: String


Required: No

**lastTieringOperationStatusDetail**

A message describing the status of the last archive or restore process.

Type: String

Required: No

**lastTieringProgress**

The progress of the last archive or restore process, as a percentage.

Type: Integer

Required: No

**lastTieringStartTime**

The date and time when the last archive or restore process was started.
ownerId

The ID of the AWS account that owns the snapshot.

Type: String

Required: No

restoreExpireTime

Only for archived snapshots that are temporarily restored. Indicates the date and time when a temporarily restored snapshot will be automatically re-archived.

Type: Timestamp

Required: No

snapshotId

The ID of the snapshot.

Type: String

Required: No

status

The state of the snapshot.

Type: String

Valid Values: pending | completed | error | recoverable | recovering

Required: No

storageTier

The storage tier in which the snapshot is stored. standard indicates that the snapshot is stored in the standard snapshot storage tier and that it is ready for use. archive indicates that the snapshot is currently archived and that it must be restored before it can be used.

Type: String
Valid Values: archive | standard

Required: No

tagSet

The tags that are assigned to the snapshot.

Type: Array of Tag objects

Required: No

volumeld

The ID of the volume from which the snapshot was created.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SpotCapacityRebalance

The Spot Instance replacement strategy to use when Amazon EC2 emits a signal that your Spot Instance is at an elevated risk of being interrupted. For more information, see Capacity rebalancing in the Amazon EC2 User Guide for Linux Instances.

Contents

ReplacementStrategy (request), replacementStrategy (response)

The replacement strategy to use. Only available for fleets of type maintain.

launch - Spot Fleet launches a new replacement Spot Instance when a rebalance notification is emitted for an existing Spot Instance in the fleet. Spot Fleet does not terminate the instances that receive a rebalance notification. You can terminate the old instances, or you can leave them running. You are charged for all instances while they are running.

launch-before-terminate - Spot Fleet launches a new replacement Spot Instance when a rebalance notification is emitted for an existing Spot Instance in the fleet, and then, after a delay that you specify (in TerminationDelay), terminates the instances that received a rebalance notification.

Type: String

Valid Values: launch | launch-before-terminate

Required: No

TerminationDelay (request), terminationDelay (response)

The amount of time (in seconds) that Amazon EC2 waits before terminating the old Spot Instance after launching a new replacement Spot Instance.

Required when ReplacementStrategy is set to launch-before-terminate.

Not valid when ReplacementStrategy is set to launch.

Valid values: Minimum value of 120 seconds. Maximum value of 7200 seconds.

Type: Integer

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SpotDatafeedSubscription

Describes the data feed for a Spot Instance.

Contents

bucket

The name of the Amazon S3 bucket where the Spot Instance data feed is located.

Type: String

Required: No

fault

The fault codes for the Spot Instance request, if any.

Type: SpotInstanceStateFault object

Required: No

ownerId

The AWS account ID of the account.

Type: String

Required: No

prefix

The prefix for the data feed files.

Type: String

Required: No

state

The state of the Spot Instance data feed subscription.

Type: String

Valid Values: Active | Inactive
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SpotFleetLaunchSpecification

Describes the launch specification for one or more Spot Instances. If you include On-Demand capacity in your fleet request or want to specify an EFA network device, you can't use SpotFleetLaunchSpecification; you must use LaunchTemplateConfig.

Contents

**AddressingType** (request), **addressingType** (response)

- Deprecated.
- Type: String
- Required: No

**BlockDeviceMappings** (request), **blockDeviceMapping** (response)

- One or more block devices that are mapped to the Spot Instances. You can't specify both a snapshot ID and an encryption value. This is because only blank volumes can be encrypted on creation. If a snapshot is the basis for a volume, it is not blank and its encryption status is used for the volume encryption status.
- Type: Array of **BlockDeviceMapping** objects
- Required: No

**EbsOptimized** (request), **ebsOptimized** (response)

- Indicates whether the instances are optimized for EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS Optimized instance.
- Default: false
- Type: Boolean
- Required: No

**SecurityGroups** (request), **groupSet** (response)

- The security groups.
- Type: Array of **GroupId** objects
Required: No

**iamInstanceProfile** *(request), **iamInstanceProfile** *(response)*

The IAM instance profile.

Type: **iamInstanceProfileSpecification** object

Required: No

**ImageId** *(request), **imageId** *(response)*

The ID of the AMI.

Type: String

Required: No

**InstanceRequirements** *(request), **instanceRequirements** *(response)*

The attributes for the instance types. When you specify instance attributes, Amazon EC2 will identify instance types with those attributes.

**Note**

If you specify InstanceRequirements, you can't specify InstanceType.

Type: **InstanceRequirements** object

Required: No

**InstanceType** *(request), **instanceType** *(response)*

The instance type.

Type: String

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metal | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge
<p>| c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.1large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5d.metal | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c5n.9xlarge | c5n.18xlarge | c5n.metal | c6g.medium | c6g.large | c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge | c6g.16xlarge | c6g.metal | c6gd.medium | c6gd.large | c6gd.xlarge | c6gd.2xlarge | c6gd.4xlarge | c6gd.8xlarge | c6gd.12xlarge | c6gd.16xlarge | c6gd.metal | c6gn.medium | c6gn.large | c6gn.xlarge | c6gn.2xlarge | c6gn.4xlarge | c6gn.8xlarge | c6gn.12xlarge | c6gn.16xlarge | c6i.large | c6i.xlarge | c6i.2xlarge | c6i.4xlarge | c6i.8xlarge | c6i.12xlarge | c6i.24xlarge | c6i.32xlarge | c6i.metal | cc1.4xlarge | cc2.8xlarge | cg1.4xlarge | cr1.8xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | d3.xlarge | d3.2xlarge | d3.4xlarge | d3.8xlarge | d3en.xlarge | d3en.2xlarge | d3en.4xlarge | d3en.6xlarge | d3en.8xlarge | d3en.12xlarge | d3en.24xlarge | d3en.48xlarge | f1.2xlarge | f1.4xlarge | f1.16xlarge | g2.2xlarge | g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | g3s.xlarge | g4ad.xlarge | g4ad.2xlarge | g4ad.4xlarge | g4ad.8xlarge | g4ad.16xlarge | g4dn.xlarge | g4dn.2xlarge | g4dn.4xlarge | g4dn.8xlarge | g4dn.12xlarge | g4dn.16xlarge | g4dn.metal | g5.xlarge | g5.2xlarge | g5.4xlarge | g5.8xlarge | g5.12xlarge | g5.16xlarge | g5.24xlarge | g5.48xlarge | g5g.xlarge | g5g.2xlarge | g5g.4xlarge | g5g.8xlarge | g5g.16xlarge | g5g.metal | hi1.4xlarge | hpc6a.48xlarge | hs1.8xlarge | h1.2xlarge | h1.4xlarge | h1.8xlarge | h1.16xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge | i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.meta | i3.en.large | i3.en.xlarge | i3.en.2xlarge | i3.en.3xlarge | i3.en.6xlarge | i3.en.12xlarge | i3.en.24xlarge | i3.en.meta | im4gn.large | im4gn.xlarge | im4gn.2xlarge | im4gn.4xlarge | im4gn.8xlarge | im4gn.16xlarge | inf1.xlarge | inf1.2xlarge | inf1.6xlarge | inf1.24xlarge | is4gen.medium | is4gen.large | is4gen.xlarge | is4gen.2xlarge | is4gen.4xlarge | is4gen.8xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m5.large | m5.xlarge |
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| r6a.16xlarge | r6a.24xlarge | r6a.32xlarge | r6a.48xlarge | r6a.metal | p4de.24xlarge | u-3tb1.56xlarge | u-18tb1.112xlarge | u-24tb1.112xlarge | trn1.2xlarge | trn1.32xlarge | hpc6id.32xlarge | c6in.large | c6in.xlarge | c6in.2xlarge | c6in.4xlarge | c6in.8xlarge | c6in.12xlarge | c6in.16xlarge | c6in.24xlarge | c6in.32xlarge | m6in.large | m6in.xlarge | m6in.2xlarge | m6in.4xlarge | m6in.8xlarge | m6in.12xlarge | m6in.16xlarge | m6in.24xlarge | m6in.32xlarge | m6idn.large | m6idn.xlarge | m6idn.2xlarge | m6idn.4xlarge | m6idn.8xlarge | m6idn.12xlarge | m6idn.16xlarge | m6idn.24xlarge | m6idn.32xlarge | r6in.large | r6in.xlarge | r6in.2xlarge | r6in.4xlarge | r6in.8xlarge | r6in.12xlarge | r6in.16xlarge | r6in.24xlarge | r6in.32xlarge | r6idn.large | r6idn.xlarge | r6idn.2xlarge | r6idn.4xlarge | r6idn.8xlarge | r6idn.12xlarge | r6idn.16xlarge | r6idn.24xlarge | r6idn.32xlarge | c7g.metal | m7g.medium | m7g.large | m7g.xlarge | m7g.2xlarge | m7g.4xlarge | m7g.8xlarge | m7g.12xlarge | m7g.16xlarge | m7g.meta | r7g.medium | r7g.large | r7g.xlarge | r7g.2xlarge | r7g.4xlarge | r7g.8xlarge | r7g.12xlarge | r7g.16xlarge | r7g.meta | c6in.meta | m6in.meta | m6idn.meta | r6in.meta | r6idn.meta | inf2.xlarge | inf2.8xlarge | inf2.24xlarge | inf2.48xlarge | trn1n.32xlarge | i4g.large | i4g.xlarge | i4g.2xlarge | i4g.4xlarge | i4g.8xlarge | i4g.16xlarge | hpc7g.4xlarge | hpc7g.8xlarge | hpc7g.16xlarge | c7gn.medium | c7gn.large | c7gn.xlarge | c7gn.2xlarge | c7gn.4xlarge | c7gn.8xlarge | c7gn.12xlarge | c7gn.16xlarge | p5.48xlarge | m7i.large | m7i.xlarge | m7i.2xlarge | m7i.4xlarge | m7i.8xlarge | m7i.12xlarge | m7i.16xlarge | m7i.24xlarge | m7i.48xlarge | m7i-flex.large | m7i-flex.xlarge | m7i-flex.2xlarge | m7i-flex.4xlarge | m7i-flex.8xlarge | m7a.medium | m7a.large | m7a.xlarge | m7a.2xlarge | m7a.4xlarge | m7a.8xlarge | m7a.12xlarge | m7a.16xlarge | m7a.24xlarge | m7a.32xlarge | m7a.48xlarge | m7a.meta-48x | hpc7a.12xlarge | hpc7a.24xlarge | hpc7a.48xlarge | hpc7a.96xlarge | c7gd.medium | c7gd.large | c7gd.xlarge | c7gd.2xlarge | c7gd.4xlarge | c7gd.8xlarge | c7gd.12xlarge | c7gd.16xlarge | m7gd.medium | m7gd.large | m7gd.xlarge | m7gd.2xlarge | m7gd.4xlarge | m7gd.8xlarge | m7gd.12xlarge | m7gd.16xlarge | r7gd.medium | r7gd.large | r7gd.xlarge | r7gd.2xlarge | r7gd.4xlarge | r7gd.8xlarge | r7gd.12xlarge | r7gd.16xlarge | r7a.medium | r7a.large | r7a.xlarge | r7a.2xlarge | r7a.4xlarge | r7a.8xlarge |</p>
<table>
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<th>Instance Type</th>
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<tr>
<td>m7i.meta-24xl</td>
</tr>
<tr>
<td>r7i.meta-16xl</td>
</tr>
</tbody>
</table>

**KernelId** (request), **kernelId** (response)

The ID of the kernel.

Type: String

Required: No

**KeyName** (request), **keyName** (response)

The name of the key pair.

Type: String

Required: No

**Monitoring** (request), **monitoring** (response)

Enable or disable monitoring for the instances.

Type: [SpotFleetMonitoring](#) object

Required: No

**NetworkInterfaces** (request), **networkInterfaceSet** (response)

One or more network interfaces. If you specify a network interface, you must specify subnet IDs and security group IDs using the network interface.
Note

SpotFleetLaunchSpecification currently does not support Elastic Fabric Adapter (EFA). To specify an EFA, you must use LaunchTemplateConfig.

Type: Array of InstanceNetworkInterfaceSpecification objects

Required: No

Placement (request), placement (response)

The placement information.

Type: SpotPlacement object

Required: No

RamdiskId (request), ramdiskId (response)

The ID of the RAM disk. Some kernels require additional drivers at launch. Check the kernel requirements for information about whether you need to specify a RAM disk. To find kernel requirements, refer to the AWS Resource Center and search for the kernel ID.

Type: String

Required: No

SpotPrice (request), spotPrice (response)

The maximum price per unit hour that you are willing to pay for a Spot Instance. We do not recommend using this parameter because it can lead to increased interruptions. If you do not specify this parameter, you will pay the current Spot price.

Important

If you specify a maximum price, your instances will be interrupted more frequently than if you do not specify this parameter.

Type: String

Required: No
**SubnetId** (request), **subnetId** (response)

The IDs of the subnets in which to launch the instances. To specify multiple subnets, separate them using commas; for example, "subnet-1234abcdeexample1, subnet-0987cdef6example2".

Type: String

Required: No

**TagSpecifications** (request), **tagSpecificationSet** (response)

The tags to apply during creation.

Type: Array of [SpotFleetTagSpecification](#) objects

Required: No

**UserData** (request), **userData** (response)

The base64-encoded user data that instances use when starting up. User data is limited to 16 KB.

Type: String

Required: No

**WeightedCapacity** (request), **weightedCapacity** (response)

The number of units provided by the specified instance type. These are the same units that you chose to set the target capacity in terms of instances, or a performance characteristic such as vCPUs, memory, or I/O.

If the target capacity divided by this value is not a whole number, Amazon EC2 rounds the number of instances to the next whole number. If this value is not specified, the default is 1.

Type: Double

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
SpotFleetMonitoring

Describes whether monitoring is enabled.

Contents

Enabled (request), enabled (response)

Enables monitoring for the instance.

Default: false

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SpotFleetRequestConfig

Describes a Spot Fleet request.

Contents

activityStatus

The progress of the Spot Fleet request. If there is an error, the status is error. After all requests are placed, the status is pending_fulfillment. If the size of the fleet is equal to or greater than its target capacity, the status is fulfilled. If the size of the fleet is decreased, the status is pending_termination while Spot Instances are terminating.

Type: String

Valid Values: error | pending_fulfillment | pending_termination | fulfilled

Required: No

createTime

The creation date and time of the request.

Type: Timestamp

Required: No

spotFleetRequestConfig

The configuration of the Spot Fleet request.

Type: SpotFleetRequestConfigData object

Required: No

spotFleetRequestId

The ID of the Spot Fleet request.

Type: String

Required: No

spotFleetRequestState

The state of the Spot Fleet request.
Type: String

Valid Values: submitted | active | cancelled | failed | cancelled_running | cancelled_terminating | modifying

Required: No

tagSet

The tags for a Spot Fleet resource.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SpotFleetRequestConfigData

Describes the configuration of a Spot Fleet request.

Contents

**iamFleetRole** (request), **iamFleetRole** (response)

The Amazon Resource Name (ARN) of an AWS Identity and Access Management (IAM) role that grants the Spot Fleet the permission to request, launch, terminate, and tag instances on your behalf. For more information, see Spot Fleet prerequisites in the Amazon EC2 User Guide. Spot Fleet can terminate Spot Instances on your behalf when you cancel its Spot Fleet request using CancelSpotFleetRequests or when the Spot Fleet request expires, if you set TerminateInstancesWithExpiration.

Type: String

Required: Yes

**TargetCapacity** (request), **targetCapacity** (response)

The number of units to request for the Spot Fleet. You can choose to set the target capacity in terms of instances or a performance characteristic that is important to your application workload, such as vCPUs, memory, or I/O. If the request type is maintain, you can specify a target capacity of 0 and add capacity later.

Type: Integer

Required: Yes

**AllocationStrategy** (request), **allocationStrategy** (response)

The strategy that determines how to allocate the target Spot Instance capacity across the Spot Instance pools specified by the Spot Fleet launch configuration. For more information, see Allocation strategies for Spot Instances in the Amazon EC2 User Guide.

priceCapacityOptimized (recommended)

Spot Fleet identifies the pools with the highest capacity availability for the number of instances that are launching. This means that we will request Spot Instances from the pools that we believe have the lowest chance of interruption in the near term. Spot Fleet then requests Spot Instances from the lowest priced of these pools.
capacityOptimized

Spot Fleet identifies the pools with the highest capacity availability for the number of instances that are launching. This means that we will request Spot Instances from the pools that we believe have the lowest chance of interruption in the near term. To give certain instance types a higher chance of launching first, use capacityOptimizedPrioritized. Set a priority for each instance type by using the Priority parameter for LaunchTemplateOverrides. You can assign the same priority to different LaunchTemplateOverrides. EC2 implements the priorities on a best-effort basis, but optimizes for capacity first. capacityOptimizedPrioritized is supported only if your Spot Fleet uses a launch template. Note that if the OnDemandAllocationStrategy is set to prioritized, the same priority is applied when fulfilling On-Demand capacity.

diversified

Spot Fleet requests instances from all of the Spot Instance pools that you specify.

lowestPrice

Spot Fleet requests instances from the lowest priced Spot Instance pool that has available capacity. If the lowest priced pool doesn't have available capacity, the Spot Instances come from the next lowest priced pool that has available capacity. If a pool runs out of capacity before fulfilling your desired capacity, Spot Fleet will continue to fulfill your request by drawing from the next lowest priced pool. To ensure that your desired capacity is met, you might receive Spot Instances from several pools. Because this strategy only considers instance price and not capacity availability, it might lead to high interruption rates.

Default: lowestPrice

Type: String

Valid Values: lowestPrice | diversified | capacityOptimized | capacityOptimizedPrioritized | priceCapacityOptimized

Required: No

ClientToken (request), clientToken (response)

A unique, case-sensitive identifier that you provide to ensure the idempotency of your listings. This helps to avoid duplicate listings. For more information, see Ensuring Idempotency.

Type: String
Required: No

**Context** (request), **context** (response)

Reserved.

Type: String

Required: No

**ExcessCapacityTerminationPolicy** (request), **excessCapacityTerminationPolicy** (response)

Indicates whether running instances should be terminated if you decrease the target capacity of the Spot Fleet request below the current size of the Spot Fleet.

Supported only for fleets of type `maintain`.

Type: String

Valid Values: `noTermination` | `default`

Required: No

**FulfilledCapacity** (request), **fulfilledCapacity** (response)

The number of units fulfilled by this request compared to the set target capacity. You cannot set this value.

Type: Double

Required: No

**InstanceInterruptionBehavior** (request), **instanceInterruptionBehavior** (response)

The behavior when a Spot Instance is interrupted. The default is `terminate`.

Type: String

Valid Values: `hibernate` | `stop` | `terminate`

Required: No

**InstancePoolsToUseCount** (request), **instancePoolsToUseCount** (response)

The number of Spot pools across which to allocate your target Spot capacity. Valid only when Spot **AllocationStrategy** is set to `lowest-price`. Spot Fleet selects the cheapest Spot pools across these pools.
and evenly allocates your target Spot capacity across the number of Spot pools that you specify.

Note that Spot Fleet attempts to draw Spot Instances from the number of pools that you specify on a best effort basis. If a pool runs out of Spot capacity before fulfilling your target capacity, Spot Fleet will continue to fulfill your request by drawing from the next cheapest pool. To ensure that your target capacity is met, you might receive Spot Instances from more than the number of pools that you specified. Similarly, if most of the pools have no Spot capacity, you might receive your full target capacity from fewer than the number of pools that you specified.

Type: Integer

Required: No

**LaunchSpecifications** (request), **launchSpecifications** (response)

The launch specifications for the Spot Fleet request. If you specify LaunchSpecifications, you can't specify LaunchTemplateConfigs. If you include On-Demand capacity in your request, you must use LaunchTemplateConfigs.

Type: Array of **SpotFleetLaunchSpecification** objects

Required: No

**LaunchTemplateConfigs** (request), **launchTemplateConfigs** (response)

The launch template and overrides. If you specify LaunchTemplateConfigs, you can't specify LaunchSpecifications. If you include On-Demand capacity in your request, you must use LaunchTemplateConfigs.

Type: Array of **LaunchTemplateConfig** objects

Required: No

**LoadBalancersConfig** (request), **loadBalancersConfig** (response)

One or more Classic Load Balancers and target groups to attach to the Spot Fleet request. Spot Fleet registers the running Spot Instances with the specified Classic Load Balancers and target groups.

With Network Load Balancers, Spot Fleet cannot register instances that have the following instance types: C1, CC1, CC2, CG1, CG2, CR1, CS1, G1, G2, HI1, HS1, M1, M2, M3, and T1.
Type: **LoadBalancersConfig** object

Required: No

**OnDemandAllocationStrategy** (request), **onDemandAllocationStrategy** (response)

The order of the launch template overrides to use in fulfilling On-Demand capacity. If you specify `lowestPrice`, Spot Fleet uses price to determine the order, launching the lowest price first. If you specify `prioritized`, Spot Fleet uses the priority that you assign to each Spot Fleet launch template override, launching the highest priority first. If you do not specify a value, Spot Fleet defaults to `lowestPrice`.

Type: String

Valid Values: `lowestPrice` | `prioritized`

Required: No

**OnDemandFulfilledCapacity** (request), **onDemandFulfilledCapacity** (response)

The number of On-Demand units fulfilled by this request compared to the set target On-Demand capacity.

Type: Double

Required: No

**OnDemandMaxTotalPrice** (request), **onDemandMaxTotalPrice** (response)

The maximum amount per hour for On-Demand Instances that you're willing to pay. You can use the `onDemandMaxTotalPrice` parameter, the `spotMaxTotalPrice` parameter, or both parameters to ensure that your fleet cost does not exceed your budget. If you set a maximum price per hour for the On-Demand Instances and Spot Instances in your request, Spot Fleet will launch instances until it reaches the maximum amount you're willing to pay. When the maximum amount you're willing to pay is reached, the fleet stops launching instances even if it hasn't met the target capacity.

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**Note**

If your fleet includes T instances that are configured as `unlimited`, and if their average CPU usage exceeds the baseline utilization, you will incur a charge for surplus credits. The `onDemandMaxTotalPrice` does not account for surplus credits, and, if you use surplus credits, your final cost might be higher than what you specified for
onDemandMaxTotalPrice. For more information, see Surplus credits can incur charges in the EC2 User Guide.

Type: String
Required: No

**OnDemandTargetCapacity** (request), **onDemandTargetCapacity** (response)

The number of On-Demand units to request. You can choose to set the target capacity in terms of instances or a performance characteristic that is important to your application workload, such as vCPUs, memory, or I/O. If the request type is maintain, you can specify a target capacity of 0 and add capacity later.

Type: Integer
Required: No

**ReplaceUnhealthyInstances** (request), **replaceUnhealthyInstances** (response)

Indicates whether Spot Fleet should replace unhealthy instances.

Type: Boolean
Required: No

**SpotMaintenanceStrategies** (request), **spotMaintenanceStrategies** (response)

The strategies for managing your Spot Instances that are at an elevated risk of being interrupted.

Type: [SpotMaintenanceStrategies](#) object
Required: No

**SpotMaxTotalPrice** (request), **spotMaxTotalPrice** (response)

The maximum amount per hour for Spot Instances that you're willing to pay. You can use the spotMaxTotalPrice parameter, the onDemandMaxTotalPrice parameter, or both parameters to ensure that your fleet cost does not exceed your budget. If you set a maximum price per hour for the On-Demand Instances and Spot Instances in your request, Spot Fleet will launch instances until it reaches the maximum amount you're willing to pay. When the
maximum amount you're willing to pay is reached, the fleet stops launching instances even if it hasn't met the target capacity.

**Note**

If your fleet includes T instances that are configured as unlimited, and if their average CPU usage exceeds the baseline utilization, you will incur a charge for surplus credits. The spotMaxTotalPrice does not account for surplus credits, and, if you use surplus credits, your final cost might be higher than what you specified for spotMaxTotalPrice. For more information, see *Surplus credits can incur charges* in the *EC2 User Guide.*

Type: String

Required: No

**SpotPrice** (request), **spotPrice** (response)

The maximum price per unit hour that you are willing to pay for a Spot Instance. We do not recommend using this parameter because it can lead to increased interruptions. If you do not specify this parameter, you will pay the current Spot price.

**Important**

If you specify a maximum price, your instances will be interrupted more frequently than if you do not specify this parameter.

Type: String

Required: No

**TagSpecifications** (request), **TagSpecification** (response)

The key-value pair for tagging the Spot Fleet request on creation. The value for ResourceType must be spot-fleet-request, otherwise the Spot Fleet request fails. To tag instances at launch, specify the tags in the launch template (valid only if you use LaunchTemplateConfigs) or in the SpotFleetTagSpecification (valid only if you use LaunchSpecifications). For information about tagging after launch, see *Tag your resources.*
Type: Array of TagSpecification objects

Required: No

**TargetCapacityUnitType** (request), **targetCapacityUnitType** (response)

The unit for the target capacity. You can specify this parameter only when using attribute-based instance type selection.

Default: units (the number of instances)

Type: String

Valid Values: vcpu | memory-mib | units

Required: No

**TerminateInstancesWithExpiration** (request), **terminateInstancesWithExpiration** (response)

Indicates whether running Spot Instances are terminated when the Spot Fleet request expires.

Type: Boolean

Required: No

**Type** (request), **type** (response)

The type of request. Indicates whether the Spot Fleet only requests the target capacity or also attempts to maintain it. When this value is request, the Spot Fleet only places the required requests. It does not attempt to replenish Spot Instances if capacity is diminished, nor does it submit requests in alternative Spot pools if capacity is not available. When this value is maintain, the Spot Fleet maintains the target capacity. The Spot Fleet places the required requests to meet capacity and automatically replenishes any interrupted instances. Default: maintain. instant is listed but is not used by Spot Fleet.

Type: String

Valid Values: request | maintain | instant

Required: No

**ValidFrom** (request), **validFrom** (response)

The start date and time of the request, in UTC format (YYYY-MM-DDTHH:MM:SSZ). By default, Amazon EC2 starts fulfilling the request immediately.
Type: Timestamp

Required: No

**ValidUntil (request), validUntil (response)**

The end date and time of the request, in UTC format (YYYY-MM-DDTHH:MM:SSZ). After the end date and time, no new Spot Instance requests are placed or able to fulfill the request. If no value is specified, the Spot Fleet request remains until you cancel it.

Type: Timestamp

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
SpotFleetTagSpecification

The tags for a Spot Fleet resource.

Contents

**ResourceType** *(request), **resourceType** *(response)*

The type of resource. Currently, the only resource type that is supported is instance.

To tag the Spot Fleet request on creation, use the TagSpecifications parameter in [SpotFleetRequestConfigData](#). 

Type: String

| verified-access-instance | verified-access-group | verified-access-endpoint | verified-access-policy | verified-access-trust-provider | vpn-connection-device-type | vpc-block-public-access-exclusion | ipam-resource-discovery | ipam-resource-discovery-association | instance-connect-endpoint |

Required: No

**Tags** *(request), *tag *(response)*

The tags.

Type: Array of Tag objects

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SpotInstanceRequest

Describes a Spot Instance request.

Contents

actualBlockHourlyPrice

Deprecated.

Type: String

Required: No

availabilityZoneGroup

The Availability Zone group. If you specify the same Availability Zone group for all Spot Instance requests, all Spot Instances are launched in the same Availability Zone.

Type: String

Required: No

blockDurationMinutes

Deprecated.

Type: Integer

Required: No

createTime

The date and time when the Spot Instance request was created, in UTC format (for example, YYYY-MM-DDTHH:MM:SSZ).

Type: Timestamp

Required: No

fault

The fault codes for the Spot Instance request, if any.

Type: SpotInstanceStateFault object
instanceId

The instance ID, if an instance has been launched to fulfill the Spot Instance request.

Type: String

Required: No

instanceInterruptionBehavior

The behavior when a Spot Instance is interrupted.

Type: String

Valid Values: hibernate | stop | terminate

Required: No

launchedAvailabilityZone

The Availability Zone in which the request is launched.

Type: String

Required: No

launchGroup

The instance launch group. Launch groups are Spot Instances that launch together and terminate together.

Type: String

Required: No

launchSpecification

Additional information for launching instances.

Type: LaunchSpecification object

Required: No

productDescription

The product description associated with the Spot Instance.
spotInstanceRequestId

The ID of the Spot Instance request.

Type: String
Required: No

spotPrice

The maximum price per unit hour that you are willing to pay for a Spot Instance. We do not recommend using this parameter because it can lead to increased interruptions. If you do not specify this parameter, you will pay the current Spot price.

⚠️ Important

If you specify a maximum price, your instances will be interrupted more frequently than if you do not specify this parameter.

Type: String
Required: No

state

The state of the Spot Instance request. Spot request status information helps track your Spot Instance requests. For more information, see Spot request status in the Amazon EC2 User Guide for Linux Instances.

Type: String
Valid Values: open | active | closed | cancelled | failed
Required: No
**status**

The status code and status message describing the Spot Instance request.

Type: [SpotInstanceState](#) object

Required: No

**tagSet**

Any tags assigned to the resource.

Type: Array of [Tag](#) objects

Required: No

**type**

The Spot Instance request type.

Type: String

Valid Values: one-time | persistent

Required: No

**validFrom**

The start date of the request, in UTC format (for example, `YYYY-MM-DDTHH:MM:SSZ`). The request becomes active at this date and time.

Type: Timestamp

Required: No

**validUntil**

The end date of the request, in UTC format (`YYYY-MM-DDTHH:MM:SSZ`).

- For a persistent request, the request remains active until the `validUntil` date and time is reached. Otherwise, the request remains active until you cancel it.
- For a one-time request, the request remains active until all instances launch, the request is canceled, or the `validUntil` date and time is reached. By default, the request is valid for 7 days from the date the request was created.

Type: Timestamp
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
SpotInstanceStateFault

Describes a Spot Instance state change.

Contents

code

The reason code for the Spot Instance state change.

Type: String

Required: No

message

The message for the Spot Instance state change.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SpotInstanceStatus

Describes the status of a Spot Instance request.

Contents

code

The status code. For a list of status codes, see Spot request status codes in the Amazon EC2 User Guide for Linux Instances.

Type: String

Required: No

message

The description for the status code.

Type: String

Required: No

updateTime

The date and time of the most recent status update, in UTC format (for example, YYYY-MM-DDTHH:MM:SSZ).

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SpotMaintenanceStrategies

The strategies for managing your Spot Instances that are at an elevated risk of being interrupted.

Contents

**CapacityRebalance** (request), **capacityRebalance** (response)

The Spot Instance replacement strategy to use when Amazon EC2 emits a signal that your Spot Instance is at an elevated risk of being interrupted. For more information, see [Capacity rebalancing](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/capacity-rebalancing.html) in the *Amazon EC2 User Guide for Linux Instances*.

Type: SpotCapacityRebalance object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://docs.aws.amazon.com/sdk-for-cpp/v1/developer-guide/index.html)
- [AWS SDK for Go](https://docs.aws.amazon.com/sdk-for-golang/v1/developer-guide/index.html)
- [AWS SDK for Java V2](https://docs.aws.amazon.com/sdk-for-java/v2/developer-guide/index.html)
SpotMarketOptions

The options for Spot Instances.

Contents

BlockDurationMinutes

Deprecated.

Type: Integer

Required: No

InstanceInterruptionBehavior

The behavior when a Spot Instance is interrupted.

If Configured (for HibernationOptions) is set to true, the InstanceInterruptionBehavior parameter is automatically set to hibernate. If you set it to stop or terminate, you'll get an error.

If Configured (for HibernationOptions) is set to false or null, the InstanceInterruptionBehavior parameter is automatically set to terminate. You can also set it to stop or hibernate.

For more information, see Interruption behavior in the Amazon EC2 User Guide.

Type: String

Valid Values: hibernate | stop | terminate

Required: No

MaxPrice

The maximum hourly price that you're willing to pay for a Spot Instance. We do not recommend using this parameter because it can lead to increased interruptions. If you do not specify this parameter, you will pay the current Spot price.
**Important**

If you specify a maximum price, your Spot Instances will be interrupted more frequently than if you do not specify this parameter.

**Type:** String

**Required:** No

**SpotInstanceType**

The Spot Instance request type. For [RunInstances](https://docs.aws.amazon.com/elasticloadbalancing/latest/application/using-instance-executions.html), persistent Spot Instance requests are only supported when the instance interruption behavior is either hibernate or stop.

**Type:** String

**Valid Values:** one-time | persistent

**Required:** No

**ValidUntil**

The end date of the request, in UTC format (YYYY-MM-DDTHH:MM:SSZ). Supported only for persistent requests.

- For a persistent request, the request remains active until the ValidUntil date and time is reached. Otherwise, the request remains active until you cancel it.
- For a one-time request, ValidUntil is not supported. The request remains active until all instances launch or you cancel the request.

**Type:** Timestamp

**Required:** No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://docs.aws.amazon.com/sdk-for-cpp/v1/developer-guide/api-reference.html)
- [AWS SDK for Go](https://docs.aws.amazon.com/sdk-for-go/v1/developer-guide/api-reference.html)
- **AWS SDK for Java V2**
- **AWS SDK for Ruby V3**
SpotOptions

Describes the configuration of Spot Instances in an EC2 Fleet.

Contents

allocationStrategy

The strategy that determines how to allocate the target Spot Instance capacity across the Spot Instance pools specified by the EC2 Fleet launch configuration. For more information, see Allocation strategies for Spot Instances in the Amazon EC2 User Guide.

price-capacity-optimized (recommended)

EC2 Fleet identifies the pools with the highest capacity availability for the number of instances that are launching. This means that we will request Spot Instances from the pools that we believe have the lowest chance of interruption in the near term. EC2 Fleet then requests Spot Instances from the lowest priced of these pools.

capacity-optimized

EC2 Fleet identifies the pools with the highest capacity availability for the number of instances that are launching. This means that we will request Spot Instances from the pools that we believe have the lowest chance of interruption in the near term. To give certain instance types a higher chance of launching first, use capacity-optimized-prioritized. Set a priority for each instance type by using the Priority parameter for LaunchTemplateOverrides. You can assign the same priority to different LaunchTemplateOverrides. EC2 implements the priorities on a best-effort basis, but optimizes for capacity first. capacity-optimized-prioritized is supported only if your EC2 Fleet uses a launch template. Note that if the On-Demand AllocationStrategy is set to prioritized, the same priority is applied when fulfilling On-Demand capacity.

diversified

EC2 Fleet requests instances from all of the Spot Instance pools that you specify.

lowest-price

EC2 Fleet requests instances from the lowest priced Spot Instance pool that has available capacity. If the lowest priced pool doesn't have available capacity, the Spot Instances come from the next lowest priced pool that has available capacity. If a pool runs out of capacity before fulfilling your desired capacity, EC2 Fleet will continue to fulfill your request by
drawing from the next lowest priced pool. To ensure that your desired capacity is met, you might receive Spot Instances from several pools. Because this strategy only considers instance price and not capacity availability, it might lead to high interruption rates.

Default: lowest-price

Type: String

Valid Values: lowest-price | diversified | capacity-optimized | capacity-optimized-prioritized | price-capacity-optimized

Required: No

**instanceInterruptionBehavior**

The behavior when a Spot Instance is interrupted.

Default: terminate

Type: String

Valid Values: hibernate | stop | terminate

Required: No

**instancePoolsToUseCount**

The number of Spot pools across which to allocate your target Spot capacity. Supported only when AllocationStrategy is set to lowest-price. EC2 Fleet selects the cheapest Spot pools and evenly allocates your target Spot capacity across the number of Spot pools that you specify.

Note that EC2 Fleet attempts to draw Spot Instances from the number of pools that you specify on a best effort basis. If a pool runs out of Spot capacity before fulfilling your target capacity, EC2 Fleet will continue to fulfill your request by drawing from the next cheapest pool. To ensure that your target capacity is met, you might receive Spot Instances from more than the number of pools that you specified. Similarly, if most of the pools have no Spot capacity, you might receive your full target capacity from fewer than the number of pools that you specified.

Type: Integer

Required: No
maintenanceStrategies

The strategies for managing your workloads on your Spot Instances that will be interrupted. Currently only the capacity rebalance strategy is available.

Type: FleetSpotMaintenanceStrategies object

Required: No

maxTotalPrice

The maximum amount per hour for Spot Instances that you're willing to pay. We do not recommend using this parameter because it can lead to increased interruptions. If you do not specify this parameter, you will pay the current Spot price.

⚠️ Important

If you specify a maximum price, your Spot Instances will be interrupted more frequently than if you do not specify this parameter.

Note

If your fleet includes T instances that are configured as unlimited, and if their average CPU usage exceeds the baseline utilization, you will incur a charge for surplus credits. The maxTotalPrice does not account for surplus credits, and, if you use surplus credits, your final cost might be higher than what you specified for maxTotalPrice. For more information, see Surplus credits can incur charges in the EC2 User Guide.

Type: String

Required: No

minTargetCapacity

The minimum target capacity for Spot Instances in the fleet. If the minimum target capacity is not reached, the fleet launches no instances.

Supported only for fleets of type instant.
At least one of the following must be specified: SingleAvailabilityZone | SingleInstanceType

Type: Integer
Required: No

**singleAvailabilityZone**

Indicates that the fleet launches all Spot Instances into a single Availability Zone.

Supported only for fleets of type `instant`.

Type: Boolean
Required: No

**singleInstanceType**

Indicates that the fleet uses a single instance type to launch all Spot Instances in the fleet.

Supported only for fleets of type `instant`.

Type: Boolean
Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
SpotOptionsRequest

Describes the configuration of Spot Instances in an EC2 Fleet request.

Contents

AllocationStrategy

The strategy that determines how to allocate the target Spot Instance capacity across the Spot Instance pools specified by the EC2 Fleet launch configuration. For more information, see Allocation strategies for Spot Instances in the Amazon EC2 User Guide.

price-capacity-optimized (recommended)

EC2 Fleet identifies the pools with the highest capacity availability for the number of instances that are launching. This means that we will request Spot Instances from the pools that we believe have the lowest chance of interruption in the near term. EC2 Fleet then requests Spot Instances from the lowest priced of these pools.

capacity-optimized

EC2 Fleet identifies the pools with the highest capacity availability for the number of instances that are launching. This means that we will request Spot Instances from the pools that we believe have the lowest chance of interruption in the near term. To give certain instance types a higher chance of launching first, use capacity-optimized-prioritized. Set a priority for each instance type by using the Priority parameter for LaunchTemplateOverrides. You can assign the same priority to different LaunchTemplateOverrides. EC2 implements the priorities on a best-effort basis, but optimizes for capacity first. capacity-optimized-prioritized is supported only if your EC2 Fleet uses a launch template. Note that if the On-Demand AllocationStrategy is set to prioritized, the same priority is applied when fulfilling On-Demand capacity.

diversified

EC2 Fleet requests instances from all of the Spot Instance pools that you specify.

lowest-price

EC2 Fleet requests instances from the lowest priced Spot Instance pool that has available capacity. If the lowest priced pool doesn't have available capacity, the Spot Instances come from the next lowest priced pool that has available capacity. If a pool runs out of capacity before fulfilling your desired capacity, EC2 Fleet will continue to fulfill your request by
drawing from the next lowest priced pool. To ensure that your desired capacity is met, you might receive Spot Instances from several pools. Because this strategy only considers instance price and not capacity availability, it might lead to high interruption rates.

Default: lowest-price

Type: String

Valid Values: lowest-price | diversified | capacity-optimized | capacity-optimized-prioritized | price-capacity-optimized

Required: No

**InstanceInterruptionBehavior**

The behavior when a Spot Instance is interrupted.

Default: terminate

Type: String

Valid Values: hibernate | stop | terminate

Required: No

**InstancePoolsToUseCount**

The number of Spot pools across which to allocate your target Spot capacity. Supported only when Spot AllocationStrategy is set to lowest-price. EC2 Fleet selects the cheapest Spot pools and evenly allocates your target Spot capacity across the number of Spot pools that you specify.

Note that EC2 Fleet attempts to draw Spot Instances from the number of pools that you specify on a best effort basis. If a pool runs out of Spot capacity before fulfilling your target capacity, EC2 Fleet will continue to fulfill your request by drawing from the next cheapest pool. To ensure that your target capacity is met, you might receive Spot Instances from more than the number of pools that you specified. Similarly, if most of the pools have no Spot capacity, you might receive your full target capacity from fewer than the number of pools that you specified.

Type: Integer

Required: No
MaintenanceStrategies

The strategies for managing your Spot Instances that are at an elevated risk of being interrupted.

Type: FleetSpotMaintenanceStrategiesRequest object

Required: No

MaxTotalPrice

The maximum amount per hour for Spot Instances that you're willing to pay. We do not recommend using this parameter because it can lead to increased interruptions. If you do not specify this parameter, you will pay the current Spot price.

**Important**
If you specify a maximum price, your Spot Instances will be interrupted more frequently than if you do not specify this parameter.

**Note**
If your fleet includes T instances that are configured as unlimited, and if their average CPU usage exceeds the baseline utilization, you will incur a charge for surplus credits. The MaxTotalPrice does not account for surplus credits, and, if you use surplus credits, your final cost might be higher than what you specified for MaxTotalPrice. For more information, see [Surplus credits can incur charges](https://docs.aws.amazon.com/AmazonECS/latest/developerguide/pricing.html) in the EC2 User Guide.

Type: String

Required: No

MinTargetCapacity

The minimum target capacity for Spot Instances in the fleet. If the minimum target capacity is not reached, the fleet launches no instances.

Supported only for fleets of type instant.
At least one of the following must be specified: SingleAvailabilityZone | SingleInstanceType

Type: Integer

Required: No

**SingleAvailabilityZone**

Indicates that the fleet launches all Spot Instances into a single Availability Zone.

Supported only for fleets of type instant.

Type: Boolean

Required: No

**SingleInstanceType**

Indicates that the fleet uses a single instance type to launch all Spot Instances in the fleet.

Supported only for fleets of type instant.

Type: Boolean

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
SpotPlacement

Describes Spot Instance placement.

Contents

AvailabilityZone (request), availabilityZone (response)

The Availability Zone.

[Spot Fleet only] To specify multiple Availability Zones, separate them using commas; for example, "us-west-2a, us-west-2b".

Type: String

Required: No

GroupName (request), groupName (response)

The name of the placement group.

Type: String

Required: No

Tenancy (request), tenancy (response)

The tenancy of the instance (if the instance is running in a VPC). An instance with a tenancy of dedicated runs on single-tenant hardware. The host tenancy is not supported for Spot Instances.

Type: String

Valid Values: default | dedicated | host

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
SpotPlacementScore

The Spot placement score for this Region or Availability Zone. The score is calculated based on the assumption that the capacity-optimized allocation strategy is used and that all of the Availability Zones in the Region can be used.

Contents

availabilityZoneId

The Availability Zone.

Type: String

Required: No

region

The Region.

Type: String

Required: No

score

The placement score, on a scale from 1 to 10. A score of 10 indicates that your Spot request is highly likely to succeed in this Region or Availability Zone. A score of 1 indicates that your Spot request is not likely to succeed.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
SpotPrice

The maximum price per unit hour that you are willing to pay for a Spot Instance. We do not recommend using this parameter because it can lead to increased interruptions. If you do not specify this parameter, you will pay the current Spot price.

⚠️ Important

If you specify a maximum price, your instances will be interrupted more frequently than if you do not specify this parameter.

Contents

availabilityZone

The Availability Zone.

Type: String

Required: No

instanceType

The instance type.

Type: String

Valid Values: a1.medium | a1.large | a1.xlarge | a1.2xlarge | a1.4xlarge | a1.metal | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.9xlarge | c5.12xlarge | c5.18xlarge | c5.24xlarge | c5.metal | c5a.large | c5a.xlarge | c5a.2xlarge | c5a.4xlarge | c5a.8xlarge | c5a.12xlarge | c5a.16xlarge | c5a.24xlarge | c5ad.large | c5ad.xlarge | c5ad.2xlarge | c5ad.4xlarge | c5ad.8xlarge | c5ad.12xlarge | c5ad.16xlarge | c5ad.24xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.12xlarge | c5d.18xlarge | c5d.24xlarge | c5d.metal | c5n.large | c5n.xlarge | c5n.2xlarge | c5n.4xlarge | c5n.9xlarge | c5n.18xlarge | c5n.metal | c6g.medium | c6g.large
| c6g.xlarge | c6g.2xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge |
| c6g.16xlarge | c6g.4xlarge | c6g.8xlarge | c6g.12xlarge |
| c6g.16xlarge | c6g.32xlarge | c6g.64xlarge | c6g.128xlarge |
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| c6g.16xlarge | c6g.32xlarge | c6g.64xlarge | c6g.128xlarge |
| c6g.16xlarge | c6g.32xlarge | c6g.64xlarge | c6g.128xlarge |
| c6g.16xlarge | c6g.32xlarge | c6g.64xlarge | c6g.128xlarge |
| c6g.16xlarge | c6g.32xlarge | c6g.64xlarge | c6g.128xlarge |
| c6g.16xlarge | c6g.32xlarge | c6g.64xlarge | c6g.128xlarge |
| c6g.16xlarge | c6g.32xlarge | c6g.64xlarge | c6g.128xlarge |
| c6g.16xlarge | c6g.32xlarge | c6g.64xlarge | c6g.128xlarge |
| c6g.16xlarge | c6g.32xlarge | c6g.64xlarge | c6g.128xlarge |
| c6g.16xlarge | c6g.32xlarge | c6g.64xlarge | c6g.128xlarge |
| c6g.16xlarge | c6g.32xlarge | c6g.64xlarge | c6g.128xlarge |
| c6g.16xlarge | c6g.32xlarge | c6g.64xlarge | c6g.128xlarge |
| c6g.16xlarge | c6g.32xlarge | c6g.64xlarge | c6g.128xlarge |
| c6g.16xlarge | c6g.32xlarge | c6g.64xlarge | c6g.128xlarge |
| m5d.2xlarge | m5d.4xlarge | m5d.8xlarge | m5d.12xlarge | m5d.16xlarge |
| m5d.24xlarge | m5d.meta | m5dn.large | m5dn.xlarge | m5dn.2xlarge |
| m5dn.4xlarge | m5dn.8xlarge | m5dn.12xlarge | m5dn.16xlarge |
| m5n.24xlarge | m5n.meta | m5n.large | m5n.xlarge | m5n.2xlarge |
| m5n.4xlarge | m5n.8xlarge | m5n.12xlarge | m5n.16xlarge | m5n.24xlarge |
| m5zn.6xlarge | m5zn.12xlarge | m5zn.meta | m6a.large | m6a.xlarge |
| m6a.2xlarge | m6a.4xlarge | m6a.8xlarge | m6a.12xlarge | m6a.16xlarge |
| m6a.24xlarge | m6a.32xlarge | m6a.48xlarge | m6g.meta | m6g.medium |
| m6g.1large | m6g.xlarge | m6g.2xlarge | m6g.4xlarge | m6g.8xlarge |
| m6g.12xlarge | m6g.16xlarge | m6gd.meta | m6gd.medium | m6gd.large |
| m6gd.xlarge | m6gd.2xlarge | m6gd.4xlarge | m6gd.8xlarge | m6gd.12xlarge |
| m6gd.16xlarge | m6i.large | m6i.xlarge | m6i.2xlarge | m6i.4xlarge |
| m6i.8xlarge | m6i.12xlarge | m6i.16xlarge | m6i.24xlarge | m6i.32xlarge |
| m6i.meta | mac1.meta | p2.xlarge | p2.8xlarge | p2.16xlarge |
| p3.2xlarge | p3.8xlarge | p3.16xlarge | p3dn.24xlarge | p4d.24xlarge |
| r3.1large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge |
| r4.xlarge | r4.2xlarge | r4.4xlarge | r4.8xlarge | r4.16xlarge |
| r5.1large | r5.xlarge | r5.2xlarge | r5.4xlarge | r5.8xlarge |
| r5.12xlarge | r5.16xlarge | r5.24xlarge | r5.meta | r5a.large |
| r5a.xlarge | r5a.2xlarge | r5a.4xlarge | r5a.8xlarge | r5a.12xlarge |
| r5a.16xlarge | r5a.24xlarge | r5ad.large | r5ad.xlarge | r5ad.2xlarge |
| r5ad.4xlarge | r5ad.8xlarge | r5ad.12xlarge | r5ad.16xlarge |
| r5ad.24xlarge | r5b.large | r5b.xlarge | r5b.2xlarge | r5b.4xlarge |
| r5b.8xlarge | r5b.12xlarge | r5b.16xlarge | r5b.24xlarge | r5b.meta |
| r5d.large | r5d.xlarge | r5d.2xlarge | r5d.4xlarge | r5d.8xlarge |
| r5d.12xlarge | r5d.16xlarge | r5d.24xlarge | r5d.meta | r5dn.large |
| r5dn.xlarge | r5dn.2xlarge | r5dn.4xlarge | r5dn.8xlarge | r5dn.12xlarge |
| r5dn.16xlarge | r5dn.24xlarge | r5dn.meta | r5n.large | r5n.xlarge |
| r5n.2xlarge | r5n.4xlarge | r5n.8xlarge | r5n.12xlarge | r5n.16xlarge |
| r5n.24xlarge | r5n.meta | r6g.medium | r6g.large | r6g.xlarge |
| r6g.2xlarge | r6g.4xlarge | r6g.8xlarge | r6g.12xlarge | r6g.16xlarge |
| r6g.meta | r6gd.medium | r6gd.large | r6gd.xlarge | r6gd.2xlarge |
| r6gd.4xlarge | r6gd.8xlarge | r6gd.12xlarge | r6gd.16xlarge | r6gd.meta |
| r6i.large | r6i.xlarge | r6i.2xlarge | r6i.4xlarge | r6i.8xlarge |
| r6i.12xlarge | r6i.16xlarge | r6i.24xlarge | r6i.32xlarge |
| m6in.large | m6in.xlarge | m6in.2xlarge | m6in.4xlarge | m6in.8xlarge |
| m6in.12xlarge | m6in.16xlarge | m6in.24xlarge | m6in.32xlarge |
| m6idn.large | m6idn.xlarge | m6idn.2xlarge | m6idn.4xlarge |
| m6idn.8xlarge | m6idn.12xlarge | m6idn.16xlarge | m6idn.24xlarge |
| m6idn.32xlarge | r6in.large | r6in.xlarge | r6in.2xlarge | r6in.4xlarge |
| r6in.8xlarge | r6in.12xlarge | r6in.16xlarge | r6in.24xlarge |
| r6in.32xlarge | r6idn.large | r6idn.xlarge | r6idn.2xlarge |
| r6idn.4xlarge | r6idn.8xlarge | r6idn.12xlarge | r6idn.16xlarge |
| r6idn.24xlarge | r6idn.32xlarge | c7g.metal | m7g.medium | m7g.large |
| m7g.xlarge | m7g.2xlarge | m7g.4xlarge | m7g.8xlarge | m7g.12xlarge |
| m7g.16xlarge | m7g.medium | m7g.large | m7g.xlarge | m7g.2xlarge |
| m7g.4xlarge | m7g.8xlarge | m7g.12xlarge | m7g.16xlarge |
| r7g.2xlarge | r7g.4xlarge | r7g.8xlarge | r7g.12xlarge | r7g.16xlarge |
| r7g.24xlarge | r7g.32xlarge | c7gn.medium | c7gn.large | c7gn.xlarge |
| c7gn.2xlarge | c7gn.4xlarge | c7gn.8xlarge | c7gn.12xlarge | c7gn.16xlarge |
| p5.48xlarge | m7i.large | m7i.xlarge | m7i.2xlarge | m7i.4xlarge |
| m7i.8xlarge | m7i.12xlarge | m7i.16xlarge | m7i.24xlarge | m7i.48xlarge |
| m7i-flex.large | m7i-flex.xlarge | m7i-flex.2xlarge | m7i-flex.4xlarge |
| m7i-flex.8xlarge | m7a.medium | m7a.large | m7a.xlarge | m7a.2xlarge |
| m7a.4xlarge | m7a.8xlarge | m7a.12xlarge | m7a.16xlarge | m7a.24xlarge |
| m7a.32xlarge | m7a.48xlarge | m7a.metal-48xl | hpca7a.12xlarge | hpca7a.24xlarge |
| hpca7a.48xlarge | hpca7a.96xlarge | c7gd.medium | c7gd.large | c7gd.xlarge |
| c7gd.2xlarge | c7gd.4xlarge | c7gd.8xlarge | c7gd.12xlarge | c7gd.16xlarge |
| c7gd.24xlarge | c7gd.48xlarge | c7gd.8xlarge | c7gd.12xlarge | c7gd.16xlarge |
| c7gd.24xlarge | c7gd.48xlarge | c7gd.8xlarge | c7gd.12xlarge | c7gd.16xlarge |
| r7gd.medium | r7gd.large | r7gd.xlarge | r7gd.2xlarge | r7gd.4xlarge |
| r7gd.8xlarge | r7gd.12xlarge | r7gd.16xlarge | r7a.medium |
| r7a.large | r7a.xlarge | r7a.2xlarge | r7a.4xlarge | r7a.8xlarge |
| r7a.12xlarge | r7a.16xlarge | r7a.24xlarge | r7a.32xlarge | r7a.48xlarge |
| c7i.large | c7i.xlarge | c7i.2xlarge | c7i.4xlarge | c7i.8xlarge |
| c7i.12xlarge | c7i.16xlarge | c7i.24xlarge | c7i.48xlarge | mac2-m2pro.metal |
| r7iz.large | r7iz.xlarge | r7iz.2xlarge | r7iz.4xlarge |
| r7iz.8xlarge | r7iz.12xlarge | r7iz.16xlarge | r7iz.32xlarge |
c7a.medium | c7a.large | c7a.xlarge | c7a.2xlarge | c7a.4xlarge | c7a.8xlarge | c7a.12xlarge | c7a.16xlarge | c7a.24xlarge | c7a.32xlarge | c7a.48xlarge | c7a.metal-48x1 | r7a.metal-48x1 | r7i.large | r7i.xlarge | r7i.2xlarge | r7i.4xlarge | r7i.8xlarge | r7i.12xlarge | r7i.16xlarge | r7i.24xlarge | r7i.48xlarge | dl2q.24xlarge | mac2-m2.metal | i4i.12xlarge | i4i.24xlarge | c7i.metal-24x1 | c7i.metal-48x1 | m7i.metal-24x1 | m7i.metal-48x1 | r7i.metal-24x1 | r7i.metal-48x1 | r7iz.metal-16x1 | r7iz.metal-32x1

Required: No

**productDescription**

A general description of the AMI.

Type: String

Valid Values: Linux/UNIX | Linux/UNIX (Amazon VPC) | Windows | Windows (Amazon VPC)

Required: No

**spotPrice**

The maximum price per unit hour that you are willing to pay for a Spot Instance. We do not recommend using this parameter because it can lead to increased interruptions. If you do not specify this parameter, you will pay the current Spot price.

⚠️ **Important**

If you specify a maximum price, your instances will be interrupted more frequently than if you do not specify this parameter.

Type: String

Required: No

**timestamp**

The date and time the request was created, in UTC format (for example, `YYYY-MM-DDTHH:MM:SSZ`).
Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
StaleIpPermission

Describes a stale rule in a security group.

Contents

fromPort

The start of the port range for the TCP and UDP protocols, or an ICMP type number. A value of -1 indicates all ICMP types.

Type: Integer

Required: No

groups

The security group pairs. Returns the ID of the referenced security group and VPC, and the ID and status of the VPC peering connection.

Type: Array of UserIdGroupPair objects

Required: No

ipProtocol

The IP protocol name (for tcp, udp, and icmp) or number (see Protocol Numbers).

Type: String

Required: No

ipRanges

The IP ranges. Not applicable for stale security group rules.

Type: Array of strings

Required: No

prefixListIds

The prefix list IDs. Not applicable for stale security group rules.

Type: Array of strings
Required: No

toPort

The end of the port range for the TCP and UDP protocols, or an ICMP type number. A value of -1 indicates all ICMP types.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
StaleSecurityGroup

Describes a stale security group (a security group that contains stale rules).

Contents

description

The description of the security group.

Type: String

Required: No

groupId

The ID of the security group.

Type: String

Required: No

groupName

The name of the security group.

Type: String

Required: No

staleIpPermissions

Information about the stale inbound rules in the security group.

Type: Array of StaleIpPermission objects

Required: No

staleIpPermissionsEgress

Information about the stale outbound rules in the security group.

Type: Array of StaleIpPermission objects

Required: No
vpclId

The ID of the VPC for the security group.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
StateReason

Describes a state change.

Contents

code

The reason code for the state change.

Type: String

Required: No

message

The message for the state change.

- Server.InsufficientInstanceCapacity: There was insufficient capacity available to satisfy the launch request.
- Server.InternalError: An internal error caused the instance to terminate during launch.
- Server.ScheduledStop: The instance was stopped due to a scheduled retirement.
- Server.SpotInstanceShutdown: The instance was stopped because the number of Spot requests with a maximum price equal to or higher than the Spot price exceeded available capacity or because of an increase in the Spot price.
- Server.SpotInstanceTermination: The instance was terminated because the number of Spot requests with a maximum price equal to or higher than the Spot price exceeded available capacity or because of an increase in the Spot price.
- Client.InstanceInitiatedShutdown: The instance was shut down from the operating system of the instance.
- Client.InstanceTerminated: The instance was terminated or rebooted during AMI creation.
- Client.InternalError: A client error caused the instance to terminate during launch.
- Client.InvalidSnapshot.NotFound: The specified snapshot was not found.
- Client.UserInitiatedHibernate: Hibernation was initiated on the instance.
- Client.UserInitiatedShutdown: The instance was shut down using the Amazon EC2 API.
- Client.VolumeLimitExceeded: The limit on the number of EBS volumes or total storage was exceeded. Decrease usage or request an increase in your account limits.
Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp)
- [AWS SDK for Go](https://github.com/aws/aws-sdk-go)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby)
Storage

Describes the storage location for an instance store-backed AMI.

Contents

S3 (request), S3 (response)

An Amazon S3 storage location.

Type: S3Storage object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
StorageLocation

Describes a storage location in Amazon S3.

Contents

Bucket

The name of the S3 bucket.

Type: String

Required: No

Key

The key.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
StoreImageTaskResult

The information about the AMI store task, including the progress of the task.

Contents

**amiId**

The ID of the AMI that is being stored.

Type: String

Required: No

**bucket**

The name of the Amazon S3 bucket that contains the stored AMI object.

Type: String

Required: No

**progressPercentage**

The progress of the task as a percentage.

Type: Integer

Required: No

**s3objectKey**

The name of the stored AMI object in the bucket.

Type: String

Required: No

**storeTaskFailureReason**

If the task fails, the reason for the failure is returned. If the task succeeds, null is returned.

Type: String

Required: No
storeTaskState

The state of the store task (InProgress, Completed, or Failed).

Type: String

Required: No

taskStartTime

The time the task started.

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Subnet

Describes a subnet.

Contents

assignIpv6AddressOnCreation

Indicates whether a network interface created in this subnet (including a network interface created by RunInstances) receives an IPv6 address.

Type: Boolean

Required: No

availabilityZone

The Availability Zone of the subnet.

Type: String

Required: No

availabilityZoneId

The AZ ID of the subnet.

Type: String

Required: No

availableIpAddressCount

The number of unused private IPv4 addresses in the subnet. The IPv4 addresses for any stopped instances are considered unavailable.

Type: Integer

Required: No

cidrBlock

The IPv4 CIDR block assigned to the subnet.

Type: String
Required: No

customerOwnedIpv4Pool

The customer-owned IPv4 address pool associated with the subnet.

Type: String

Required: No

defaultForAz

Indicates whether this is the default subnet for the Availability Zone.

Type: Boolean

Required: No

enableDns64

Indicates whether DNS queries made to the Amazon-provided DNS Resolver in this subnet should return synthetic IPv6 addresses for IPv4-only destinations.

Type: Boolean

Required: No

enableLniAtDeviceIndex

Indicates the device position for local network interfaces in this subnet. For example, 1 indicates local network interfaces in this subnet are the secondary network interface (eth1).

Type: Integer

Required: No

ipv6CidrBlockAssociationSet

Information about the IPv6 CIDR blocks associated with the subnet.

Type: Array of SubnetIpv6CidrBlockAssociation objects

Required: No

ipv6Native

Indicates whether this is an IPv6 only subnet.
**mapCustomerOwnedIpOnLaunch**

Indicates whether a network interface created in this subnet (including a network interface created by [RunInstances](#)) receives a customer-owned IPv4 address.

Type: Boolean

Required: No

**mapPublicIpOnLaunch**

Indicates whether instances launched in this subnet receive a public IPv4 address.

Starting on February 1, 2024, AWS will charge for all public IPv4 addresses, including public IPv4 addresses associated with running instances and Elastic IP addresses. For more information, see the *[Public IPv4 Address](#)* tab on the [Amazon VPC pricing page](#).

Type: Boolean

Required: No

**outpostArn**

The Amazon Resource Name (ARN) of the Outpost.

Type: String

Required: No

**ownerId**

The ID of the AWS account that owns the subnet.

Type: String

Required: No

**privateDnsNameOptionsOnLaunch**

The type of hostnames to assign to instances in the subnet at launch. An instance hostname is based on the IPv4 address or ID of the instance.
Type: PrivateDnsNameOptionsOnLaunch object

Required: No

**state**

The current state of the subnet.

Type: String

Valid Values: pending | available

Required: No

**subnetArn**

The Amazon Resource Name (ARN) of the subnet.

Type: String

Required: No

**subnetId**

The ID of the subnet.

Type: String

Required: No

**tagSet**

Any tags assigned to the subnet.

Type: Array of Tag objects

Required: No

**vpcId**

The ID of the VPC the subnet is in.

Type: String

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
SubnetAssociation

Describes the subnet association with the transit gateway multicast domain.

Contents

state

The state of the subnet association.

Type: String

Valid Values: pendingAcceptance | associating | associated | disassociating | disassociated | rejected | failed

Required: No

subnetId

The ID of the subnet.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SubnetCidrBlockState

Describes the state of a CIDR block.

Contents

state

The state of a CIDR block.

Type: String

Valid Values: associating | associated | disassociating | disassociated | failing | failed

Required: No

statusMessage

A message about the status of the CIDR block, if applicable.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SubnetCidrReservation

Describes a subnet CIDR reservation.

Contents

cidr

The CIDR that has been reserved.

Type: String

Required: No

description

The description assigned to the subnet CIDR reservation.

Type: String

Required: No

ownerId

The ID of the account that owns the subnet CIDR reservation.

Type: String

Required: No

reservationType

The type of reservation.

Type: String

Valid Values: prefix | explicit

Required: No

subnetCidrReservationId

The ID of the subnet CIDR reservation.

Type: String
Required: No

**subnetId**

The ID of the subnet.

Type: String

Required: No

**tagSet**

The tags assigned to the subnet CIDR reservation.

Type: Array of [Tag](#) objects

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
SubnetConfiguration

Describes the configuration of a subnet for a VPC endpoint.

Contents

Ipv4

The IPv4 address to assign to the endpoint network interface in the subnet. You must provide an IPv4 address if the VPC endpoint supports IPv4.

If you specify an IPv4 address when modifying a VPC endpoint, we replace the existing endpoint network interface with a new endpoint network interface with this IP address. This process temporarily disconnects the subnet and the VPC endpoint.

Type: String

Required: No

Ipv6

The IPv6 address to assign to the endpoint network interface in the subnet. You must provide an IPv6 address if the VPC endpoint supports IPv6.

If you specify an IPv6 address when modifying a VPC endpoint, we replace the existing endpoint network interface with a new endpoint network interface with this IP address. This process temporarily disconnects the subnet and the VPC endpoint.

Type: String

Required: No

SubnetId

The ID of the subnet.

Type: String

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
SubnetIpv6CidrBlockAssociation

Describes an association between a subnet and an IPv6 CIDR block.

Contents

associationId

The ID of the association.

Type: String

Required: No

ipv6CidrBlock

The IPv6 CIDR block.

Type: String

Required: No

ipv6CidrBlockState

The state of the CIDR block.

Type: SubnetCidrBlockState object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Subscription

Describes an Infrastructure Performance subscription.

Contents

destination

The Region or Availability Zone that's the target for the subscription. For example, eu-west-1.

Type: String

Required: No

metric

The metric used for the subscription.

Type: String

Valid Values: aggregate-latency

Required: No

period

The data aggregation time for the subscription.

Type: String

Valid Values: five-minutes | fifteen-minutes | one-hour | three-hours | one-day | one-week

Required: No

source

The Region or Availability Zone that's the source for the subscription. For example, us-east-1.

Type: String

Required: No

statistic

The statistic used for the subscription.
Type: String

Valid Values: p50

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SuccessfulInstanceCreditSpecificationItem

Describes the burstable performance instance whose credit option for CPU usage was successfully modified.

Contents

instanceId

The ID of the instance.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SuccessfulQueuedPurchaseDeletion

Describes a Reserved Instance whose queued purchase was successfully deleted.

Contents

reservedInstancesId

The ID of the Reserved Instance.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Tag

Describes a tag.

Contents

**Key** (request), **key** (response)

The key of the tag.

Constraints: Tag keys are case-sensitive and accept a maximum of 127 Unicode characters. May not begin with `aws:`.

Type: String

Required: No

**Value** (request), **value** (response)

The value of the tag.

Constraints: Tag values are case-sensitive and accept a maximum of 256 Unicode characters.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- **AWS SDK for C++**
- **AWS SDK for Go**
- **AWS SDK for Java V2**
- **AWS SDK for Ruby V3**
TagDescription

Describes a tag.

Contents

key

The tag key.

Type: String

Required: No

resourceId

The ID of the resource.

Type: String

Required: No

resourceType

The resource type.

Type: String

value

The tag value.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TagSpecification

The tags to apply to a resource when the resource is being created. When you specify a tag, you must specify the resource type to tag, otherwise the request will fail.

### Note

The Valid Values lists all the resource types that can be tagged. However, the action you're using might not support tagging all of these resource types. If you try to tag a resource type that is unsupported for the action you're using, you'll get an error.

### Contents

**ResourceType** (request), **resourceType** (response)

The type of resource to tag on creation.

Type: String

Required: No

Tags (request), Tag (response)

The tags to apply to the resource.

Type: Array of Tag objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TargetCapacitySpecification

The number of units to request. You can choose to set the target capacity in terms of instances or a performance characteristic that is important to your application workload, such as vCPUs, memory, or I/O. If the request type is maintain, you can specify a target capacity of 0 and add capacity later.

You can use the On-Demand Instance MaxTotalPrice parameter, the Spot Instance MaxTotalPrice, or both to ensure that your fleet cost does not exceed your budget. If you set a maximum price per hour for the On-Demand Instances and Spot Instances in your request, EC2 Fleet will launch instances until it reaches the maximum amount that you're willing to pay. When the maximum amount you're willing to pay is reached, the fleet stops launching instances even if it hasn't met the target capacity. The MaxTotalPrice parameters are located in OnDemandOptions and SpotOptions.

Contents

defaultTargetCapacityType

The default target capacity type.

Type: String

Valid Values: spot | on-demand | capacity-block

Required: No

onDemandTargetCapacity

The number of On-Demand units to request. If you specify a target capacity for Spot units, you cannot specify a target capacity for On-Demand units.

Type: Integer

Required: No

spotTargetCapacity

The maximum number of Spot units to launch. If you specify a target capacity for On-Demand units, you cannot specify a target capacity for Spot units.

Type: Integer
Required: No

**targetCapacityUnitType**

The unit for the target capacity.

Type: String

Valid Values: vcpu | memory-mib | units

Required: No

**totalTargetCapacity**

The number of units to request, filled the default target capacity type.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
TargetCapacitySpecificationRequest

The number of units to request. You can choose to set the target capacity as the number of instances. Or you can set the target capacity to a performance characteristic that is important to your application workload, such as vCPUs, memory, or I/O. If the request type is maintain, you can specify a target capacity of 0 and add capacity later.

You can use the On-Demand Instance MaxTotalPrice parameter, the Spot Instance MaxTotalPrice parameter, or both parameters to ensure that your fleet cost does not exceed your budget. If you set a maximum price per hour for the On-Demand Instances and Spot Instances in your request, EC2 Fleet will launch instances until it reaches the maximum amount that you're willing to pay. When the maximum amount you're willing to pay is reached, the fleet stops launching instances even if it hasn't met the target capacity. The MaxTotalPrice parameters are located in OnDemandOptionsRequest and SpotOptionsRequest.

Contents

TotalTargetCapacity

The number of units to request, filled using the default target capacity type.

Type: Integer

Required: Yes

DefaultTargetCapacityType

The default target capacity type.

Type: String

Valid Values: spot | on-demand | capacity-block

Required: No

OnDemandTargetCapacity

The number of On-Demand units to request.

Type: Integer

Required: No
**SpotTargetCapacity**

The number of Spot units to request.

Type: Integer

Required: No

**TargetCapacityUnitType**

The unit for the target capacity. You can specify this parameter only when using attributed-based instance type selection.

Default: units (the number of instances)

Type: String

Valid Values: vcpu | memory-mib | units

Required: No

---

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
TargetConfiguration

Information about the Convertible Reserved Instance offering.

Contents

instanceCount

The number of instances the Convertible Reserved Instance offering can be applied to. This parameter is reserved and cannot be specified in a request.

Type: Integer

Required: No

offeringId

The ID of the Convertible Reserved Instance offering.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TargetConfigurationRequest

Details about the target configuration.

Contents

OfferingId

The Convertible Reserved Instance offering ID.

Type: String

Required: Yes

InstanceCount

The number of instances the Convertible Reserved Instance offering can be applied to. This parameter is reserved and cannot be specified in a request.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TargetGroup

Describes a load balancer target group.

Contents

Arn (request), arn (response)

The Amazon Resource Name (ARN) of the target group.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TargetGroupsConfig

Describes the target groups to attach to a Spot Fleet. Spot Fleet registers the running Spot Instances with these target groups.

Contents

**TargetGroups** (request), **targetGroups** (response)

One or more target groups.

Type: Array of [TargetGroup](#) objects

Array Members: Minimum number of 1 item. Maximum number of 5 items.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
TargetNetwork

Describes a target network associated with a Client VPN endpoint.

Contents

**associationId**

The ID of the association.

Type: String

Required: No

**clientVpnEndpointId**

The ID of the Client VPN endpoint with which the target network is associated.

Type: String

Required: No

**securityGroups**

The IDs of the security groups applied to the target network association.

Type: Array of strings

Required: No

**status**

The current state of the target network association.

Type: [AssociationStatus](#) object

Required: No

**targetNetworkId**

The ID of the subnet specified as the target network.

Type: String

Required: No
**vpclId**

The ID of the VPC in which the target network (subnet) is located.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TargetReservationValue

The total value of the new Convertible Reserved Instances.

Contents

reservationValue

The total value of the Convertible Reserved Instances that make up the exchange. This is the sum of the list value, remaining upfront price, and additional upfront cost of the exchange.

Type: ReservationValue object

Required: No

targetConfiguration

The configuration of the Convertible Reserved Instances that make up the exchange.

Type: TargetConfiguration object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TerminateConnectionStatus

Information about a terminated Client VPN endpoint client connection.

Contents

connectionId

The ID of the client connection.

Type: String

Required: No

currentStatus

A message about the status of the client connection, if applicable.

Type: `ClientVpnConnectionStatus` object

Required: No

previousStatus

The state of the client connection.

Type: `ClientVpnConnectionStatus` object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ThroughResourcesStatement

Describes a through resource statement.

Contents

resourceStatement

The resource statement.

Type: ResourceStatement object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ThroughResourcesStatementRequest

Describes a through resource statement.

Contents

ResourceStatement

The resource statement.

Type: ResourceStatementRequest object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TotalLocalStorageGB

The minimum and maximum amount of total local storage, in GB.

Contents

Max (request), max (response)

The maximum amount of total local storage, in GB. If this parameter is not specified, there is no maximum limit.

Type: Double

Required: No

Min (request), min (response)

The minimum amount of total local storage, in GB. If this parameter is not specified, there is no minimum limit.

Type: Double

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TotalLocalStorageGBRequest

The minimum and maximum amount of total local storage, in GB.

Contents

Max

The maximum amount of total local storage, in GB. To specify no maximum limit, omit this parameter.

Type: Double

Required: No

Min

The minimum amount of total local storage, in GB. To specify no minimum limit, omit this parameter.

Type: Double

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TrafficMirrorFilter

Describes the Traffic Mirror filter.

Contents

description

The description of the Traffic Mirror filter.

Type: String

Required: No

egressFilterRuleSet

Information about the egress rules that are associated with the Traffic Mirror filter.

Type: Array of TrafficMirrorFilterRule objects

Required: No

ingressFilterRuleSet

Information about the ingress rules that are associated with the Traffic Mirror filter.

Type: Array of TrafficMirrorFilterRule objects

Required: No

networkServiceSet

The network service traffic that is associated with the Traffic Mirror filter.

Type: Array of strings

Valid Values: amazon-dns

Required: No

tagSet

The tags assigned to the Traffic Mirror filter.

Type: Array of Tag objects
Required: No

`trafficMirrorFilterId`

The ID of the Traffic Mirror filter.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
**TrafficMirrorFilterRule**

Describes the Traffic Mirror rule.

**Contents**

**description**

The description of the Traffic Mirror rule.

Type: String

Required: No

**destinationCidrBlock**

The destination CIDR block assigned to the Traffic Mirror rule.

Type: String

Required: No

**destinationPortRange**

The destination port range assigned to the Traffic Mirror rule.

Type: [TrafficMirrorPortRange](#) object

Required: No

**protocol**

The protocol assigned to the Traffic Mirror rule.

Type: Integer

Required: No

**ruleAction**

The action assigned to the Traffic Mirror rule.

Type: String

Valid Values: accept | reject
Required: No

**ruleNumber**

The rule number of the Traffic Mirror rule.

Type: Integer

Required: No

**sourceCidrBlock**

The source CIDR block assigned to the Traffic Mirror rule.

Type: String

Required: No

**sourcePortRange**

The source port range assigned to the Traffic Mirror rule.

Type: TrafficMirrorPortRange object

Required: No

**trafficDirection**

The traffic direction assigned to the Traffic Mirror rule.

Type: String

Valid Values: ingress | egress

Required: No

**trafficMirrorFilterId**

The ID of the Traffic Mirror filter that the rule is associated with.

Type: String

Required: No

**trafficMirrorFilterRuleId**

The ID of the Traffic Mirror rule.
Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TrafficMirrorPortRange

Describes the Traffic Mirror port range.

Contents

fromPort

The start of the Traffic Mirror port range. This applies to the TCP and UDP protocols.

Type: Integer

Required: No

toPort

The end of the Traffic Mirror port range. This applies to the TCP and UDP protocols.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TrafficMirrorPortRangeRequest

Information about the Traffic Mirror filter rule port range.

Contents

FromPort

The first port in the Traffic Mirror port range. This applies to the TCP and UDP protocols.

Type: Integer

Required: No

ToPort

The last port in the Traffic Mirror port range. This applies to the TCP and UDP protocols.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TrafficMirrorSession

Describes a Traffic Mirror session.

Contents

description

The description of the Traffic Mirror session.

Type: String

Required: No

networkInterfaceId

The ID of the Traffic Mirror session's network interface.

Type: String

Required: No

ownerId

The ID of the account that owns the Traffic Mirror session.

Type: String

Required: No

packetLength

The number of bytes in each packet to mirror. These are the bytes after the VXLAN header. To mirror a subset, set this to the length (in bytes) to mirror. For example, if you set this value to 100, then the first 100 bytes that meet the filter criteria are copied to the target. Do not specify this parameter when you want to mirror the entire packet.

Type: Integer

Required: No

sessionNumber

The session number determines the order in which sessions are evaluated when an interface is used by multiple sessions. The first session with a matching filter is the one that mirrors the packets.
Valid values are 1-32766.

Type: Integer

Required: No

tagSet

The tags assigned to the Traffic Mirror session.

Type: Array of Tag objects

Required: No

trafficMirrorFilterId

The ID of the Traffic Mirror filter.

Type: String

Required: No

trafficMirrorSessionId

The ID for the Traffic Mirror session.

Type: String

Required: No

trafficMirrorTargetId

The ID of the Traffic Mirror target.

Type: String

Required: No

virtualNetworkId

The virtual network ID associated with the Traffic Mirror session.

Type: Integer

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
TrafficMirrorTarget

Describes a Traffic Mirror target.

Contents

description

Information about the Traffic Mirror target.

Type: String

Required: No

gatewayLoadBalancerEndpointId

The ID of the Gateway Load Balancer endpoint.

Type: String

Required: No

networkInterfaceId

The network interface ID that is attached to the target.

Type: String

Required: No

networkLoadBalancerArn

The Amazon Resource Name (ARN) of the Network Load Balancer.

Type: String

Required: No

ownerId

The ID of the account that owns the Traffic Mirror target.

Type: String

Required: No
**tagSet**

The tags assigned to the Traffic Mirror target.

Type: Array of `Tag` objects

Required: No

**trafficMirrorTargetId**

The ID of the Traffic Mirror target.

Type: String

Required: No

**type**

The type of Traffic Mirror target.

Type: String

Valid Values: network-interface | network-load-balancer | gateway-load-balancer-endpoint

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
TransitGateway

Describes a transit gateway.

Contents

creationTime

The creation time.

Type: Timestamp

Required: No

description

The description of the transit gateway.

Type: String

Required: No

options

The transit gateway options.

Type: TransitGatewayOptions object

Required: No

ownerId

The ID of the AWS account that owns the transit gateway.

Type: String

Required: No

state

The state of the transit gateway.

Type: String

Valid Values: pending | available | modifying | deleting | deleted
tagSet

The tags for the transit gateway.

Type: Array of Tag objects

transitGatewayArn

The Amazon Resource Name (ARN) of the transit gateway.

Type: String

transitGatewayId

The ID of the transit gateway.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayAssociation

Describes an association between a resource attachment and a transit gateway route table.

Contents

**resourceId**

The ID of the resource.

Type: String

Required: No

**resourceType**

The resource type. Note that the tgw-peering resource type has been deprecated.

Type: String

Valid Values: vpc | vpn | direct-connect-gateway | connect | peering | tgw-peering

Required: No

**state**

The state of the association.

Type: String

Valid Values: associating | associated | disassociating | disassociated

Required: No

**transitGatewayAttachmentId**

The ID of the attachment.

Type: String

Required: No

**transitGatewayRouteTableId**

The ID of the transit gateway route table.
Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
TransitGatewayAttachment

Describes an attachment between a resource and a transit gateway.

Contents

association

The association.

Type: TransitGatewayAttachmentAssociation object

Required: No

creationTime

The creation time.

Type: Timestamp

Required: No

resourceId

The ID of the resource.

Type: String

Required: No

resourceOwnerId

The ID of the AWS account that owns the resource.

Type: String

Required: No

resourceType

The resource type. Note that the tgw-peering resource type has been deprecated.

Type: String

Valid Values: vpc | vpn | direct-connect-gateway | connect | peering | tgw-peering
state

The attachment state. Note that the initiating state has been deprecated.

Type: String

Valid Values: initiating | initiatingRequest | pendingAcceptance | rollingBack | pending | available | modifying | deleting | deleted | failed | rejected | rejecting | failing

Required: No

tagSet

The tags for the attachment.

Type: Array of Tag objects

Required: No

transitGatewayAttachmentId

The ID of the attachment.

Type: String

Required: No

transitGatewayId

The ID of the transit gateway.

Type: String

Required: No

transitGatewayOwnerId

The ID of the AWS account that owns the transit gateway.

Type: String

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayAttachmentAssociation

Describes an association.

Contents

state

The state of the association.

Type: String

Valid Values: associating | associated | disassociating | disassociated

Required: No

transitGatewayRouteTableId

The ID of the route table for the transit gateway.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
TransitGatewayAttachmentBgpConfiguration

The BGP configuration information.

Contents

bgpStatus

The BGP status.

Type: String

Valid Values: up | down

Required: No

peerAddress

The interior BGP peer IP address for the appliance.

Type: String

Required: No

peerAsn

The peer Autonomous System Number (ASN).

Type: Long

Required: No

transitGatewayAddress

The interior BGP peer IP address for the transit gateway.

Type: String

Required: No

transitGatewayAsn

The transit gateway Autonomous System Number (ASN).

Type: Long
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
TransitGatewayAttachmentPropagation

Describes a propagation route table.

Contents

state

The state of the propagation route table.

Type: String

Valid Values: enabling | enabled | disabling | disabled

Required: No

transitGatewayRouteTableId

The ID of the propagation route table.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayConnect

Describes a transit gateway Connect attachment.

Contents

creationTime

The creation time.

Type: Timestamp

Required: No

options

The Connect attachment options.

Type: TransitGatewayConnectOptions object

Required: No

state

The state of the attachment.

Type: String

Valid Values: initiating | initiatingRequest | pendingAcceptance | rollingBack | pending | available | modifying | deleting | deleted | failed | rejected | rejecting | failing

Required: No

tagSet

The tags for the attachment.

Type: Array of Tag objects

Required: No

transitGatewayAttachmentId

The ID of the Connect attachment.
transitGatewayId

The ID of the transit gateway.

Type: String
Required: No

transportTransitGatewayAttachmentId

The ID of the attachment from which the Connect attachment was created.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://aws.amazon.com/sdk-for-go/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)
TransitGatewayConnectOptions

Describes the Connect attachment options.

Contents

**protocol**

The tunnel protocol.

Type: String

Valid Values: gre

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
TransitGatewayConnectPeer

Describes a transit gateway Connect peer.

Contents

connectPeerConfiguration

The Connect peer details.

Type: TransitGatewayConnectPeerConfiguration object

Required: No

creationTime

The creation time.

Type: Timestamp

Required: No

state

The state of the Connect peer.

Type: String

Valid Values: pending | available | deleting | deleted

Required: No

tagSet

The tags for the Connect peer.

Type: Array of Tag objects

Required: No

transitGatewayAttachmentId

The ID of the Connect attachment.

Type: String
transitGatewayConnectPeerId

The ID of the Connect peer.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayConnectPeerConfiguration

Describes the Connect peer details.

Contents

bgpConfigurations

The BGP configuration details.

Type: Array of TransitGatewayAttachmentBgpConfiguration objects

Required: No

insideCidrBlocks

The range of interior BGP peer IP addresses.

Type: Array of strings

Required: No

peerAddress

The Connect peer IP address on the appliance side of the tunnel.

Type: String

Required: No

protocol

The tunnel protocol.

Type: String

Valid Values: gre

Required: No

transitGatewayAddress

The Connect peer IP address on the transit gateway side of the tunnel.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayConnectRequestBgpOptions

The BGP options for the Connect attachment.

Contents

PeerAsn

The peer Autonomous System Number (ASN).

Type: Long

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayMulticastDeregisteredGroupMembers

Describes the deregistered transit gateway multicast group members.

Contents

deregisteredNetworkInterfaceIds

The network interface IDs of the deregistered members.

Type: Array of strings

Required: No

groupIpAddress

The IP address assigned to the transit gateway multicast group.

Type: String

Required: No

transitGatewayMulticastDomainId

The ID of the transit gateway multicast domain.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
TransitGatewayMulticastDeregisteredGroupSources

Describes the deregistered transit gateway multicast group sources.

Contents

deregisteredNetworkInterfaceIds

The network interface IDs of the non-registered members.

Type: Array of strings

Required: No

groupIpAddress

The IP address assigned to the transit gateway multicast group.

Type: String

Required: No

transitGatewayMulticastDomainId

The ID of the transit gateway multicast domain.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://docs.aws.amazon.com/sdk-for-cpp/v1/developer-guide/api-reference.html)
- [AWS SDK for Go](https://docs.aws.amazon.com/sdk-for-go/api/
- [AWS SDK for Java V2](https://docs.aws.amazon.com/JavaDevGuide/)
- [AWS SDK for Ruby V3](https://docs.aws.amazon.com/sdk-for-ruby/)

TransitGatewayMulticastDomain

Describes the transit gateway multicast domain.

Contents

creationTime

The time the transit gateway multicast domain was created.

Type: Timestamp

Required: No

options

The options for the transit gateway multicast domain.

Type: TransitGatewayMulticastDomainOptions object

Required: No

ownerId

The ID of the AWS account that owns the transit gateway multicast domain.

Type: String

Required: No

state

The state of the transit gateway multicast domain.

Type: String

Valid Values: pending | available | deleting | deleted

Required: No

tagSet

The tags for the transit gateway multicast domain.

Type: Array of Tag objects
transitGatewayId

The ID of the transit gateway.

Type: String

Required: No

transitGatewayMulticastDomainArn

The Amazon Resource Name (ARN) of the transit gateway multicast domain.

Type: String

Required: No

transitGatewayMulticastDomainId

The ID of the transit gateway multicast domain.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayMulticastDomainAssociation

Describes the resources associated with the transit gateway multicast domain.

Contents

**resourceId**

The ID of the resource.

Type: String

Required: No

**resourceOwnerId**

The ID of the AWS account that owns the transit gateway multicast domain association resource.

Type: String

Required: No

**resourceType**

The type of resource, for example a VPC attachment.

Type: String

Valid Values: vpc | vpn | direct-connect-gateway | connect | peering | tgw-peering

Required: No

**subnet**

The subnet associated with the transit gateway multicast domain.

Type: [SubnetAssociation](#) object

Required: No

**transitGatewayAttachmentId**

The ID of the transit gateway attachment.
Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
TransitGatewayMulticastDomainAssociations

Describes the multicast domain associations.

Contents

resourceId

The ID of the resource.

Type: String

Required: No

resourceOwnerId

The ID of the AWS account that owns the resource.

Type: String

Required: No

resourceType

The type of resource, for example a VPC attachment.

Type: String

Valid Values: vpc | vpn | direct-connect-gateway | connect | peering | tgw-peering

Required: No

subnets

The subnets associated with the multicast domain.

Type: Array of SubnetAssociation objects

Required: No

transitGatewayAttachmentId

The ID of the transit gateway attachment.

Type: String
transitGatewayMulticastDomainId

The ID of the transit gateway multicast domain.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayMulticastDomainOptions

Describes the options for a transit gateway multicast domain.

Contents

autoAcceptSharedAssociations

Indicates whether to automatically cross-account subnet associations that are associated with the transit gateway multicast domain.

Type: String

Valid Values: enable | disable

Required: No

igmpv2Support

Indicates whether Internet Group Management Protocol (IGMP) version 2 is turned on for the transit gateway multicast domain.

Type: String

Valid Values: enable | disable

Required: No

staticSourcesSupport

Indicates whether support for statically configuring transit gateway multicast group sources is turned on.

Type: String

Valid Values: enable | disable

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayMulticastGroup

Describes the transit gateway multicast group resources.

Contents

groupIpAddress

The IP address assigned to the transit gateway multicast group.

Type: String

Required: No

groupMember

Indicates that the resource is a transit gateway multicast group member.

Type: Boolean

Required: No

groupSource

Indicates that the resource is a transit gateway multicast group member.

Type: Boolean

Required: No

memberType

The member type (for example, static).

Type: String

Valid Values: static | igmp

Required: No

networkInterfaceId

The ID of the transit gateway attachment.

Type: String
Required: No

**resourceId**

The ID of the resource.

Type: String

Required: No

**resourceOwnerId**

The ID of the AWS account that owns the transit gateway multicast domain group resource.

Type: String

Required: No

**resourceType**

The type of resource, for example a VPC attachment.

Type: String

Valid Values: vpc | vpn | direct-connect-gateway | connect | peering | tgw-peering

Required: No

**sourceType**

The source type.

Type: String

Valid Values: static | igmp

Required: No

**subnetId**

The ID of the subnet.

Type: String

Required: No
transitGatewayAttachmentId

The ID of the transit gateway attachment.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayMulticastRegisteredGroupMembers

Describes the registered transit gateway multicast group members.

Contents

groupIpAddress

The IP address assigned to the transit gateway multicast group.

Type: String

Required: No

registeredNetworkInterfaceIds

The ID of the registered network interfaces.

Type: Array of strings

Required: No

transitGatewayMulticastDomainId

The ID of the transit gateway multicast domain.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayMulticastRegisteredGroupSources

Describes the members registered with the transit gateway multicast group.

Contents

groupIpAddress

The IP address assigned to the transit gateway multicast group.

Type: String

Required: No

registeredNetworkInterfaceIds

The IDs of the network interfaces members registered with the transit gateway multicast group.

Type: Array of strings

Required: No

transitGatewayMulticastDomainId

The ID of the transit gateway multicast domain.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayOptions

Describes the options for a transit gateway.

Contents

amazonSideAsn

A private Autonomous System Number (ASN) for the Amazon side of a BGP session. The range is 64512 to 65534 for 16-bit ASNs and 4200000000 to 4294967294 for 32-bit ASNs.

Type: Long

Required: No

associationDefaultRouteTableId

The ID of the default association route table.

Type: String

Required: No

autoAcceptSharedAttachments

Indicates whether attachment requests are automatically accepted.

Type: String

Valid Values: enable | disable

Required: No

defaultRouteTableAssociation

Indicates whether resource attachments are automatically associated with the default association route table.

Type: String

Valid Values: enable | disable

Required: No
defaultRouteTablePropagation

Indicates whether resource attachments automatically propagate routes to the default propagation route table.

Type: String

Valid Values: enable | disable

Required: No

dnsSupport

Indicates whether DNS support is enabled.

Type: String

Valid Values: enable | disable

Required: No

multicastSupport

Indicates whether multicast is enabled on the transit gateway

Type: String

Valid Values: enable | disable

Required: No

propagationDefaultRouteTableId

The ID of the default propagation route table.

Type: String

Required: No

transitGatewayCidrBlocks

The transit gateway CIDR blocks.

Type: Array of strings

Required: No
vpnEcmpSupport

Indicates whether Equal Cost Multipath Protocol support is enabled.

Type: String

Valid Values: enable | disable

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://aws.amazon.com/sdk-for-go/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)

See Also

API Version 2016-11-15 3515
TransitGatewayPeeringAttachment

Describes the transit gateway peering attachment.

Contents

accepterTgwInfo

Information about the accepter transit gateway.

Type: PeeringTgwInfo object

Required: No

accepterTransitGatewayAttachmentId

The ID of the accepter transit gateway attachment.

Type: String

Required: No

creationTime

The time the transit gateway peering attachment was created.

Type: Timestamp

Required: No

options

Details about the transit gateway peering attachment.

Type: TransitGatewayPeeringAttachmentOptions object

Required: No

requesterTgwInfo

Information about the requester transit gateway.

Type: PeeringTgwInfo object

Required: No
state

The state of the transit gateway peering attachment. Note that the initiating state has been deprecated.

Type: String

Valid Values: initiating | initiatingRequest | pendingAcceptance | rollingBack | pending | available | modifying | deleting | deleted | failed | rejected | rejecting | failing

Required: No

status

The status of the transit gateway peering attachment.

Type: PeeringAttachmentStatus object

Required: No

tagSet

The tags for the transit gateway peering attachment.

Type: Array of Tag objects

Required: No

transitGatewayAttachmentId

The ID of the transit gateway peering attachment.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayPeeringAttachmentOptions

Describes dynamic routing for the transit gateway peering attachment.

Contents

dynamicRouting

Describes whether dynamic routing is enabled or disabled for the transit gateway peering attachment.

Type: String

Valid Values: enable | disable

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayPolicyRule

Describes a rule associated with a transit gateway policy.

Contents

destinationCidrBlock

The destination CIDR block for the transit gateway policy rule.

Type: String

Required: No

destinationPortRange

The port range for the transit gateway policy rule. Currently this is set to * (all).

Type: String

Required: No

metaData

The meta data tags used for the transit gateway policy rule.

Type: TransitGatewayPolicyRuleMetaData object

Required: No

protocol

The protocol used by the transit gateway policy rule.

Type: String

Required: No

sourceCidrBlock

The source CIDR block for the transit gateway policy rule.

Type: String

Required: No
sourcePortRange

The port range for the transit gateway policy rule. Currently this is set to * (all).

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://aws.amazon.com/sdk-for-golang/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)

See Also

API Version 2016-11-15
TransitGatewayPolicyRuleMetaData

Describes the meta data tags associated with a transit gateway policy rule.

Contents

**metaDataKey**

The key name for the transit gateway policy rule meta data tag.

Type: String

Required: No

**metaDataValue**

The value of the key for the transit gateway policy rule meta data tag.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://docs.aws.amazon.com/sdk-for-cpp/v1/developer-guide/apidocs.html)
- [AWS SDK for Go](https://docs.aws.amazon.com/sdk-for-go/v1/developer-guide/apidocs.html)
- [AWS SDK for Java V2](https://docs.aws.amazon.com/sdk-for-java/v1/developer-guide/apidocs.html)
TransitGatewayPolicyTable

Describes a transit gateway policy table.

Contents

creationTime

The timestamp when the transit gateway policy table was created.

Type: Timestamp

Required: No

state

The state of the transit gateway policy table

Type: String

Valid Values: pending | available | deleting | deleted

Required: No

tagSet

The key-value pairs associated with the transit gateway policy table.

Type: Array of Tag objects

Required: No

transitGatewayId

The ID of the transit gateway.

Type: String

Required: No

TransitGatewayPolicyTableId

The ID of the transit gateway policy table.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayPolicyTableAssociation

Describes a transit gateway policy table association.

Contents

resourceId

The resource ID of the transit gateway attachment.

Type: String

Required: No

resourceType

The resource type for the transit gateway policy table association.

Type: String

Valid Values: vpc | vpn | direct-connect-gateway | connect | peering | tgw-peering

Required: No

state

The state of the transit gateway policy table association.

Type: String

Valid Values: associating | associated | disassociating | disassociated

Required: No

transitGatewayAttachmentId

The ID of the transit gateway attachment.

Type: String

Required: No

transitGatewayPolicyTableId

The ID of the transit gateway policy table.
Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
TransitGatewayPolicyTableEntry

Describes a transit gateway policy table entry

Contents

policyRule

The policy rule associated with the transit gateway policy table.

Type: TransitGatewayPolicyRule object

Required: No

policyRuleNumber

The rule number for the transit gateway policy table entry.

Type: String

Required: No

targetRouteTableId

The ID of the target route table.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayPrefixListAttachment

Describes a transit gateway prefix list attachment.

Contents

**resourceId**

The ID of the resource.

Type: String

Required: No

**resourceType**

The resource type. Note that the `tgw-peering` resource type has been deprecated.

Type: String

Valid Values: vpc | vpn | direct-connect-gateway | connect | peering | tgw-peering

Required: No

**transitGatewayAttachmentId**

The ID of the attachment.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
• [AWS SDK for Ruby V3](#)
TransitGatewayPrefixListReference

Describes a prefix list reference.

Contents

blackhole

  Indicates whether traffic that matches this route is dropped.

  Type: Boolean

  Required: No

prefixListId

  The ID of the prefix list.

  Type: String

  Required: No

prefixListOwnerId

  The ID of the prefix list owner.

  Type: String

  Required: No

state

  The state of the prefix list reference.

  Type: String

  Valid Values: pending | available | modifying | deleting

  Required: No

transitGatewayAttachment

  Information about the transit gateway attachment.

  Type: TransitGatewayPrefixListAttachment object
transitGatewayRouteTableId

The ID of the transit gateway route table.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayPropagation

Describes route propagation.

Contents

resourceId

The ID of the resource.

Type: String

Required: No

resourceType

The resource type. Note that the tgw-peering resource type has been deprecated.

Type: String

Valid Values: vpc | vpn | direct-connect-gateway | connect | peering | tgw-peering

Required: No

state

The state.

Type: String

Valid Values: enabling | enabled | disabling | disabled

Required: No

transitGatewayAttachmentId

The ID of the attachment.

Type: String

Required: No

transitGatewayRouteTableAnnouncementId

The ID of the transit gateway route table announcement.
Type: String
Required: No

**transitGatewayRouteTableId**

The ID of the transit gateway route table.
Type: String
Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://docs.aws.amazon.com/aws-sdk-reference/)
- [AWS SDK for Go](https://docs.aws.amazon.com/)
- [AWS SDK for Java V2](https://docs.aws.amazon.com/)
- [AWS SDK for Ruby V3](https://docs.aws.amazon.com/)

See Also

See Also

API Reference
TransitGatewayRequestOptions

Describes the options for a transit gateway.

Contents

AmazonSideAsn

A private Autonomous System Number (ASN) for the Amazon side of a BGP session. The range is 64512 to 65534 for 16-bit ASNs and 4200000000 to 4294967294 for 32-bit ASNs. The default is 64512.

Type: Long

Required: No

AutoAcceptSharedAttachments

Enable or disable automatic acceptance of attachment requests. Disabled by default.

Type: String

Valid Values: enable | disable

Required: No

DefaultRouteTableAssociation

Enable or disable automatic association with the default association route table. Enabled by default.

Type: String

Valid Values: enable | disable

Required: No

DefaultRouteTablePropagation

Enable or disable automatic propagation of routes to the default propagation route table. Enabled by default.

Type: String

Valid Values: enable | disable
**DnsSupport**

Enable or disable DNS support. Enabled by default.

Type: String

Valid Values: enable | disable

Required: No

**MulticastSupport**

Indicates whether multicast is enabled on the transit gateway

Type: String

Valid Values: enable | disable

Required: No

**TransitGatewayCidrBlocks**

One or more IPv4 or IPv6 CIDR blocks for the transit gateway. Must be a size /24 CIDR block or larger for IPv4, or a size /64 CIDR block or larger for IPv6.

Type: Array of strings

Required: No

**VpnEcmpSupport**

Enable or disable Equal Cost Multipath Protocol support. Enabled by default.

Type: String

Valid Values: enable | disable

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
TransitGatewayRoute

Describes a route for a transit gateway route table.

Contents

destinationCidrBlock

The CIDR block used for destination matches.

Type: String

Required: No

prefixListId

The ID of the prefix list used for destination matches.

Type: String

Required: No

state

The state of the route.

Type: String

Valid Values: pending | active | blackhole | deleting | deleted

Required: No

transitGatewayAttachments

The attachments.

Type: Array of TransitGatewayRouteAttachment objects

Required: No

transitGatewayRouteTableAnnouncementId

The ID of the transit gateway route table announcement.

Type: String
type

The route type.

Type: String

Valid Values: static | propagated

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayRouteAttachment

Describes a route attachment.

Contents

resourceId

The ID of the resource.

Type: String

Required: No

resourceType

The resource type. Note that the tgw-peering resource type has been deprecated.

Type: String

Valid Values: vpc | vpn | direct-connect-gateway | connect | peering | tgw-peering

Required: No

transitGatewayAttachmentId

The ID of the attachment.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
• AWS SDK for Ruby V3
TransitGatewayRouteTable

Describes a transit gateway route table.

Contents

creationTime

The creation time.

Type: Timestamp

Required: No

defaultAssociationRouteTable

Indicates whether this is the default association route table for the transit gateway.

Type: Boolean

Required: No

defaultPropagationRouteTable

Indicates whether this is the default propagation route table for the transit gateway.

Type: Boolean

Required: No

state

The state of the transit gateway route table.

Type: String

Valid Values: pending | available | deleting | deleted

Required: No

tagSet

Any tags assigned to the route table.

Type: Array of Tag objects
Required: No

transitGatewayId

The ID of the transit gateway.

Type: String

Required: No

transitGatewayRouteTableId

The ID of the transit gateway route table.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
TransitGatewayRouteTableAnnouncement

Describes a transit gateway route table announcement.

Contents

announcementDirection

The direction for the route table announcement.

Type: String

Valid Values: outgoing | incoming

Required: No

coreNetworkId

The ID of the core network for the transit gateway route table announcement.

Type: String

Required: No

creationTime

The timestamp when the transit gateway route table announcement was created.

Type: Timestamp

Required: No

peerCoreNetworkId

The ID of the core network ID for the peer.

Type: String

Required: No

peeringAttachmentId

The ID of the peering attachment.

Type: String
peerTransitGatewayId

The ID of the peer transit gateway.

Type: String

Required: No

state

The state of the transit gateway announcement.

Type: String

Valid Values: available | pending | failing | failed | deleting | deleted

Required: No

tagSet

The key-value pairs associated with the route table announcement.

Type: Array of Tag objects

Required: No

transitGatewayId

The ID of the transit gateway.

Type: String

Required: No

transitGatewayRouteTableAnnouncementId

The ID of the transit gateway route table announcement.

Type: String

Required: No

transitGatewayRouteTableId

The ID of the transit gateway route table.
Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayRouteTableAssociation

Describes an association between a route table and a resource attachment.

Contents

resourceId

The ID of the resource.

Type: String

Required: No

resourceType

The resource type. Note that the tgw-peering resource type has been deprecated.

Type: String

Valid Values: vpc | vpn | direct-connect-gateway | connect | peering | tgw-peering

Required: No

state

The state of the association.

Type: String

Valid Values: associating | associated | disassociating | disassociated

Required: No

transitGatewayAttachmentId

The ID of the attachment.

Type: String

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayRouteTablePropagation

Describes a route table propagation.

Contents

resourceId

The ID of the resource.

Type: String

Required: No

resourceType

The type of resource. Note that the tgw-peering resource type has been deprecated.

Type: String

Valid Values:
vpc | vpn | direct-connect-gateway | connect | peering | tgw-peering

Required: No

state

The state of the resource.

Type: String

Valid Values: enabling | enabled | disabling | disabled

Required: No

transitGatewayAttachmentId

The ID of the attachment.

Type: String

Required: No

transitGatewayRouteTableAnnouncementId

The ID of the transit gateway route table announcement.
Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayRouteTableRoute

Describes a route in a transit gateway route table.

Contents

attachmentId

The ID of the route attachment.

Type: String

Required: No

destinationCidr

The CIDR block used for destination matches.

Type: String

Required: No

prefixListId

The ID of the prefix list.

Type: String

Required: No

resourceId

The ID of the resource for the route attachment.

Type: String

Required: No

resourceType

The resource type for the route attachment.

Type: String

Required: No
routeOrigin

The route origin. The following are the possible values:

- static
- propagated

Type: String

Required: No

state

The state of the route.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TransitGatewayVpcAttachment

Describes a VPC attachment.

Contents

creationTime

The creation time.

Type: Timestamp

Required: No

options

The VPC attachment options.

Type: TransitGatewayVpcAttachmentOptions object

Required: No

state

The state of the VPC attachment. Note that the initiating state has been deprecated.

Type: String

Valid Values: initiating | initiatingRequest | pendingAcceptance | rollingBack | pending | available | modifying | deleting | deleted | failed | rejected | rejecting | failing

Required: No

subnetIds

The IDs of the subnets.

Type: Array of strings

Required: No

tagSet

The tags for the VPC attachment.
Type: Array of Tag objects

Required: No

transitGatewayAttachmentId

The ID of the attachment.

Type: String

Required: No

transitGatewayId

The ID of the transit gateway.

Type: String

Required: No

vpcId

The ID of the VPC.

Type: String

Required: No

vpcOwnerId

The ID of the AWS account that owns the VPC.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• **AWS SDK for Ruby V3**
TransitGatewayVpcAttachmentOptions

Describes the VPC attachment options.

Contents

applianceModeSupport

Indicates whether appliance mode support is enabled.

Type: String

Valid Values: enable | disable

Required: No

dnsSupport

Indicates whether DNS support is enabled.

Type: String

Valid Values: enable | disable

Required: No

ipv6Support

Indicates whether IPv6 support is disabled.

Type: String

Valid Values: enable | disable

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
TrunkInterfaceAssociation

Information about an association between a branch network interface with a trunk network interface.

Contents

associationId

The ID of the association.

Type: String

Required: No

branchInterfaceId

The ID of the branch network interface.

Type: String

Required: No

greKey

The application key when you use the GRE protocol.

Type: Integer

Required: No

interfaceProtocol

The interface protocol. Valid values are VLAN and GRE.

Type: String

Valid Values: VLAN | GRE

Required: No

tagSet

The tags for the trunk interface association.

Type: Array of Tag objects
Required: No

**trunkInterfaceId**

The ID of the trunk network interface.

Type: String

Required: No

**vlanId**

The ID of the VLAN when you use the VLAN protocol.

Type: Integer

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
TunnelOption

The VPN tunnel options.

Contents

dpdTimeoutAction

The action to take after a DPD timeout occurs.

Type: String

Required: No

dpdTimeoutSeconds

The number of seconds after which a DPD timeout occurs.

Type: Integer

Required: No

enableTunnelLifecycleControl

Status of tunnel endpoint lifecycle control feature.

Type: Boolean

Required: No

ikeVersionSet

The IKE versions that are permitted for the VPN tunnel.

Type: Array of IKEVersionsListValue objects

Required: No

logOptions

Options for logging VPN tunnel activity.

Type: VpnTunnelLogOptions object

Required: No
outsideIpAddress

The external IP address of the VPN tunnel.

Type: String

Required: No

phase1DHGroupNumberSet

The permitted Diffie-Hellman group numbers for the VPN tunnel for phase 1 IKE negotiations.

Type: Array of Phase1DHGroupNumbersListValue objects

Required: No

phase1EncryptionAlgorithmSet

The permitted encryption algorithms for the VPN tunnel for phase 1 IKE negotiations.

Type: Array of Phase1EncryptionAlgorithmsListValue objects

Required: No

phase1IntegrityAlgorithmSet

The permitted integrity algorithms for the VPN tunnel for phase 1 IKE negotiations.

Type: Array of Phase1IntegrityAlgorithmsListValue objects

Required: No

phase1LifetimeSeconds

The lifetime for phase 1 of the IKE negotiation, in seconds.

Type: Integer

Required: No

phase2DHGroupNumberSet

The permitted Diffie-Hellman group numbers for the VPN tunnel for phase 2 IKE negotiations.

Type: Array of Phase2DHGroupNumbersListValue objects

Required: No
phase2EncryptionAlgorithmSet

The permitted encryption algorithms for the VPN tunnel for phase 2 IKE negotiations.

Type: Array of `Phase2EncryptionAlgorithmsListValue` objects

Required: No

phase2IntegrityAlgorithmSet

The permitted integrity algorithms for the VPN tunnel for phase 2 IKE negotiations.

Type: Array of `Phase2IntegrityAlgorithmsListValue` objects

Required: No

phase2LifetimeSeconds

The lifetime for phase 2 of the IKE negotiation, in seconds.

Type: Integer

Required: No

preSharedKey

The pre-shared key (PSK) to establish initial authentication between the virtual private gateway and the customer gateway.

Type: String

Required: No

rekeyFuzzPercentage

The percentage of the rekey window determined by `RekeyMarginTimeSeconds` during which the rekey time is randomly selected.

Type: Integer

Required: No

rekeyMarginTimeSeconds

The margin time, in seconds, before the phase 2 lifetime expires, during which the AWS side of the VPN connection performs an IKE rekey.
**replayWindowSize**

The number of packets in an IKE replay window.

Type: Integer

Required: No

**startupAction**

The action to take when establishing the VPN tunnels for a VPN connection.

Type: String

Required: No

**tunnelInsideCidr**

The range of inside IPv4 addresses for the tunnel.

Type: String

Required: No

**tunnelInsideIpv6Cidr**

The range of inside IPv6 addresses for the tunnel.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for Ruby V3
UnsuccessfulInstanceCreditSpecificationItem

Describes the burstable performance instance whose credit option for CPU usage was not modified.

Contents

error

The applicable error for the burstable performance instance whose credit option for CPU usage was not modified.

Type: UnsuccessfulInstanceCreditSpecificationItemError object

Required: No

instanceId

The ID of the instance.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
UnsuccessfulInstanceCreditSpecificationItemError

Information about the error for the burstable performance instance whose credit option for CPU usage was not modified.

Contents

code

The error code.

Type: String

Valid Values: InvalidInstanceID.Malformed | InvalidInstanceID.NotFound | IncorrectInstanceState | InstanceCreditSpecification.NotSupported

Required: No

message

The applicable error message.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
UnsuccessfulItem

Information about items that were not successfully processed in a batch call.

Contents

error

Information about the error.

Type: UnsuccessfulItemError object

Required: No

resourceId

The ID of the resource.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
UnsuccessfulItemError

Information about the error that occurred. For more information about errors, see Error codes.

Contents

code

The error code.

Type: String

Required: No

message

The error message accompanying the error code.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
UserBucket

Describes the Amazon S3 bucket for the disk image.

Contents

S3Bucket

The name of the Amazon S3 bucket where the disk image is located.

Type: String

Required: No

S3Key

The file name of the disk image.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdkforcpp/)
- [AWS SDK for Go](https://aws.amazon.com/sdkfortgolang/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdkforjava/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdkforruby/)

UserBucket

API Version 2016-11-15 3568
UserBucketDetails

Describes the Amazon S3 bucket for the disk image.

Contents

s3Bucket

The Amazon S3 bucket from which the disk image was created.

Type: String

Required: No

s3Key

The file name of the disk image.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
UserData

Describes the user data for an instance.

Contents

Data

The user data. If you are using an AWS SDK or command line tool, Base64-encoding is performed for you, and you can load the text from a file. Otherwise, you must provide Base64-encoded text.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://aws.amazon.com/sdk-for-go/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)


UserIdGroupPair

Describes a security group and AWS account ID pair.

Contents

**Description** (request), **description** (response)

A description for the security group rule that references this user ID group pair.

Constraints: Up to 255 characters in length. Allowed characters are a-z, A-Z, 0-9, spaces, and ._-:/()#,@[]+=;{}!*.

Type: String

Required: No

**GroupId** (request), **groupId** (response)

The ID of the security group.

Type: String

Required: No

**GroupName** (request), **groupName** (response)

[Default VPC] The name of the security group. For a security group in a nondefault VPC, use the security group ID.

For a referenced security group in another VPC, this value is not returned if the referenced security group is deleted.

Type: String

Required: No

**PeeringStatus** (request), **peeringStatus** (response)

The status of a VPC peering connection, if applicable.

Type: String

Required: No
**UserId** (request), **userId** (response)

The ID of an AWS account.

For a referenced security group in another VPC, the account ID of the referenced security group is returned in the response. If the referenced security group is deleted, this value is not returned.

Type: String

Required: No

**VpcId** (request), **vpcId** (response)

The ID of the VPC for the referenced security group, if applicable.

Type: String

Required: No

**VpcPeeringConnectionId** (request), **vpcPeeringConnectionId** (response)

The ID of the VPC peering connection, if applicable.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
**Validation Error**

The error code and error message that is returned for a parameter or parameter combination that is not valid when a new launch template or new version of a launch template is created.

**Contents**

**code**

The error code that indicates why the parameter or parameter combination is not valid. For more information about error codes, see [Error codes](#).

Type: String

Required: No

**message**

The error message that describes why the parameter or parameter combination is not valid. For more information about error messages, see [Error codes](#).

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
ValidationWarning

The error codes and error messages that are returned for the parameters or parameter combinations that are not valid when a new launch template or new version of a launch template is created.

Contents

errorSet

The error codes and error messages.

Type: Array of `ValidationWarning` objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
VCPUCountRange

The minimum and maximum number of vCPUs.

Contents

Max (request), max (response)

The maximum number of vCPUs. If this parameter is not specified, there is no maximum limit.

Type: Integer

Required: No

Min (request), min (response)

The minimum number of vCPUs. If the value is 0, there is no minimum limit.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VCpuCountRangeRequest

The minimum and maximum number of vCPUs.

Contents

Min

The minimum number of vCPUs. To specify no minimum limit, specify 0.

Type: Integer

Required: Yes

Max

The maximum number of vCPUs. To specify no maximum limit, omit this parameter.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
VCpuInfo

Describes the vCPU configurations for the instance type.

Contents

defaultCores

The default number of cores for the instance type.

Type: Integer

Required: No

defaultThreadsPerCore

The default number of threads per core for the instance type.

Type: Integer

Required: No

defaultVCpus

The default number of vCPUs for the instance type.

Type: Integer

Required: No

validCores

The valid number of cores that can be configured for the instance type.

Type: Array of integers

Required: No

validThreadsPerCore

The valid number of threads per core that can be configured for the instance type.

Type: Array of integers

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VerifiedAccessEndpoint

An AWS Verified Access endpoint specifies the application that AWS Verified Access provides access to. It must be attached to an AWS Verified Access group. An AWS Verified Access endpoint must also have an attached access policy before you attached it to a group.

Contents

applicationDomain

The DNS name for users to reach your application.

Type: String

Required: No

attachmentType

The type of attachment used to provide connectivity between the AWS Verified Access endpoint and the application.

Type: String

Valid Values: vpc

Required: No

creationTime

The creation time.

Type: String

Required: No

deletionTime

The deletion time.

Type: String

Required: No

description

A description for the AWS Verified Access endpoint.
Type: String
Required: No

deviceValidationDomain

Returned if endpoint has a device trust provider attached.

Type: String
Required: No

domainCertificateArn

The ARN of a public TLS/SSL certificate imported into or created with ACM.

Type: String
Required: No

endpointDomain

A DNS name that is generated for the endpoint.

Type: String
Required: No

endpointType

The type of AWS Verified Access endpoint. Incoming application requests will be sent to an IP address, load balancer or a network interface depending on the endpoint type specified.

Type: String

Valid Values: load-balancer | network-interface

Required: No

lastUpdatedTime

The last updated time.

Type: String
Required: No
loadBalancerOptions

The load balancer details if creating the AWS Verified Access endpoint as load-balancertype.

Type: VerifiedAccessEndpointLoadBalancerOptions object

Required: No

networkInterfaceOptions

The options for network-interface type endpoint.

Type: VerifiedAccessEndpointEniOptions object

Required: No

securityGroupIdSet

The IDs of the security groups for the endpoint.

Type: Array of strings

Required: No

sseSpecification

The options in use for server side encryption.

Type: VerifiedAccessSseSpecificationResponse object

Required: No

status

The endpoint status.

Type: VerifiedAccessEndpointStatus object

Required: No

tagSet

The tags.

Type: Array of Tag objects

Required: No
verifiedAccessEndpointId

The ID of the AWS Verified Access endpoint.

Type: String

Required: No

verifiedAccessGroupId

The ID of the AWS Verified Access group.

Type: String

Required: No

verifiedAccessInstanceId

The ID of the AWS Verified Access instance.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
VerifiedAccessEndpointEniOptions

Options for a network-interface type endpoint.

Contents

**networkInterfaceId**

The ID of the network interface.

Type: String

Required: No

**port**

The IP port number.

Type: Integer


Required: No

**protocol**

The IP protocol.

Type: String

Valid Values: http | https

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
• AWS SDK for Ruby V3
VerifiedAccessEndpointLoadBalancerOptions

Describes a load balancer when creating an AWS Verified Access endpoint using the `load-balancer` type.

**Contents**

`loadBalancerArn`

The ARN of the load balancer.

Type: String

Required: No

`port`

The IP port number.

Type: Integer


Required: No

`protocol`

The IP protocol.

Type: String

Valid Values: http | https

Required: No

`subnetIdSet`

The IDs of the subnets.

Type: Array of strings

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
VerifiedAccessEndpointStatus

Describes the status of a Verified Access endpoint.

Contents

code

The status code of the Verified Access endpoint.

Type: String

Valid Values: pending | active | updating | deleting | deleted

Required: No

message

The status message of the Verified Access endpoint.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VerifiedAccessGroup

Describes a Verified Access group.

Contents

creationTime

The creation time.

Type: String

Required: No

deletionTime

The deletion time.

Type: String

Required: No

description

A description for the AWS Verified Access group.

Type: String

Required: No

lastUpdatedTime

The last updated time.

Type: String

Required: No

owner

The AWS account number that owns the group.

Type: String

Required: No
sseSpecification

The options in use for server side encryption.

Type: VerifiedAccessSseSpecificationResponse object

Required: No

tagSet

The tags.

Type: Array of Tag objects

Required: No

verifiedAccessGroupArn

The ARN of the Verified Access group.

Type: String

Required: No

verifiedAccessGroupId

The ID of the Verified Access group.

Type: String

Required: No

verifiedAccessInstanceId

The ID of the AWS Verified Access instance.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
VerifiedAccessInstance

Describes a Verified Access instance.

Contents

creationTime

The creation time.

Type: String

Required: No
description

A description for the AWS Verified Access instance.

Type: String

Required: No
fipsEnabled

Indicates whether support for Federal Information Processing Standards (FIPS) is enabled on the instance.

Type: Boolean

Required: No
lastUpdatedTime

The last updated time.

Type: String

Required: No
tagSet

The tags.

Type: Array of Tag objects

Required: No
verifiedAccessInstanceId

The ID of the AWS Verified Access instance.

Type: String

Required: No

verifiedAccessTrustProviderSet

The IDs of the AWS Verified Access trust providers.

Type: Array of VerifiedAccessTrustProviderCondensed objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VerifiedAccessInstanceLoggingConfiguration

Describes logging options for an AWS Verified Access instance.

Contents

accessLogs

Details about the logging options.

Type: VerifiedAccessLogs object

Required: No

verifiedAccessInstanceId

The ID of the AWS Verified Access instance.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VerifiedAccessLogCloudWatchLogsDestination

Options for CloudWatch Logs as a logging destination.

Contents

deliveryStatus

The delivery status for access logs.

Type: VerifiedAccessLogDeliveryStatus object

Required: No

eenabled

Indicates whether logging is enabled.

Type: Boolean

Required: No

logGroup

The ID of the CloudWatch Logs log group.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VerifiedAccessLogCloudWatchLogsDestinationOptions

Options for CloudWatch Logs as a logging destination.

Contents

Enabled

Indicates whether logging is enabled.

Type: Boolean

Required: Yes

LogGroup

The ID of the CloudWatch Logs log group.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VerifiedAccessLogDeliveryStatus

Describes a log delivery status.

Contents

code

The status code.

Type: String

Valid Values: `success` | `failed`

Required: No

message

The status message.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
VerifiedAccessLogKinesisDataFirehoseDestination

Options for Kinesis as a logging destination.

Contents

deliveryStatus

The delivery status.

Type: VerifiedAccessLogDeliveryStatus object

Required: No

deliveryStream

The ID of the delivery stream.

Type: String

Required: No

enabled

Indicates whether logging is enabled.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VerifiedAccessLogKinesisDataFirehoseDestinationOptions

Describes Amazon Kinesis Data Firehose logging options.

Contents

Enabled

Indicates whether logging is enabled.

Type: Boolean

Required: Yes

DeliveryStream

The ID of the delivery stream.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
**VerifiedAccessLogOptions**

Options for Verified Access logs.

**Contents**

**CloudWatchLogs**

Sends Verified Access logs to CloudWatch Logs.

Type: `VerifiedAccessLogCloudWatchLogsDestinationOptions` object

Required: No

**IncludeTrustContext**

Indicates whether to include trust data sent by trust providers in the logs.

Type: Boolean

Required: No

**KinesisDataFirehose**

Sends Verified Access logs to Kinesis.

Type: `VerifiedAccessLogKinesisDataFirehoseDestinationOptions` object

Required: No

**LogVersion**

The logging version.

Valid values: `ocsf-0.1 | ocsf-1.0.0-rc.2`

Type: String

Required: No

**S3**

Sends Verified Access logs to Amazon S3.

Type: `VerifiedAccessLogS3DestinationOptions` object
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VerifiedAccessLogs

Describes the options for Verified Access logs.

Contents

cloudWatchLogs

CloudWatch Logs logging destination.

Type: VerifiedAccessLogCloudWatchLogsDestination object

Required: No

includeTrustContext

Indicates whether trust data is included in the logs.

Type: Boolean

Required: No

kinesisDataFirehose

Kinesis logging destination.

Type: VerifiedAccessLogKinesisDataFirehoseDestination object

Required: No

logVersion

The log version.

Type: String

Required: No

s3

Amazon S3 logging options.

Type: VerifiedAccessLogS3Destination object

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
VerifiedAccessLogS3Destination

Options for Amazon S3 as a logging destination.

Contents

bucketName

The bucket name.

Type: String

Required: No

bucketOwner

The AWS account number that owns the bucket.

Type: String

Required: No

deliveryStatus

The delivery status.

Type: VerifiedAccessLogDeliveryStatus object

Required: No

enabled

Indicates whether logging is enabled.

Type: Boolean

Required: No

prefix

The bucket prefix.

Type: String

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VerifiedAccessLogS3DestinationOptions

Options for Amazon S3 as a logging destination.

Contents

Enabled

Indicates whether logging is enabled.

Type: Boolean

Required: Yes

BucketName

The bucket name.

Type: String

Required: No

BucketOwner

The ID of the AWS account that owns the Amazon S3 bucket.

Type: String

Required: No

Prefix

The bucket prefix.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for Ruby V3**
AWS Verified Access provides server side encryption by default to data at rest using AWS-owned KMS keys. You also have the option of using customer managed KMS keys, which can be specified using the options below.

**Contents**

**CustomerManagedKeyEnabled**

Enable or disable the use of customer managed KMS keys for server side encryption.

Valid values: True | False

Type: Boolean

Required: No

**KmsKeyArn**

The ARN of the KMS key.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VerifiedAccessSseSpecificationResponse

The options in use for server side encryption.

Contents

customerManagedKeyEnabled

Indicates whether customer managed KMS keys are in use for server side encryption.

Valid values: True | False

Type: Boolean

Required: No

kmsKeyArn

The ARN of the KMS key.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VerifiedAccessTrustProvider

Describes a Verified Access trust provider.

Contents

creationTime

The creation time.

Type: String

Required: No

description

A description for the AWS Verified Access trust provider.

Type: String

Required: No

deviceOptions

The options for device-identity trust provider.

Type: DeviceOptions object

Required: No

deviceTrustProviderType

The type of device-based trust provider.

Type: String

Valid Values: jamf | crowdstrike | jumpcloud

Required: No

lastUpdatedTime

The last updated time.

Type: String
oidcOptions

The options for an OpenID Connect-compatible user-identity trust provider.

Type: OidcOptions object

Required: No

policyReferenceName

The identifier to be used when working with policy rules.

Type: String

Required: No

sseSpecification

The options in use for server side encryption.

Type: VerifiedAccessSseSpecificationResponse object

Required: No

tagSet

The tags.

Type: Array of Tag objects

Required: No

trustProviderType

The type of Verified Access trust provider.

Type: String

Valid Values: user | device

Required: No

userTrustProviderType

The type of user-based trust provider.
Type: String

Valid Values: iam-identity-center | oidc

Required: No

**verifiedAccessTrustProviderId**

The ID of the AWS Verified Access trust provider.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
VerifiedAccessTrustProviderCondensed

Condensed information about a trust provider.

Contents

description

The description of trust provider.

Type: String

Required: No

deviceTrustProviderType

The type of device-based trust provider.

Type: String

Valid Values: jamf | crowdstrike | jumpcloud

Required: No

trustProviderType

The type of trust provider (user- or device-based).

Type: String

Valid Values: user | device

Required: No

userTrustProviderType

The type of user-based trust provider.

Type: String

Valid Values: iam-identity-center | oidc

Required: No
verifiedAccessTrustProviderId

The ID of the trust provider.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VgwTelemetry

Describes telemetry for a VPN tunnel.

Contents

acceptedRouteCount

The number of accepted routes.

Type: Integer

Required: No

certificateArn

The Amazon Resource Name (ARN) of the VPN tunnel endpoint certificate.

Type: String

Required: No

lastStatusChange

The date and time of the last change in status. This field is updated when changes in IKE (Phase 1), IPSec (Phase 2), or BGP status are detected.

Type: Timestamp

Required: No

outsideIpAddress

The Internet-routable IP address of the virtual private gateway's outside interface.

Type: String

Required: No

status

The status of the VPN tunnel.

Type: String

Valid Values: UP | DOWN
Required: No

**statusMessage**

If an error occurs, a description of the error.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
Volume

Describes a volume.

Contents

attachmentSet

Information about the volume attachments.

Type: Array of VolumeAttachment objects

Required: No

availabilityZone

The Availability Zone for the volume.

Type: String

Required: No

createTime

The time stamp when volume creation was initiated.

Type: Timestamp

Required: No

encrypted

Indicates whether the volume is encrypted.

Type: Boolean

Required: No

fastRestored

Indicates whether the volume was created using fast snapshot restore.

Type: Boolean

Required: No
iops

The number of I/O operations per second (IOPS). For gp3, io1, and io2 volumes, this represents the number of IOPS that are provisioned for the volume. For gp2 volumes, this represents the baseline performance of the volume and the rate at which the volume accumulates I/O credits for bursting.

Type: Integer

Required: No

kmsKeyId

The Amazon Resource Name (ARN) of the AWS Key Management Service (AWS KMS) KMS key that was used to protect the volume encryption key for the volume.

Type: String

Required: No

multiAttachEnabled

Indicates whether Amazon EBS Multi-Attach is enabled.

Type: Boolean

Required: No

outpostArn

The Amazon Resource Name (ARN) of the Outpost.

Type: String

Required: No

size

The size of the volume, in GiBs.

Type: Integer

Required: No

snapshotId

The snapshot from which the volume was created, if applicable.
Type: String
Required: No

**sseType**

Reserved for future use.

Type: String

Valid Values: sse-ebs | sse-kms | none

Required: No

**status**

The volume state.

Type: String

Valid Values: creating | available | in-use | deleting | deleted | error

Required: No

**tagSet**

Any tags assigned to the volume.

Type: Array of Tag objects

Required: No

**throughput**

The throughput that the volume supports, in MiB/s.

Type: Integer

Required: No

**volumeId**

The ID of the volume.

Type: String

Required: No
volumeType

The volume type.

Type: String

Valid Values: `standard` | `io1` | `io2` | `gp2` | `sc1` | `st1` | `gp3`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
VolumeAttachment

Describes volume attachment details.

Contents

attachTime

The time stamp when the attachment initiated.

Type: Timestamp

Required: No

deleteOnTermination

Indicates whether the EBS volume is deleted on instance termination.

Type: Boolean

Required: No

device

The device name.

Type: String

Required: No

instanceId

The ID of the instance.

Type: String

Required: No

status

The attachment state of the volume.

Type: String

Valid Values: attaching | attached | detaching | detached | busy
Required: No

**volumeId**

The ID of the volume.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://aws.amazon.com/sdk-for-go/)
- [AWS SDK for Java V2](https://aws.amazon.com/sdk-for-java/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/sdk-for-ruby/)

See Also
VolumeDetail

Describes an EBS volume.

Contents

Size

The size of the volume, in GiB.

Type: Long

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VolumeModification

Describes the modification status of an EBS volume.

If the volume has never been modified, some element values will be null.

Contents

endTime

The modification completion or failure time.

Type: Timestamp

Required: No

modificationState

The current modification state. The modification state is null for unmodified volumes.

Type: String

Valid Values: modifying | optimizing | completed | failed

Required: No

originalIops

The original IOPS rate of the volume.

Type: Integer

Required: No

originalMultiAttachEnabled

The original setting for Amazon EBS Multi-Attach.

Type: Boolean

Required: No

originalSize

The original size of the volume, in GiB.
Type: Integer
Required: No

originalThroughput

The original throughput of the volume, in MiB/s.
Type: Integer
Required: No

originalVolumeType

The original EBS volume type of the volume.
Type: String
Valid Values: standard | io1 | io2 | gp2 | sc1 | st1 | gp3
Required: No

progress

The modification progress, from 0 to 100 percent complete.
Type: Long
Required: No

startTime

The modification start time.
Type: Timestamp
Required: No

statusMessage

A status message about the modification progress or failure.
Type: String
Required: No
**targetIops**

The target IOPS rate of the volume.

Type: Integer

Required: No

**targetMultiAttachEnabled**

The target setting for Amazon EBS Multi-Attach.

Type: Boolean

Required: No

**targetSize**

The target size of the volume, in GiB.

Type: Integer

Required: No

**targetThroughput**

The target throughput of the volume, in MiB/s.

Type: Integer

Required: No

**targetVolumeType**

The target EBS volume type of the volume.

Type: String

 Valid Values: `standard` | `io1` | `io2` | `gp2` | `sc1` | `st1` | `gp3`

Required: No

**volumeId**

The ID of the volume.

Type: String
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VolumeStatusAction

Describes a volume status operation code.

Contents

code

The code identifying the operation, for example, enable-volume-io.

Type: String

Required: No
description

A description of the operation.

Type: String

Required: No
eventId

The ID of the event associated with this operation.

Type: String

Required: No
eventType

The event type associated with this operation.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
VolumeStatusAttachmentStatus

Information about the instances to which the volume is attached.

Contents

instanceId

The ID of the attached instance.

Type: String

Required: No

ioPerformance

The maximum IOPS supported by the attached instance.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VolumeStatusDetails

Describes a volume status.

Contents

name

The name of the volume status.

Type: String

Valid Values: io-enabled | io-performance

Required: No

status

The intended status of the volume status.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VolumeStatusEvent

Describes a volume status event.

Contents

description

A description of the event.

Type: String

Required: No

eventId

The ID of this event.

Type: String

Required: No

eventType

The type of this event.

Type: String

Required: No

instanceId

The ID of the instance associated with the event.

Type: String

Required: No

notAfter

The latest end time of the event.

Type: Timestamp

Required: No
notBefore

The earliest start time of the event.

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VolumeStatusInfo

Describes the status of a volume.

Contents

details

The details of the volume status.

Type: Array of VolumeStatusDetails objects

Required: No

status

The status of the volume.

Type: String

Valid Values: ok | impaired | insufficient-data

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
**VolumeStatusItem**

Describes the volume status.

**Contents**

**actionsSet**

The details of the operation.

Type: Array of `VolumeStatusAction` objects

Required: No

**attachmentStatuses**

Information about the instances to which the volume is attached.

Type: Array of `VolumeStatusAttachmentStatus` objects

Required: No

**availabilityZone**

The Availability Zone of the volume.

Type: String

Required: No

**eventsSet**

A list of events associated with the volume.

Type: Array of `VolumeStatusEvent` objects

Required: No

**outpostArn**

The Amazon Resource Name (ARN) of the Outpost.

Type: String

Required: No
**volumeId**

The volume ID.

Type: String

Required: No

**volumeStatus**

The volume status.

Type: `VolumeStatusInfo` object

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
Vpc

Describes a VPC.

Contents

cidrBlock

The primary IPv4 CIDR block for the VPC.

Type: String

Required: No

cidrBlockAssociationSet

Information about the IPv4 CIDR blocks associated with the VPC.

Type: Array of VpcCidrBlockAssociation objects

Required: No

dhcpOptionsId

The ID of the set of DHCP options you've associated with the VPC.

Type: String

Required: No

instanceTenancy

The allowed tenancy of instances launched into the VPC.

Type: String

Valid Values: default | dedicated | host

Required: No

ipv6CidrBlockAssociationSet

Information about the IPv6 CIDR blocks associated with the VPC.

Type: Array of VpcIpv6CidrBlockAssociation objects

Required: No
isDefault

Indicates whether the VPC is the default VPC.

Type: Boolean

Required: No

ownerId

The ID of the AWS account that owns the VPC.

Type: String

Required: No

state

The current state of the VPC.

Type: String

Valid Values: pending | available

Required: No

tagSet

Any tags assigned to the VPC.

Type: Array of Tag objects

Required: No

vpcId

The ID of the VPC.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VpcAttachment

Describes an attachment between a virtual private gateway and a VPC.

Contents

state

The current state of the attachment.

Type: String

Valid Values: attaching | attached | detaching | detached

Required: No

vpcId

The ID of the VPC.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
VpcCidrBlockAssociation

Describes an IPv4 CIDR block associated with a VPC.

Contents

associationId

The association ID for the IPv4 CIDR block.

Type: String

Required: No

cidrBlock

The IPv4 CIDR block.

Type: String

Required: No

cidrBlockState

Information about the state of the CIDR block.

Type: VpcCidrBlockState object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VpcCidrBlockState

Describes the state of a CIDR block.

Contents

state

The state of the CIDR block.

Type: String

Valid Values: associating | associated | disassociating | disassociated | failing | failed

Required: No

statusMessage

A message about the status of the CIDR block, if applicable.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
VpcClassicLink

Note

Deprecated.

Describes whether a VPC is enabled for ClassicLink.

Contents

classicLinkEnabled

Indicates whether the VPC is enabled for ClassicLink.

Type: Boolean

Required: No

tagSet

Any tags assigned to the VPC.

Type: Array of Tag objects

Required: No

vpcId

The ID of the VPC.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
VpcEndpoint

Describes a VPC endpoint.

Contents

creationTimestamp

The date and time that the endpoint was created.

Type: Timestamp

Required: No

dnsEntrySet

(Interface endpoint) The DNS entries for the endpoint.

Type: Array of DnsEntry objects

Required: No

dnsOptions

The DNS options for the endpoint.

Type: DnsOptions object

Required: No

groupSet

(Interface endpoint) Information about the security groups that are associated with the network interface.

Type: Array of SecurityGroupIdentifier objects

Required: No

ipAddressType

The IP address type for the endpoint.

Type: String

Valid Values: ipv4 | dualstack | ipv6
Required: No

**lastError**

The last error that occurred for endpoint.

Type: [LastError](#) object

Required: No

**networkInterfaceIdSet**

(Interface endpoint) The network interfaces for the endpoint.

Type: Array of strings

Required: No

**ownerId**

The ID of the AWS account that owns the endpoint.

Type: String

Required: No

**policyDocument**

The policy document associated with the endpoint, if applicable.

Type: String

Required: No

**privateDnsEnabled**

(Interface endpoint) Indicates whether the VPC is associated with a private hosted zone.

Type: Boolean

Required: No

**requesterManaged**

Indicates whether the endpoint is being managed by its service.

Type: Boolean
**routeTableIdSet**

*(Gateway endpoint)* The IDs of the route tables associated with the endpoint.

Type: Array of strings

Required: No

**serviceName**

The name of the service to which the endpoint is associated.

Type: String

Required: No

**state**

The state of the endpoint.

Type: String

Valid Values: PendingAcceptance | Pending | Available | Deleting | Deleted | Rejected | Failed | Expired

Required: No

**subnetIdSet**

*(Interface endpoint)* The subnets for the endpoint.

Type: Array of strings

Required: No

**tagSet**

The tags assigned to the endpoint.

Type: Array of Tag objects

Required: No

**vpcEndpointId**

The ID of the endpoint.
Type: String
Required: No

**vpcEndpointType**

The type of endpoint.

Type: String

Valid Values: Interface | Gateway | GatewayLoadBalancer

Required: No

**vpcId**

The ID of the VPC to which the endpoint is associated.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/getting-started/sdk-for-cpp/)
- [AWS SDK for Go](https://aws.amazon.com/getting-started/sdk-for-go/)
- [AWS SDK for Java V2](https://aws.amazon.com/getting-started/sdk-for-java/)
- [AWS SDK for Ruby V3](https://aws.amazon.com/getting-started/sdk-for-ruby/)
VpcEndpointConnection

Describes a VPC endpoint connection to a service.

Contents

creationTimestamp

The date and time that the VPC endpoint was created.

Type: Timestamp

Required: No
dnsEntrySet

The DNS entries for the VPC endpoint.

Type: Array of DnsEntry objects

Required: No
gatewayLoadBalancerArnSet

The Amazon Resource Names (ARNs) of the Gateway Load Balancers for the service.

Type: Array of strings

Required: No
ipAddressType

The IP address type for the endpoint.

Type: String

Valid Values: ipv4 | dualstack | ipv6

Required: No
networkLoadBalancerArnSet

The Amazon Resource Names (ARNs) of the network load balancers for the service.

Type: Array of strings
Required: No

**serviceId**

The ID of the service to which the endpoint is connected.

Type: String

Required: No

**tagSet**

The tags.

Type: Array of Tag objects

Required: No

**vpcEndpointConnectionId**

The ID of the VPC endpoint connection.

Type: String

Required: No

**vpcEndpointId**

The ID of the VPC endpoint.

Type: String

Required: No

**vpcEndpointOwner**

The ID of the AWS account that owns the VPC endpoint.

Type: String

Required: No

**vpcEndpointState**

The state of the VPC endpoint.

Type: String
Valid Values: PendingAcceptance | Pending | Available | Deleting | Deleted | Rejected | Failed | Expired

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VpcIpv6CidrBlockAssociation

Describes an IPv6 CIDR block associated with a VPC.

Contents

**associationId**

The association ID for the IPv6 CIDR block.

- Type: String
- Required: No

**ipv6CidrBlock**

The IPv6 CIDR block.

- Type: String
- Required: No

**ipv6CidrBlockState**

Information about the state of the CIDR block.

- Type: [VpcCidrBlockState](#) object
- Required: No

**ipv6Pool**

The ID of the IPv6 address pool from which the IPv6 CIDR block is allocated.

- Type: String
- Required: No

**networkBorderGroup**

The name of the unique set of Availability Zones, Local Zones, or Wavelength Zones from which AWS advertises IP addresses, for example, `us-east-1-w11-bos-wlz-1`.

- Type: String
- Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VpcPeeringConnection

Describes a VPC peering connection.

Contents

accepterVpcInfo

Information about the accepter VPC. CIDR block information is only returned when describing an active VPC peering connection.

Type: VpcPeeringConnectionVpcInfo object

Required: No

expirationTime

The time that an unaccepted VPC peering connection will expire.

Type: Timestamp

Required: No

requesterVpcInfo

Information about the requester VPC. CIDR block information is only returned when describing an active VPC peering connection.

Type: VpcPeeringConnectionVpcInfo object

Required: No

status

The status of the VPC peering connection.

Type: VpcPeeringConnectionStateReason object

Required: No

tagSet

Any tags assigned to the resource.

Type: Array of Tag objects
Required: No

vpcPeeringConnectionId

The ID of the VPC peering connection.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
VpcPeeringConnectionOptionsDescription

Describes the VPC peering connection options.

Contents

allowDnsResolutionFromRemoteVpc

Indicates whether a local VPC can resolve public DNS hostnames to private IP addresses when queried from instances in a peer VPC.

Type: Boolean

Required: No

allowEgressFromLocalClassicLinkToRemoteVpc

Deprecated.

Type: Boolean

Required: No

allowEgressFromLocalVpcToRemoteClassicLink

Deprecated.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
VpcPeeringConnectionStateReason

Describes the status of a VPC peering connection.

Contents

code

The status of the VPC peering connection.

Type: String

Valid Values: initiating-request | pending-acceptance | active | deleted | rejected | failed | expired | provisioning | deleting

Required: No

message

A message that provides more information about the status, if applicable.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](https://aws.amazon.com/sdk-for-cpp/)
- [AWS SDK for Go](https://github.com/aws/aws-sdk-go)
- [AWS SDK for Java V2](https://docs.aws.amazon.com/sdk-for-java/latest/developer-guide/get-started.html)
- [AWS SDK for Ruby V3](https://docs.aws.amazon.com/sdk-for-ruby/latest/api/)
VpcPeeringConnectionVpcInfo

Describes a VPC in a VPC peering connection.

Contents

cidrBlock

The IPv4 CIDR block for the VPC.

Type: String

Required: No

cidrBlockSet

Information about the IPv4 CIDR blocks for the VPC.

Type: Array of CidrBlock objects

Required: No

ipv6CidrBlockSet

The IPv6 CIDR block for the VPC.

Type: Array of Ipv6CidrBlock objects

Required: No

ownerId

The ID of the AWS account that owns the VPC.

Type: String

Required: No

peeringOptions

Information about the VPC peering connection options for the accepter or requester VPC.

Type: VpcPeeringConnectionOptionsDescription object

Required: No
region

The Region in which the VPC is located.

Type: String

Required: No

vpcId

The ID of the VPC.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
VpnConnection

Describes a VPN connection.

Contents

category

The category of the VPN connection. A value of VPN indicates an AWS VPN connection. A value of VPN-Classic indicates an AWS Classic VPN connection.

Type: String

Required: No

coreNetworkArn

The ARN of the core network.

Type: String

Required: No

coreNetworkAttachmentArn

The ARN of the core network attachment.

Type: String

Required: No

customerGatewayConfiguration

The configuration information for the VPN connection's customer gateway (in the native XML format). This element is always present in the CreateVpnConnection response; however, it's present in the DescribeVpnConnections response only if the VPN connection is in the pending or available state.

Type: String

Required: No

customerGatewayId

The ID of the customer gateway at your end of the VPN connection.
Type: String
Required: No

gatewayAssociationState
The current state of the gateway association.
Type: String
Valid Values: associated | not-associated | associating | disassociating
Required: No

options
The VPN connection options.
Type: VpnConnectionOptions object
Required: No

routes
The static routes associated with the VPN connection.
Type: Array of VpnStaticRoute objects
Required: No

state
The current state of the VPN connection.
Type: String
Valid Values: pending | available | deleting | deleted
Required: No

tagSet
Any tags assigned to the VPN connection.
Type: Array of Tag objects
Required: No
transitGatewayId

The ID of the transit gateway associated with the VPN connection.

Type: String

Required: No

type

The type of VPN connection.

Type: String

Valid Values: ipsec.1

Required: No

vgwTelemetry

Information about the VPN tunnel.

Type: Array of VgwTelemetry objects

Required: No

vpnConnectionId

The ID of the VPN connection.

Type: String

Required: No

vpnGatewayId

The ID of the virtual private gateway at the AWS side of the VPN connection.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• **AWS SDK for C++**
• **AWS SDK for Go**
• **AWS SDK for Java V2**
• **AWS SDK for Ruby V3**
VpnConnectionDeviceType

List of customer gateway devices that have a sample configuration file available for use. You can also see the list of device types with sample configuration files available under Your customer gateway device in the AWS Site-to-Site VPN User Guide.

Contents

platform

Customer gateway device platform.

Type: String

Required: No

software

Customer gateway device software version.

Type: String

Required: No

vendor

Customer gateway device vendor.

Type: String

Required: No

vpnConnectionDeviceTypeId

Customer gateway device identifier.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
VpnConnectionOptions

Describes VPN connection options.

Contents

enableAcceleration

Indicates whether acceleration is enabled for the VPN connection.

Type: Boolean

Required: No

localIpv4NetworkCidr

The IPv4 CIDR on the customer gateway (on-premises) side of the VPN connection.

Type: String

Required: No

localIpv6NetworkCidr

The IPv6 CIDR on the customer gateway (on-premises) side of the VPN connection.

Type: String

Required: No

outsideIpAddressType

The type of IPv4 address assigned to the outside interface of the customer gateway.

Valid values: PrivateIpv4 | PublicIpv4

Default: PublicIpv4

Type: String

Required: No

remoteIpv4NetworkCidr

The IPv4 CIDR on the AWS side of the VPN connection.
remoteIPv6NetworkCidr

The IPv6 CIDR on the AWS side of the VPN connection.

Type: String
Required: No

staticRoutesOnly

Indicates whether the VPN connection uses static routes only. Static routes must be used for devices that don't support BGP.

Type: Boolean
Required: No

transportTransitGatewayAttachmentId

The transit gateway attachment ID in use for the VPN tunnel.

Type: String
Required: No

tunnelInsideIpVersion

Indicates whether the VPN tunnels process IPv4 or IPv6 traffic.

Type: String

Valid Values: ipv4  |  ipv6
Required: No

tunnelOptionSet

Indicates the VPN tunnel options.

Type: Array of TunnelOption objects
Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
**VpnConnectionOptionsSpecification**

Describes VPN connection options.

**Contents**

**EnableAcceleration**

Indicate whether to enable acceleration for the VPN connection.

Default: false

Type: Boolean

Required: No

**LocalIpv4NetworkCidr**

The IPv4 CIDR on the customer gateway (on-premises) side of the VPN connection.

Default: 0.0.0.0/0

Type: String

Required: No

**LocalIpv6NetworkCidr**

The IPv6 CIDR on the customer gateway (on-premises) side of the VPN connection.

Default: ::/0

Type: String

Required: No

**OutsideIpAddressType**

The type of IPv4 address assigned to the outside interface of the customer gateway device.

Valid values: PrivateIpv4 | PublicIpv4

Default: PublicIpv4

Type: String
RemoteIpv4NetworkCidr

The IPv4 CIDR on the AWS side of the VPN connection.

Default: 0.0.0.0/0

Type: String

Required: No

RemoteIpv6NetworkCidr

The IPv6 CIDR on the AWS side of the VPN connection.

Default: ::/0

Type: String

Required: No

StaticRoutesOnly

Indicate whether the VPN connection uses static routes only. If you are creating a VPN connection for a device that does not support BGP, you must specify true. Use CreateVpnConnectionRoute to create a static route.

Default: false

Type: Boolean

Required: No

TransportTransitGatewayAttachmentId

The transit gateway attachment ID to use for the VPN tunnel.

Required if OutsideIpAddressType is set to PrivateIpv4.

Type: String

Required: No

TunnelInsideIpVersion

Indicate whether the VPN tunnels process IPv4 or IPv6 traffic.
Default: ipv4

Type: String

Valid Values: ipv4 | ipv6

Required: No

**TunnelOptions**

The tunnel options for the VPN connection.

Type: Array of [VpnTunnelOptionsSpecification](#) objects

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
VpnGateway

Describes a virtual private gateway.

Contents

amazonSideAsn

The private Autonomous System Number (ASN) for the Amazon side of a BGP session.

Type: Long

Required: No

attachments

Any VPCs attached to the virtual private gateway.

Type: Array of VpcAttachment objects

Required: No

availabilityZone

The Availability Zone where the virtual private gateway was created, if applicable. This field may be empty or not returned.

Type: String

Required: No

state

The current state of the virtual private gateway.

Type: String

Valid Values: pending | available | deleting | deleted

Required: No

tagSet

Any tags assigned to the virtual private gateway.

Type: Array of Tag objects
Required: No

type

The type of VPN connection the virtual private gateway supports.

Type: String

Valid Values: ipsec.1

Required: No

vpnGatewayId

The ID of the virtual private gateway.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
VpnStaticRoute

Describes a static route for a VPN connection.

Contents

destinationCidrBlock

The CIDR block associated with the local subnet of the customer data center.

Type: String

Required: No

source

Indicates how the routes were provided.

Type: String

Valid Values: Static

Required: No

state

The current state of the static route.

Type: String

Valid Values: pending | available | deleting | deleted

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for Ruby V3
VpnTunnelLogOptions

Options for logging VPN tunnel activity.

Contents

cloudWatchLogOptions

Options for sending VPN tunnel logs to CloudWatch.

Type: CloudWatchLogOptions object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VpnTunnelLogOptionsSpecification

Options for logging VPN tunnel activity.

Contents

CloudWatchLogOptions

Options for sending VPN tunnel logs to CloudWatch.

Type: CloudWatchLogOptionsSpecification object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VpnTunnelOptionsSpecification

The tunnel options for a single VPN tunnel.

Contents

DPDTimeoutAction

The action to take after DPD timeout occurs. Specify restart to restart the IKE initiation. Specify clear to end the IKE session.

Valid Values: clear | none | restart

Default: clear

Type: String

Required: No

DPDTimeoutSeconds

The number of seconds after which a DPD timeout occurs.

Constraints: A value greater than or equal to 30.

Default: 30

Type: Integer

Required: No

EnableTunnelLifecycleControl

Turn on or off tunnel endpoint lifecycle control feature.

Type: Boolean

Required: No

IKEVersions

The IKE versions that are permitted for the VPN tunnel.

Valid values: ikev1 | ikev2
Type: Array of `IKEVersionsRequestListValue` objects

Required: No

LogOptions

Options for logging VPN tunnel activity.

Type: `VpnTunnelLogOptionsSpecification` object

Required: No

Phase1DHGroupNumbers

One or more Diffie-Hellman group numbers that are permitted for the VPN tunnel for phase 1 IKE negotiations.

Valid values: 2 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24

Type: Array of `Phase1DHGroupNumbersRequestListValue` objects

Required: No

Phase1EncryptionAlgorithms

One or more encryption algorithms that are permitted for the VPN tunnel for phase 1 IKE negotiations.

Valid values: AES128 | AES256 | AES128-GCM-16 | AES256-GCM-16

Type: Array of `Phase1EncryptionAlgorithmsRequestListValue` objects

Required: No

Phase1IntegrityAlgorithms

One or more integrity algorithms that are permitted for the VPN tunnel for phase 1 IKE negotiations.

Valid values: SHA1 | SHA2-256 | SHA2-384 | SHA2-512

Type: Array of `Phase1IntegrityAlgorithmsRequestListValue` objects

Required: No
Phase1LifetimeSeconds

The lifetime for phase 1 of the IKE negotiation, in seconds.

Constraints: A value between 900 and 28,800.

Default: 28800

Type: Integer

Required: No

Phase2DHGroupNumbers

One or more Diffie-Hellman group numbers that are permitted for the VPN tunnel for phase 2 IKE negotiations.

Valid values: 2 | 5 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24

Type: Array of Phase2DHGroupNumbersRequestListValue objects

Required: No

Phase2EncryptionAlgorithms

One or more encryption algorithms that are permitted for the VPN tunnel for phase 2 IKE negotiations.

Valid values: AES128 | AES256 | AES128-GCM-16 | AES256-GCM-16

Type: Array of Phase2EncryptionAlgorithmsRequestListValue objects

Required: No

Phase2IntegrityAlgorithms

One or more integrity algorithms that are permitted for the VPN tunnel for phase 2 IKE negotiations.

Valid values: SHA1 | SHA2-256 | SHA2-384 | SHA2-512

Type: Array of Phase2IntegrityAlgorithmsRequestListValue objects

Required: No
Phase2LifetimeSeconds

The lifetime for phase 2 of the IKE negotiation, in seconds.

Constraints: A value between 900 and 3,600. The value must be less than the value for Phase1LifetimeSeconds.

Default: 3600

Type: Integer

Required: No

PreSharedKey

The pre-shared key (PSK) to establish initial authentication between the virtual private gateway and customer gateway.

Constraints: Allowed characters are alphanumeric characters, periods (.), and underscores (_). Must be between 8 and 64 characters in length and cannot start with zero (0).

Type: String

Required: No

RekeyFuzzPercentage

The percentage of the rekey window (determined by RekeyMarginTimeSeconds) during which the rekey time is randomly selected.

Constraints: A value between 0 and 100.

Default: 100

Type: Integer

Required: No

RekeyMarginTimeSeconds

The margin time, in seconds, before the phase 2 lifetime expires, during which the AWS side of the VPN connection performs an IKE rekey. The exact time of the rekey is randomly selected based on the value for RekeyFuzzPercentage.

Constraints: A value between 60 and half of Phase2LifetimeSeconds.
Default: 270

Type: Integer

Required: No

**ReplayWindowSize**

The number of packets in an IKE replay window.

Constraints: A value between 64 and 2048.

Default: 1024

Type: Integer

Required: No

**StartupAction**

The action to take when the establishing the tunnel for the VPN connection. By default, your customer gateway device must initiate the IKE negotiation and bring up the tunnel. Specify start for AWS to initiate the IKE negotiation.

Valid Values: add | start

Default: add

Type: String

Required: No

**TunnelInsideCidr**

The range of inside IPv4 addresses for the tunnel. Any specified CIDR blocks must be unique across all VPN connections that use the same virtual private gateway.

Constraints: A size /30 CIDR block from the 169.254.0.0/16 range. The following CIDR blocks are reserved and cannot be used:

- 169.254.0.0/30
- 169.254.1.0/30
- 169.254.2.0/30
- 169.254.3.0/30
• 169.254.4.0/30
• 169.254.5.0/30
• 169.254.169.252/30

Type: String

Required: No

**TunnelInsideIpv6Cidr**

The range of inside IPv6 addresses for the tunnel. Any specified CIDR blocks must be unique across all VPN connections that use the same transit gateway.

Constraints: A size /126 CIDR block from the local fd00::/8 range.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)
Making requests to the Amazon EC2 API

⚠️ Important
As of October 14, 2022, HTTP responses from the Amazon EC2 APIs no longer include a reason-phrase element. As recommended by RFC7230, you should ensure that your applications do not make use of the reason-phrase content. Ensure that your applications use the 3-digit status-code element included in the HTTP response instead.

We provide the Query API for Amazon EC2, as well as software development kits (SDK) for AWS that enable you to access Amazon EC2 from your preferred programming language.

To monitor the calls made to the Amazon EC2 API for your account, including calls made by the AWS Management Console, command line tools, and other services, use AWS CloudTrail. For more information, see the AWS CloudTrail User Guide.

Contents

• Required knowledge
• Available APIs for Amazon EC2
• Query requests for Amazon EC2
• Request throttling for the Amazon EC2 API
• Troubleshooting API request errors
• Ensuring idempotency
• SOAP requests
• Cross-origin resource sharing support and Amazon EC2
• Logging Amazon EC2, Amazon EBS, and Amazon VPC API calls using AWS CloudTrail
• Monitoring API requests using Amazon CloudWatch
• VM Import Manifest

Required knowledge

If you plan to access Amazon EC2 through an API, you should be familiar with the following:

• XML
Available APIs for Amazon EC2

The Amazon EC2 Query API provides HTTP or HTTPS requests that use the HTTP verb GET or POST and a Query parameter named `Action`.

AWS provides libraries, sample code, tutorials, and other resources for software developers who prefer to build applications using language-specific APIs instead of submitting a request over HTTP or HTTPS. These libraries provide basic functions that automatically take care of tasks such as cryptographically signing your requests, retrying requests, and handling error responses, so that it is easier for you to get started.

For more information about the AWS SDKs, see AWS SDKs and Tools.

Query requests for Amazon EC2

Query requests are HTTP or HTTPS requests that use the HTTP verb GET or POST and a Query parameter named `Action`. For each Amazon EC2 API action, you can choose whether to use GET or POST. Regardless of which verb you choose, the same data is sent and received. For a list of Amazon EC2 API actions, see Actions.

Contents

- Structure of a GET request
- Query parameters
- Query API authentication
- Query response structures
- Pagination
- Amazon EC2 service endpoints

Structure of a GET request

The Amazon EC2 documentation presents the GET requests as URLs, which can be used directly in a browser.
The request consists of the following:

- **Endpoint**: The URL that serves as the entry point for the web service. For more information, see [Amazon EC2 service endpoints](https).
- **Action**: The action that you want to perform; for example, use RunInstances to launch an instance.
- **Parameters**: Any parameters for the action; each parameter is separated by an ampersand (&).
- **Version**: The API version to use. For the Amazon EC2 API, the version is 2016-11-15.
- **Authorization parameters**: The authorization parameters that AWS uses to ensure the validity and authenticity of the request. Amazon EC2 supports Signature Version 2 and Signature Version 4. We recommend that you use Signature Version 4. For more information, see [Signing AWS API requests](https) in the *AWS General Reference*.

The following optional parameters can be included in your request:

- **DryRun**: Checks whether you have the required permissions for the action, without actually making the request. If you have the required permissions, the request returns DryRunOperation; otherwise, it returns UnauthorizedOperation.
- **SecurityToken**: The temporary security token obtained through a call to AWS Security Token Service.

For more information about common parameters for API requests, see [Common query parameters](https).

The following is an example request that launches instances:

```bash
https://ec2.amazonaws.com/?
```
Amz-Date=20130813T150206Z&X-Amz-SignedHeaders=content-type%3Bhost%3Bx-amz-date&X-Amz-Signature=525d1a96c69b5549dd78d6bec8efe264150288b823ba87b7d58d4b76b71f59fd2
Content-type: application/json
host:ec2.amazonaws.com

To make these example requests even easier to read, AWS documentation may present them in the following format:

https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-2bb65342
&MaxCount=3
&MinCount=1
&Placement.AvailabilityZone=us-east-1a
&Monitoring.Enabled=true
&Version=2016-11-15
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLEus-east-1%2Fec2%2Faws4_request
&X-Amz-Date=20130813T150206Z
&X-Amz-SignedHeaders=content-type%3Bhost%3Bx-amz-date
&X-Amz-Signature=ced6826de92d2bdeed8f846f0bf508e8559e98e4b0194b84example54174deb456c
Content-type: application/json
host:ec2.amazonaws.com

The first line specifies the endpoint of the request. After the endpoint is a question mark (?), which separates the endpoint from the parameters. For more information about Amazon EC2 endpoints, see Amazon EC2 service endpoints.

The Action parameter indicates the action to perform. For a complete list of actions, see Actions. The remaining lines specify additional parameters for the request.

In the example Query requests we present in the Amazon EC2 API documentation, we omit the headers, common required parameters, and authentication parameters to make it easier for you to focus on the parameters for the action. We replace them with the &AUTHPARAMS literal string to remind you that you must include these parameters in your request; for example:

https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-2bb65342
&MaxCount=3
&MinCount=1
&Placement.AvailabilityZone=us-east-1a
&Monitoring.Enabled=true
Important

Before you specify your access key ID for the AWSAccessKeyId or Credential parameter, review and follow the guidance in Before you specify your access key ID for the AWSAccessKeyId or Credential parameter.

Query parameters

Each Query request must include required common parameters to handle authentication and selection of an action. Query parameters are case sensitive.

Some operations take lists of parameters. These lists are specified using the param.n notation, where n is an integer starting from 1.

The following example adds multiple devices to a block device mapping using a list of BlockDeviceMapping parameters.

```
http://ec2.amazonaws.com/?Action=RunInstances
&ImageId.1=ami-72aa081b
...
&BlockDeviceMapping.1.DeviceName=/dev/sdj
&BlockDeviceMapping.1.Ebs.NoDevice=true
&BlockDeviceMapping.2.DeviceName=/dev/sdh
&BlockDeviceMapping.2.Ebs.VolumeSize=300
&BlockDeviceMapping.3.DeviceName=/dev/sdc
&BlockDeviceMapping.3.VirtualName=ephemeral1
&AUTHPARAMS
```

Query API authentication

You can send Query requests over either the HTTP or HTTPS protocol.

Regardless of which protocol you use, you must include a signature in every Query request. Amazon EC2 supports Signature Version 2 and Signature Version 4. We recommend that you use Signature Version 4. For more information, see Signing AWS API requests in the AWS General Reference.
Signature Version 4 requests allow you to specify all the authorization parameters in a single header, for example:

```plaintext
Content-Type: application/x-www-form-urlencoded; charset=UTF-8
X-Amz-Date: 20130813T150211Z
Host: ec2.amazonaws.com
Authorization: AWS4-HMAC-SHA256 Credential=AKIEXAMPLE/202230813/us-east-1/ec2/aws4_request, SignedHeaders=content-type;host;x-amz-date, Signature=ced6826de92d2bdeed8f846f0bf508e8559e98e4b0194b84example54174deb456c
```

```
http://ec2.amazonaws.com/?Action=RunInstances
ImageId=ami-2bb65342
&MaxCount=3
&MinCount=1
&Monitoring.Enabled=true
&Placement.AvailabilityZone=us-east-1a
&Version=2016-11-15
```

**Query response structures**

In response to a Query request, the service returns an XML data structure that conforms to an XML schema defined for Amazon EC2. The structure of an XML response is specific to the associated request. In general, the response data types are named according to the operation performed and whether the data type is a container (can have children). Examples of containers include `groupSet` for security groups and `keySet` for key pairs (see the example that follows). Item elements are children of containers, and their contents vary according to the container's role.

Every successful response includes a request ID in a `requestId` element, and every unsuccessful response includes a request ID in a `RequestId` element. The value is a unique string that AWS assigns. If you ever have issues with a particular request, AWS will ask for the request ID to help troubleshoot the issue. The following shows an example response.

```xml
<DescribeKeyPairsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <keySet>
    <item>
      <keyName>gsg-keypair</keyName>
      <keyFingerprint>
        00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
      </keyFingerprint>
    </item>
  </keySet>
</DescribeKeyPairsResponse>
```
Pagination

For actions that can return a long list of items, the Amazon EC2 API includes parameters to support pagination: `MaxResults`, `NextToken` (input), and `nextToken` (output). With pagination, you specify a size for `MaxResults` and then each call returns 0 to `MaxResults` items and sets `nextToken`. If there are additional items to iterate, `nextToken` is non-null and you can specify its value in the `NextToken` parameter of a subsequent call to get the next set of items. With pagination, you continue to call the action until `nextToken` is null, even if you receive less than `MaxResults` items, including zero items.

We recommend that you use pagination when using describe actions that can potentially return a large number of results, such as `DescribeInstances`. Using pagination bounds the number of items returned and the time it takes for these calls to return.

Amazon EC2 service endpoints

⚠️ **Important**

AWS Regions launched after **October 30, 2021** will no longer support Amazon EC2 API requests over connections that are established using TLSv1, TLSv1.1, or unencrypted HTTP.

An endpoint is a URL that serves as an entry point for an AWS web service. Amazon EC2 supports the following endpoint types:

- IPv4 endpoints
- Dual-stack endpoints that support both IPv4 and IPv6
- FIPS endpoints

When you make a request, you can specify the endpoint and Region to use. If you do not specify an endpoint, the IPv4 endpoint is used by default. To use a different endpoint type, you must specify it in your request. For examples of how to do this, see [Specifying endpoints](#).
For more information about Regions, see Regions and Availability Zones in the Amazon EC2 User Guide for Linux Instances. For a list of endpoints for Amazon EC2, see Regions and Endpoints in the Amazon Web Services General Reference.

Topics

- IPv4 endpoints
- Dual-stack (IPv4 and IPv6) endpoints
- Specifying endpoints

For more information about FIPS endpoints see, FIPS endpoints in the Amazon Web Services General Reference.

IPv4 endpoints

IPv4 endpoints support IPv4 traffic only. IPv4 endpoints are available for all Regions.

If you specify the general endpoint, ec2.amazonaws.com, we use the endpoint for us-east-1. To use a different Region, specify its associated endpoint. For example, if you specify ec2.us-east-2.amazonaws.com as the endpoint, we direct your request to the us-east-2 endpoint.

IPv4 endpoint names use the following naming convention:

- service.region.amazonaws.com

For example, the IPv4 endpoint name for the eu-west-1 Region is ec2.eu-west-1.amazonaws.com. For a list of endpoints for Amazon EC2, see Regions and Endpoints in the Amazon Web Services General Reference.

Dual-stack (IPv4 and IPv6) endpoints

Dual-stack endpoints support both IPv4 and IPv6 traffic. Dual-stack endpoints are available for in the following Regions only:

- us-east-1—US East (Northern Virginia)
- us-east-2—US East (Ohio)
- us-west-2—US West (Oregon)
- eu-west-1—Europe (Ireland)
• ap-south-1—Asia Pacific (Mumbai)
• sa-east-1—South America (São Paulo)
• us-gov-east-1—AWS GovCloud (US-East)
• us-gov-west-1—AWS GovCloud (US-West)

When you make a request to a dual-stack endpoint, the endpoint URL resolves to an IPv6 or an IPv4 address, depending on the protocol used by your network and client.

Amazon EC2 supports only regional dual-stack endpoints, which means that you must specify the Region as part of the endpoint name. Dual-stack endpoint names use the following naming convention:

• ec2.<region>.api.aws

For example, the dual-stack endpoint name for the eu-west-1 Region is ec2.eu-west-1.api.aws. For a list of endpoints for Amazon EC2, see Regions and Endpoints in the Amazon Web Services General Reference.

Specifying endpoints

This section provides some examples of how to specify an endpoint when making a request.

AWS CLI

The following examples show how to specify an endpoint for the us-east-2 Region using the AWS CLI.

• Dual-stack

```bash
aws ec2 describe-regions --region us-east-2 --endpoint-url https://ec2.us-east-2.api.aws
```

• IPv4

```bash
aws ec2 describe-regions --region us-east-2 --endpoint-url https://ec2.us-east-2.amazonaws.com
```
AWS SDK for Java 2.x

The following examples show how to specify an endpoint for the us-east-2 Region using the AWS SDK for Java 2.x.

- **Dual-stack**

```java
Ec2Client client = Ec2Client.builder()
    .region(Region.US_EAST_2)
    .endpointOverride(URI.create("https://ec2.us-east-2.api.aws"))
    .build();
```

- **IPv4**

```java
Ec2Client client = Ec2Client.builder()
    .region(Region.US_EAST_2)
    .endpointOverride(URI.create("https://ec2.us-east-2.amazonaws.com"))
    .build();
```

AWS SDK for Java 1.x

The following examples show how to specify an endpoint for the eu-west-1 Region using the AWS SDK for Java 1.x.

- **Dual-stack**

```java
AmazonEC2 s3 = AmazonEC2ClientBuilder.standard()
    .withEndpointConfiguration(new EndpointConfiguration("https://ec2.eu-west-1.api.aws",
                                                        "eu-west-1"))
    .build();
```

- **IPv4**

```java
AmazonEC2 s3 = AmazonEC2ClientBuilder.standard()
    .withEndpointConfiguration(new EndpointConfiguration("https://ec2.eu-west-1.amazonaws.com",
                                                        "eu-west-1"))
    .build();
```
AWS SDK for Go

The following examples show how to specify an endpoint for the us-east-1 Region using the AWS SDK for Go.

- **Dual-stack**

  ```go
sess := session.Must(session.NewSession())
svc := ec2.New(sess, &aws.Config{
    Region: aws.String(endpoints.UsEast1RegionID),
    Endpoint: aws.String("https://ec2.us-east-1.api.aws")
  })
  ```

- **IPv4**

  ```go
sess := session.Must(session.NewSession())
svc := ec2.New(sess, &aws.Config{
    Region: aws.String(endpoints.UsEast1RegionID),
    Endpoint: aws.String("https://ec2.us-east-1.amazonaws.com")
  })
  ```

### Request throttling for the Amazon EC2 API

Amazon EC2 throttles EC2 API requests for each AWS account on a per-Region basis. We do this to help the performance of the service, and to ensure fair usage for all Amazon EC2 customers. Throttling ensures that calls to the Amazon EC2 API do not exceed the maximum allowed API request limits. API calls are subject to the request limits whether they originate from:

- A third-party application
- A command line tool
- The Amazon EC2 console

If you exceed an API throttling limit, you get the RequestLimitExceeded error code. For more information, see [Query API request rate](#).

---

**Request throttling**

**API Version 2016-11-15 3693**
Note

The limits described here apply only to Amazon EC2. For information about Auto Scaling limits, see [API request rate](#) in the *Amazon EC2 Auto Scaling API Reference*.

Contents

- How throttling is applied
- Throttling limits
- Monitor API throttling
- Request a limit increase

How throttling is applied

Amazon EC2 uses the [token bucket algorithm](#) to implement API throttling. With this algorithm, your account has a *bucket* that holds a specific number of *tokens*. The number of tokens in the bucket represents your throttling limit at any given second.

Amazon EC2 implements two types of API throttling:

**API throttling types**

- Request rate limiting
- Resource rate limiting

**Request rate limiting**

With request rate limiting, you are throttled on the number of API requests you make. Each request that you make removes one token from the bucket. For example, the bucket size for *non-mutating* (Describe*) API actions is 100 tokens, so you can make up to 100 Describe* requests in one second. If you exceed 100 requests in a second, you are throttled and the remaining requests within that second fail.

Buckets automatically refill at a set rate. If the bucket is below its maximum capacity, a set number of tokens is added back to it every second until it reaches its maximum capacity. If the bucket is full when refill tokens arrive, they are discarded. The bucket cannot hold more than its maximum number of tokens. For example, the bucket size for *non-mutating* (Describe*) API actions is 100
tokens, and the refill rate is 20 tokens per second. If you make 100 Describe* API requests in a second, the bucket is immediately reduced to zero (0) tokens. The bucket is then refilled by 20 tokens every second, until it reaches its maximum capacity of 100 tokens. This means that the previously empty bucket reaches its maximum capacity after 5 seconds.

You do not need to wait for the bucket to be completely full before you can make API requests. You can use tokens as they are added to the bucket. If you immediately use the refill tokens, the bucket does not reach its maximum capacity. For example, the bucket size for console non-mutating actions is 100 tokens, and the refill rate is 10 tokens per second. If you deplete the bucket by making 100 API requests in a second, you can continue to make 10 API requests per second. The bucket can refill to the maximum capacity only if you make fewer than 10 API requests per second.

Resource rate limiting

Some API actions, such as RunInstances and TerminateInstances, as described in the table that follows, use resource rate limiting in addition to request rate limiting. These API actions have a separate resource token bucket that depletes based on the number of resources that are impacted by the request. Like request token buckets, resource token buckets have a bucket maximum that allows you to burst, and a refill rate that allows you to sustain a steady rate of requests for as long as needed. If you exceed a specific bucket limit for an API, including when a bucket has not yet refilled to support the next API call, the action of the API is limited even though you have not reached the total API throttle limit.

For example, the resource token bucket size for RunInstances is 1000 tokens, and the refill rate is two tokens per second. Therefore, you can immediately launch 1000 instances, using any number of API requests, such as one request for 1000 instances or four requests for 250 instances. After the resource token bucket is empty, you can launch up to two instances every second, using either one request for two instances or two requests for one instance.

For more information, see Resource token bucket sizes and refill rates.

Throttling limits

The following sections describe the request token bucket and resource token bucket sizes and refill rates.

Limits

- Request token bucket sizes and refill rates
- Resource token bucket sizes and refill rates
Request token bucket sizes and refill rates

For request rate limiting purposes, API actions are grouped into the following categories:

- **Non-mutating actions** — API actions that retrieve data about resources. This category generally includes all Describe* actions, such as DescribeRouteTables, DescribeImages, and DescribeHosts. These API actions typically have the highest API throttling limits.

- **Unfiltered and unpaginated non-mutating actions** — A specific subset of non-mutating API actions that, when called without specifying either pagination or a filter, use tokens from a smaller token bucket. It is recommended that you make use of pagination and filtering so that tokens are deducted from the standard (larger) token bucket.

- **Mutating actions** — API actions that create, modify, or delete resources. This category generally includes all API actions that are not categorized as non-mutating actions, such as CreateVolume, ModifyHosts, and DeleteSnapshot. These actions have a lower throttling limit than non-mutating API calls.

- **Resource-intensive actions** — Mutating API actions that take the most time and consume the most resources to complete. These actions have an even lower throttling limit than mutating actions. They are throttled separately from other mutating actions.

- **Console non-mutating actions** — Non-mutating API actions that are called from the Amazon EC2 console. These API actions are throttled separately from other non-mutating API actions.

- **Uncategorized actions** — These API actions receive their own token bucket sizes and refill rates, even though by definition they fit in one of the other categories.

The following table shows the request token bucket sizes and refill rates for all AWS Regions.

<table>
<thead>
<tr>
<th>API action category</th>
<th>Actions</th>
<th>Bucket maximum capacity</th>
<th>Bucket refill rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-mutating actions</td>
<td>Describe*</td>
<td>100</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Get*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unfiltered and unpaginated non-mutating actions</td>
<td></td>
<td>50</td>
<td>10</td>
</tr>
<tr>
<td>API action category</td>
<td>Actions</td>
<td>Bucket maximum capacity</td>
<td>Bucket refill rate</td>
</tr>
<tr>
<td>---------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td></td>
<td>DescribeInstances</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• DescribeNetworkInterfaces</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• DescribeVolumes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• DescribeInstanceStatus</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• DescribeSnapshots</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• DescribeSecurityGroups</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• DescribeSpotInstanceRequests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mutating actions</td>
<td>API actions that are not categorized as non-mutating actions.</td>
<td>200</td>
<td>5</td>
</tr>
<tr>
<td>API action category</td>
<td>Actions</td>
<td>Bucket maximum capacity</td>
<td>Bucket refill rate</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------</td>
<td>-------------------------</td>
<td>-------------------</td>
</tr>
</tbody>
</table>
| Resource-intensive actions | • Authorize SecurityGroupIngress  
• CancelSpotInstance Requests  
• CreateKeyPair  
• RequestSpotInstances  
• RevokeSecurityGroupIngress  
• CreateVpcPeeringConnection  
• AcceptVpcPeeringConnection  
• RejectVpcPeeringConnection  
• DeleteVpcPeeringConnection | 50 | 5 |
<table>
<thead>
<tr>
<th>API action category</th>
<th>Actions</th>
<th>Bucket maximum capacity</th>
<th>Bucket refill rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Console non-mutating actions</td>
<td>• Describe*</td>
<td>100</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>• Get*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncategorized actions</td>
<td>RunInstances</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>StartInstances</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>CreateVpc Endpoint</td>
<td>4</td>
<td>0.3</td>
</tr>
<tr>
<td></td>
<td>ModifyVpc Endpoint</td>
<td>4</td>
<td>0.3</td>
</tr>
<tr>
<td></td>
<td>DeleteVpc Endpoints</td>
<td>4</td>
<td>0.3</td>
</tr>
<tr>
<td></td>
<td>AcceptVpc EndpointC onnections</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>RejectVpc EndpointC onnections</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>CreateVpc EndpointS erviceConfiguration</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ModifyVpc EndpointS erviceConfiguration</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>API action category</td>
<td>Actions</td>
<td>Bucket maximum capacity</td>
<td>Bucket refill rate</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------------------</td>
<td>-------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td></td>
<td>DeleteVpc</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>EndpointServiceConfigurations</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CreateDefaultVpc</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>CreateDefaultSubnet</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>MoveAddressToVpc</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>RestoreAddressToClassic</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>DescribeMovingAddresses</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>AdvertiseByoipCidr</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>ProvisionByoipCidr</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>DescribeByoipCidrs</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>DeprovisionByoipCidr</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>WithdrawByoipCidr</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td>API action category</td>
<td>Actions</td>
<td>Bucket maximum capacity</td>
<td>Bucket refill rate</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------------------</td>
<td>-------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td></td>
<td>DescribeReservedInstancesOfOfferings</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>PurchaseReservedInstancesOfOffering</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>DescribeSpotFleetRequests</td>
<td>50</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>DescribeSpotFleetInstances</td>
<td>100</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>DescribeSpotFleetRequestHistory</td>
<td>100</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>AssociateEnclaveCertificateIamRole</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>DisassociateEnclaveCertificateIamRole</td>
<td>10</td>
<td>1</td>
</tr>
</tbody>
</table>
### API action category

<table>
<thead>
<tr>
<th>Actions</th>
<th>Bucket maximum capacity</th>
<th>Bucket refill rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>GetAssociatedEnclaveCertificateIamRoles</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>GetConsoleScreenshot</td>
<td>5 per account</td>
<td>5 per account</td>
</tr>
<tr>
<td></td>
<td>2 per instance</td>
<td>1 per instance</td>
</tr>
</tbody>
</table>

### Resource token bucket sizes and refill rates

The following table lists the resource token bucket sizes and refill rates for API actions that use resource rate limiting.

<table>
<thead>
<tr>
<th>API action</th>
<th>Bucket maximum capacity</th>
<th>Bucket refill rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>RunInstances</td>
<td>1000</td>
<td>2</td>
</tr>
<tr>
<td>TerminateInstances</td>
<td>1000</td>
<td>20</td>
</tr>
<tr>
<td>StartInstances</td>
<td>1000</td>
<td>2</td>
</tr>
<tr>
<td>StopInstances</td>
<td>1000</td>
<td>20</td>
</tr>
</tbody>
</table>

### Monitor API throttling

You can use Amazon CloudWatch to monitor your Amazon EC2 API calls and to collect and track metrics around API throttling. You can also create an alarm to warn you when you are close to reaching the API throttling limits. For more information, see [Monitoring API requests using Amazon CloudWatch](#).

### Request a limit increase

You can request an increase for API throttling limits for your AWS account.
To request access to this feature

1. Open AWS Support Center.
2. Choose Create case.
3. Choose Account and billing.
4. For Service, choose General Info and Getting Started.
5. For Category, choose Using AWS & Services.
7. For Subject, enter Request an increase in my Amazon EC2 API throttling limits.
8. For Description, enter Please increase the API throttling limits for my account. Related page: https://docs.aws.amazon.com/AWSEC2/latest/APIReference/throttling.html. Also include the following information:
   - A description of your use case.
   - The Regions where you need an increase.
   - The one-hour window, in UTC, when peak throttling or usage occurred (to calculate the new throttling limit).
9. Choose Next step: Solve now or contact us.
10. On the Contact us tab, choose your preferred contact language and method of contact.
11. Choose Submit.

Troubleshooting API request errors

In the Amazon EC2 Query API, errors codes are indicated as being either client or server. Client errors usually occur because there is a problem with the structure, content, or validity of the request. Server errors usually indicate a server-side issue.

For more information about API error codes, see Error Codes.

Contents
- Query API request rate
- Eventual consistency
- Unauthorized operation
Query API request rate

We throttle Amazon EC2 API requests for each AWS account on a per-Region basis to help the performance of the service. We ensure that all calls to the Amazon EC2 API (whether they originate from an application, calls to a command line interface, or the Amazon EC2 console) don't exceed the maximum allowed API request rate. The maximum API request rate may vary across Regions. Note that API requests made by users are attributed to the underlying AWS account.

The Amazon EC2 API actions are divided into the following categories:

- Describe actions, such as DescribeInstances and DescribeVolumes. These requests simply retrieve cached data, so they have the highest request limit.

- Modify actions, such as RunInstances and CreateVolumes. These requests create or modify resources, so they have a lower request limit than describe calls.

- The CreateKeyPair, AuthorizeSecurityGroupIngress, and RevokeSecurityGroupIngress actions. These requests take the most time and resource to complete, so they have the lowest request limit.

If an API request exceeds the API request rate for its category, the request returns the RequestLimitExceeded error code. To prevent this error, ensure that your application doesn't retry API requests at a high rate. You can do this by using care when polling and by using exponential backoff retries.

Polling

Your application might need to call an API repeatedly to check for an update in status. Before you start polling, give the request time to potentially complete. When you begin polling, use an appropriate sleep interval between successive requests. For best results, use an increasing sleep interval.

Alternatively, you can use Amazon CloudWatch Events to notify you of the status of some resources; for example, you can use the **EC2 Instance State-change Notification** event to notify you of a state change for an instance. For more information, see the [Amazon CloudWatch Events User Guide](https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/events.html).
Retries or batch processing

Your application might need to retry an API request after it fails, or to process multiple resources (for example, all your volumes). To lower the rate of API requests, use an appropriate sleep interval between successive requests. For best results, use an increasing or variable sleep interval.

Calculating the sleep interval

When you have to poll or retry an API request, we recommend using an exponential backoff algorithm to calculate the sleep interval between API calls. The idea behind exponential backoff is to use progressively longer waits between retries for consecutive error responses. For more information, and implementation examples of this algorithm, see Error retries and exponential backoff in AWS.

Eventual consistency

The Amazon EC2 API follows an eventual consistency model, due to the distributed nature of the system supporting the API. This means that the result of an API command you run that affects your Amazon EC2 resources might not be immediately visible to all subsequent commands you run. You should keep this in mind when you carry out an API command that immediately follows a previous API command.

Eventual consistency can affect the way you manage your resources. For example, if you run a command to create a resource, it will eventually be visible to other commands. This means that if you run a command to modify or describe the resource that you just created, its ID might not have propagated throughout the system, and you will get an error responding that the resource does not exist.

To manage eventual consistency, you can do the following:

- Confirm the state of the resource before you run a command to modify it. Run the appropriate Describe command using an exponential backoff algorithm to ensure that you allow enough time for the previous command to propagate through the system. To do this, run the Describe command repeatedly, starting with a couple of seconds of wait time, and increasing gradually up to five minutes of wait time.

- Add wait time between subsequent commands, even if a Describe command returns an accurate response. Apply an exponential backoff algorithm starting with a couple of seconds of wait time, and increase gradually up to about five minutes of wait time.
Eventual consistency error examples

The following are examples of error codes you may encounter as a result of eventual consistency.

- **InvalidInstanceID.NotFound**

  If you successfully run the `RunInstances` command, and then immediately run another command using the instance ID that was provided in the response of `RunInstances`, it may return an `InvalidInstanceID.NotFound` error. This does not mean the instance does not exist.

  Some specific commands that may be affected are:

  - `DescribeInstances`: To confirm the actual state of the instance, run this command using an exponential backoff algorithm.
  
  - `TerminateInstances`: To confirm the state of the instance, first run the `DescribeInstances` command using an exponential backoff algorithm.

  **Important**
  
  If you get an `InvalidInstanceID.NotFound` error after running `TerminateInstances`, this does not mean that the instance is or will be terminated. Your instance could still be running. This is why it is important to first confirm the instance's state using `DescribeInstances`.

- **InvalidGroup.NotFound**

  If you successfully run the `CreateSecurityGroup` command, and then immediately run another command using the security group ID that was provided in the response of `CreateSecurityGroup`, it may return an `InvalidGroup.NotFound` error. To confirm the state of the security group, run the `DescribeSecurityGroups` command using an exponential backoff algorithm.

- **InstanceLimitExceeded**

  You have requested more instances than your current instance limit allows for the specified instance type. You could reach this limit unexpectedly if you are launching and terminating instances rapidly, as terminated instances count toward your instance limit for a while after they've been terminated.
Unauthorized operation

By default, users, groups, and roles don’t have permission to create or modify Amazon EC2 resources, or perform tasks using the Amazon EC2 API. You must explicitly grant permission through IAM policies. If a user attempts to perform an action for which permission has not been granted, the request returns the following error: Client.UnauthorizedOperation.

This error may occur when a policy is unintentionally restrictive. For example, to allow a user to launch instances into a specific subnet, you need to grant permissions for the following resources by specifying their ARNs in your IAM policy: instances, volumes, AMIs, the specific subnet, network interfaces, key pairs, and security groups. If you omit the permission for volumes, for example, the user is only able to launch an instance from an instance store-backed AMI, as they do not have permission to create the root EBS volume for an EBS-backed instance.

For more information about creating IAM policies for Amazon EC2, see IAM policies for Amazon EC2 in the Amazon EC2 User Guide for Linux Instances.

For more information about which ARNs you can use with which Amazon EC2 API actions, see Actions, resources, and condition keys for Amazon EC2 in the Service Authorization Reference.

Ensuring idempotency

When you make a mutating API request, the request typically returns a result before the operation's asynchronous workflows have completed. Operations might also time out or encounter other server issues before they complete, even though the request has already returned a result. This could make it difficult to determine whether the request succeeded or not, and could lead to multiple retries to ensure that the operation completes successfully. However, if the original request and the subsequent retries are successful, the operation is completed multiple times. This means that you might create more resources than you intended.

Idempotency ensures that an API request completes no more than one time. With an idempotent request, if the original request completes successfully, any subsequent retries complete successfully without performing any further actions. However, the result might contain updated information, such as the current creation status.

Contents

- Idempotency in Amazon EC2
- RunInstances idempotency
Idempotency in Amazon EC2

The following API actions are idempotent by default, and do not require additional configuration. The corresponding AWS CLI commands also support idempotency by default.

Idempotent by default

- AssociateAddress
- CreateVpnConnection
- DisassociateAddress
- ReplaceNetworkAclAssociation
- TerminateInstances

The following API actions optionally support idempotency using a client token. The corresponding AWS CLI commands also support idempotency using a client token. A client token is a unique, case-sensitive string of up to 64 ASCII characters. To make an idempotent API request using one of these actions, specify a client token in the request. You should not reuse the same client token for other API requests. If you retry a request that completed successfully using the same client token and the same parameters, the retry succeeds without performing any further actions. If you retry a successful request using the same client token, but one or more of the parameters are different, other than the Region or Availability Zone, the retry fails with an IdempotentParameterMismatch error.

Idempotent using a client token

- AllocateHosts
- CopyImage
- CreateEgressOnlyInternetGateway
- CreateFlowLogs
- CreateFpgaImage
- CreateNatGateway
Types of idempotency

- Regional – Requests are idempotent in each Region. However, you can use the same request, including the same client token, in a different Region.
- Zonal – Requests are idempotent in each Availability Zone in a Region. For example, if you specify the same client token in two calls to AllocateHosts in the same Region, the calls succeed if they specify different values for the AvailabilityZone parameter.

RunInstances idempotency

The RunInstances API action uses both Regional and zonal idempotency.

The type of idempotency that is used depends on how you specify the Availability Zone in your RunInstances API request. The request uses zonal idempotency in the following cases:

- If you explicitly specify an Availability Zone using the AvailabilityZone parameter in the Placement data type
- If you implicitly specify an Availability Zone using the SubnetId parameter
If you do not explicitly or implicitly specify an Availability Zone, the request uses **Regional idempotency**.

### Zonal idempotency

Zonal idempotency ensures that a RunInstances API request is idempotent in each Availability Zone in a Region. This ensures that a request with the same client token can complete only once within each Availability Zone in a Region. However, the same client token can be used to launch instances in other Availability Zones in the Region.

For example, if you send an idempotent request to launch an instance in the `us-east-1a` Availability Zone, and then use the same client token in a request in the `us-east-1b` Availability Zone, we launch instances in each of those Availability Zones. If one or more of the parameters are different, subsequent retries with the same client token in those Availability Zones either return successfully without performing any further actions or fail with an `IdempotentParameterMismatch` error.

### Regional idempotency

Regional idempotency ensures that a RunInstances API request is idempotent in a Region. This ensures that a request with the same client token can complete only once within a Region. However, the exact same request, with the same client token, can be used to launch instances in a different Region.

For example, if you send an idempotent request to launch an instance in the `us-east-1` Region, and then use the same client token in a request in the `eu-west-1` Region, we launch instances in each of those Regions. If one or more of the parameters are different, subsequent retries with the same client token in those Regions either return successfully without performing any further actions or fail with an `IdempotentParameterMismatch` error.

#### Tip

If one of the Availability Zones in the requested Region is not available, RunInstances requests that use regional idempotency could fail. To leverage the Availability Zone features offered by the AWS infrastructure, we recommend that you use zonal idempotency when launching instances. RunInstances requests that use zonal idempotency and target an available Availability Zone succeed even if another Availability Zone in the requested Region is not available.
Examples

AWS CLI command examples

To make an AWS CLI command idempotent, add the --client-token option.

Example 1: Idempotency

The following **allocate-hosts** command uses idempotency as it includes a client token.

```
aws ec2 allocate-hosts --instance-type m5.large --availability-zone eu-west-1a --auto-placement on --quantity 1 --client-token 550e8400-e29b-41d4-a716-446655440000
```

Example 2: run-instances regional idempotency

The following **run-instances** command uses regional idempotency as it includes a client token but does not explicitly or implicitly specify an Availability Zone.

```
aws ec2 run-instances --image-id ami-b232d0db --count 1 --key-name my-key-pair --client-token 550e8400-e29b-41d4-a716-446655440000
```

Example 3: run-instances zonal idempotency

The following **run-instances** command uses zonal idempotency as it includes a client token and an explicitly specified Availability Zone.

```
aws ec2 run-instances --placement "AvailabilityZone=us-east-1a" --image-id ami-b232d0db --count 1 --key-name my-key-pair --client-token 550e8400-e29b-41d4-a716-446655440000
```

API request examples

To make an API request idempotent, add the ClientToken parameter.

Example 1: Idempotency

The following **AllocateHosts** API request uses idempotency as it includes a client token.

```
https://ec2.amazonaws.com/?Action=AllocateHosts
&AvailabilityZone=us-east-1b
&InstanceType=m5.large
&Quantity=1
```
Example 2: RunInstances regional idempotency

The following RunInstances API request uses regional idempotency as it includes a client token but does not explicitly or implicitly specify an Availability Zone.

https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-3ac33653
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&ClientToken=550e8400-e29b-41d4-a716-446655440000
&AUTHPARAMS

Example 3: RunInstances zonal idempotency

The following RunInstances API request uses zonal idempotency as it includes a client token and an explicitly specified Availability Zone.

https://ec2.amazonaws.com/?Action=RunInstances
&Placement.AvailabilityZone=us-east-1d
&ImageId=ami-3ac33653
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&ClientToken=550e8400-e29b-41d4-a716-446655440000
&AUTHPARAMS

Retry recommendations for idempotent requests

The following table shows some common responses that you might get for idempotent API requests, and provides retry recommendations.

<table>
<thead>
<tr>
<th>Response</th>
<th>Recommendation</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 (OK)</td>
<td>Do not retry</td>
<td>The original request completed successfully. Any subsequent retries return successfully.</td>
</tr>
</tbody>
</table>
## Response

<table>
<thead>
<tr>
<th>400-series response codes (client errors)</th>
<th>Recommendation</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do not retry</td>
<td>There is a problem with the request, from among the following:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• It includes a parameter or parameter combination that is not valid.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• It uses an action or resource for which you do not have permissions.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• It uses a resource that is in the process of changing states.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If the request involves a resource that is in the process of changing states, retrying the request could possibly succeed.</td>
<td></td>
</tr>
</tbody>
</table>

| 500-series response codes (server errors) | Retry | The error is caused by an AWS server-side issue and is generally transient. Repeat the request with an appropriate backoff strategy. |

## SOAP requests

We have deprecated the SOAP API for Amazon EC2. As of 1 December 2015, we no longer support SOAP requests for any version of the API. If you use a SOAP request you receive the following response:

```plaintext
Client.UnsupportedProtocol: SOAP is no longer supported.
```

Similarly, the AWS Software Development Kits (SDKs) no longer support SOAP requests for any version of the API.

We recommend that you use the Query API for Amazon EC2, or the AWS SDKs. For more information, see [Making requests to the Amazon EC2 API](#).
Cross-origin resource sharing support and Amazon EC2

The Amazon EC2 API supports cross-origin resource sharing (CORS). CORS defines a way for client web applications that are loaded in one domain to interact with resources in a different domain. For more information, go to the Cross-Origin Resource Sharing W3C Recommendation. With CORS support for Amazon EC2, you can build rich client-side web applications that leverage the Amazon EC2 API. For example, suppose you are hosting a web site, mywebsite.example.com, and you want to use JavaScript on your web pages to make requests to the Amazon EC2 API. Normally, a browser blocks JavaScript from allowing these requests, but with CORS, you are able to make cross-origin Amazon EC2 API calls from mywebsite.example.com.

CORS is already enabled for the Amazon EC2 API, and is ready for you to use. You do not need to perform any additional configuration steps to start using this feature. There is no change to the way that you make calls to the Amazon EC2 API; they must still be signed with valid AWS credentials to ensure that AWS can authenticate the requester. For more information, see Signing AWS API requests in the Amazon Web Services General Reference.

The implementation of CORS in the Amazon EC2 API is standardized. Your application can send a simple request to the Amazon EC2 API, or, depending on the content of the request, a preflight request followed by an actual request. Amazon EC2 allows the request from any origin.

For more information about CORS and examples of how it works, go to the following article on the Mozilla Developer Network: HTTP access control (CORS).

Simple requests

The following are the criteria that define a simple or actual request:

- Requests only use the GET or POST HTTP methods. If the POST method is used, then Content-Type can only be one of the following: application/x-www-form-urlencoded, multipart/form-data, or text/plain.
- Requests do not set custom headers, such as X-Other-Header.

Amazon EC2 allows the request from any origin. Any GET or POST request that attempts to use browser credentials by setting the Access-Control-Allow-Credentials value to true (where XMLHttpRequest.withCredentials = true) will fail.

The following information describes the request headers to Amazon EC2:
Simple request header values

- Origin: Specifies the domain that would like access to the resource (in this case, the resource is Amazon EC2). This is inserted by the browser in a cross-origin request.

The following information describes the response headers that Amazon EC2 returns (or does not return) after a simple or actual request:

Simple response header values

- Access-Control-Allow-Origin: Specifies the domain that can access the resource (in this case, the resource is Amazon EC2). This is always returned with a * value. Therefore, Amazon EC2 allows any cross-domain origin, and never allows browser credentials, such as cookies.
- Access-Control-Allow-Credentials: Indicates whether browser credentials can be used to make the actual request. This is never returned. Therefore, the browser should interpret the value as Access-Control-Allow-Credentials: false.

Preflight requests

If the content of your request meets the criteria below, then your request is checked for whether the actual request should be sent. A preflight request first sends an HTTP request to the resource (in this case, Amazon EC2) using the OPTIONS method.

The following are the criteria that define a preflight request:

- Requests use HTTP methods other than GET or POST. However, if the POST method is used, then the Content-Type is not one of the following: application/x-www-form-urlencoded, multipart/form-data, or text/plain.
- Requests set custom headers; for example, X-Other-Header.

The Amazon EC2 CORS implementation allows any headers, and allows any origin in the actual request.

The following information describes the request headers for a preflight request to Amazon EC2:
Preflight request header values

- **Origin**: Specifies the domain that would like access to the resource (in this case, the resource is Amazon EC2). This is inserted by the browser in a cross-origin request.
- **Access-Control-Request-Method**: The HTTP method to be used in the actual request from the browser.
- **Access-Control-Request-Headers**: The custom headers to be sent in the actual cross-origin request.

The following information is about the response headers that Amazon EC2 returns (or does not return) after a preflight request:

Preflight response header values

- **Access-Control-Allow-Origin**: Specifies the domain that can access the resource (in this case, the resource is Amazon EC2). This is always returned with a * value. Therefore, Amazon EC2 allows any cross-domain origin, and never allows browser credentials, such as cookies.
- **Access-Control-Allow-Credentials**: Indicates whether browser credentials can be used to make the actual request. This is never returned by Amazon EC2. Therefore, the browser should interpret the value as `Access-Control-Allow-Credentials: false`.
- **Access-Control-Expose-Headers**: Allows headers to be exposed to the browser. This is never returned by Amazon EC2. Therefore, no return headers from Amazon EC2 can be read by the requesting domain.
- **Access-Control-Max-Age**: Specifies how long preflight request results can be cached. The value is set to 1800 seconds (30 minutes).
- **Access-Control-Allow-Methods**: Indicates which methods are allowed when making an actual request. The following methods are allowed: GET, POST, OPTIONS, DELETE, and PUT. This also depends on how you are calling the Amazon EC2 API; for example, by using the Query API, or by using REST.
- **Access-Control-Allow-Headers**: Indicates which headers can be used in the actual request. Amazon EC2 accepts any headers in preflight requests. If the HTTP headers are not relevant in the actual request, they are ignored.
Logging Amazon EC2, Amazon EBS, and Amazon VPC API calls using AWS CloudTrail

Important

As a result of changes to the Amazon EC2 API AWS CloudTrail event logging behavior, you might notice an increased number of events logged for Amazon EC2 `Describe*` API requests that are made by AWS services on your behalf. For more information, contact AWS Support.

Amazon EC2, Amazon EBS, and Amazon VPC are integrated with AWS CloudTrail, a service that provides a record of actions taken by a user, role, or an AWS service in Amazon EC2, Amazon EBS, and Amazon VPC. CloudTrail captures all API calls for Amazon EC2, Amazon EBS, and Amazon VPC as events, including calls from the console and from code calls to the APIs. If you create a trail, you can enable continuous delivery of CloudTrail events to an Amazon S3 bucket, including events for Amazon EC2, Amazon EBS, and Amazon VPC. If you don’t configure a trail, you can still view the most recent events in the CloudTrail console in Event history. Using the information collected by CloudTrail, you can determine the request that was made to Amazon EC2, Amazon EBS, and Amazon VPC, the IP address from which the request was made, who made the request, when it was made, and additional details.

To learn more about CloudTrail, see the AWS CloudTrail User Guide.

Amazon EC2, Amazon EBS, and Amazon VPC information in CloudTrail

CloudTrail is enabled on your AWS account when you create the account. When activity occurs in Amazon EC2, Amazon EBS, and Amazon VPC, that activity is recorded in a CloudTrail event along with other AWS service events in Event history. You can view, search, and download recent events in your AWS account. For more information, see Viewing Events with CloudTrail Event History.

For an ongoing record of events in your AWS account, including events for Amazon EC2, Amazon EBS, and Amazon VPC, create a trail. A trail enables CloudTrail to deliver log files to an Amazon S3 bucket. By default, when you create a trail in the console, the trail applies to all Regions. The trail logs events from all Regions in the AWS partition and delivers the log files to the Amazon S3 bucket that you specify. Additionally, you can configure other AWS services to further analyze and act upon the event data collected in CloudTrail logs. For more information, see:

- Overview for Creating a Trail
CloudTrail Supported Services and Integrations
Configuring Amazon SNS Notifications for CloudTrail
Receiving CloudTrail Log Files from Multiple Regions and Receiving CloudTrail Log Files from Multiple Accounts

All Amazon EC2, Amazon EBS, and Amazon VPC actions are logged by CloudTrail and are documented in the Amazon EC2 API Reference. For example, calls to the RunInstances, DescribeInstances, or CreateImage actions generate entries in the CloudTrail log files.

Every event or log entry contains information about who generated the request. The identity information helps you determine the following:

- Whether the request was made with root or user credentials.
- Whether the request was made with temporary security credentials.
- Whether the request was made by another AWS service.

For more information, see the CloudTrail userIdentity Element.

Understanding Amazon EC2, Amazon EBS, and Amazon VPC log file entries

A trail is a configuration that enables delivery of events as log files to an Amazon S3 bucket that you specify. CloudTrail log files contain one or more log entries. An event represents a single request from any source and includes information about the requested action, the date and time of the action, request parameters, and so on. CloudTrail log files are not an ordered stack trace of the public API calls, so they do not appear in any specific order.

The following log file record shows that a user terminated an instance.

```json
{
   "Records": [
      {
         "eventVersion": "1.03",
         "userIdentity": {
            "type": "Root",
            "principalId": "123456789012",
            "arn": "arn:aws:iam::123456789012:root",
            "accountId": "123456789012",
```
Monitoring API requests using Amazon CloudWatch

You can monitor Amazon EC2 API requests using Amazon CloudWatch, which collects raw data and processes it into readable, near real-time metrics. These metrics provide a simple way to track the
usage and outcomes of the Amazon EC2 API operations over time. This information gives you a better perspective on how your web applications are performing, and enables you to identify and diagnose a variety of issues. You can also set alarms that watch for certain thresholds, and send notifications or take specific actions when those thresholds are met.

For more information about CloudWatch, see the Amazon CloudWatch User Guide.

⚠️ Important
Amazon EC2 API metrics is an opt-in feature. You must request access to this feature. For more information, see the section called “Enable Amazon EC2 API metrics”.

Contents
- Enable Amazon EC2 API metrics
- Amazon EC2 API metrics and dimensions
- Metric data retention
- Monitoring requests made on your behalf
- Billing
- Working with Amazon CloudWatch

Enable Amazon EC2 API metrics

Use the following procedure to request access to this feature for your AWS account.

To request access to this feature

1. Open AWS Support Center.
2. Choose Create case.
3. Choose Account and billing.
4. For Service, choose General Info and Getting Started.
5. For Category, choose Using AWS & Services.
7. For Subject, enter Request access to Amazon EC2 API metrics.
8. For **Description**, enter **Please grant my account access to Amazon EC2 API metrics.** Related page: https://docs.aws.amazon.com/AWSEC2/latest/APIReference/monitor.html. Also include the Region where you need access.

9. Choose **Next step: Solve now or contact us.**

10. On the **Contact us** tab, choose your preferred contact language and method of contact.

11. Choose **Submit**.

### Amazon EC2 API metrics and dimensions

#### Metrics

The Amazon EC2 API metrics are contained in the AWS/EC2/API namespace. The following tables list the metrics available for Amazon EC2 API requests.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ClientErrors</td>
<td>The number of failed API requests caused by client errors. These errors are usually caused by something the client did, such as specifying an incorrect or invalid parameter in the request, or using an action or resource on behalf of a user that does not have permission to use the action or resource. Unit: Count</td>
</tr>
<tr>
<td>RequestLimitExceeded</td>
<td>The number of times the maximum request rate permitted by the Amazon EC2 APIs has been exceeded for your account. Amazon EC2 API requests are throttled to help maintain the performance of the service. If your requests have been throttled, you get the Client.RequestLimitExceeded error. Unit: Count</td>
</tr>
<tr>
<td>Metric</td>
<td>Description</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>ServerErrors</td>
<td>The number of failed API requests caused by internal server errors.</td>
</tr>
<tr>
<td></td>
<td>These errors are usually caused by an AWS server-side error, exception, or failure.</td>
</tr>
<tr>
<td>SuccessfulCalls</td>
<td>The number of successful API requests.</td>
</tr>
<tr>
<td></td>
<td>Unit: Count</td>
</tr>
</tbody>
</table>

**Dimensions**

The Amazon EC2 metric data can be filtered across all EC2 API actions. For more information about dimensions, see [Amazon CloudWatch concepts](#).

**Metric data retention**

Amazon EC2 API metrics are sent to CloudWatch at 1-minute intervals. CloudWatch retains metric data as follows:

- Data points with a period of 60 seconds (1 minute) are available for 15 days.
- Data points with a period of 300 seconds (5 minutes) are available for 63 days.
- Data points with a period of 3600 seconds (1 hour) are available for 455 days (15 months).

**Monitoring requests made on your behalf**

API requests made by AWS services on your behalf, such as requests made by service-linked roles, do not count toward your API throttling limits and they do not send metrics to Amazon CloudWatch for your account. These requests cannot be monitored using CloudWatch.

API requests made on your behalf by third-party service providers do count toward your API throttling limits and they do send metrics to Amazon CloudWatch for your account. These requests can be monitored using CloudWatch.
Billing

Standard CloudWatch pricing and charges apply. No additional charges are applied for using the Amazon EC2 API metrics. For more information, see Amazon CloudWatch Pricing.

Working with Amazon CloudWatch

Contents

- Viewing CloudWatch metrics
- Creating CloudWatch alarms

Viewing CloudWatch metrics

Use the following procedure to view the Amazon EC2 API metrics.

Prerequisite

You must enable access to Amazon EC2 API metrics for your account. For more information, see the section called “Enable Amazon EC2 API metrics”.

To view the Amazon EC2 API metrics using the console

2. In the navigation pane, chose Metrics, All metrics.
3. On the Browse tab, choose the EC2/API metric namespace.
4. To view the metrics, select the metric dimension.

To view Amazon EC2 API metrics using the command line

Use one of the following commands:

- list-metrics (AWS CLI)

  ```shell
  aws cloudwatch list-metrics --namespace "AWS/EC2/API"
  ```
- Get-CWMetricList (AWS Tools for Windows PowerShell)

  ```powershell
  Get-CWMetricList -Namespace "AWS/EC2/API"
  ```
Creating CloudWatch alarms

You can create a CloudWatch alarm that sends an Amazon SNS message when the alarm changes state. An alarm watches a single metric over a time period that you specify. It sends a notification to an SNS topic based on the value of the metric relative to a given threshold over a number of time periods.

For example, you can create an alarm that monitors the number of DescribeInstances API requests that fail due to server-side errors. The following alarm sends an email notification when the number of DescribeInstances API request failures reach a threshold of 10 server-side errors during a 5-minute period.

**Prerequisite**

You must enable access to the Amazon EC2 API metrics for your account. For more information, see the section called “Enable Amazon EC2 API metrics”.

**To create an alarm for Amazon EC2 DescribeInstances API request server errors**

1. Open the CloudWatch console at https://console.aws.amazon.com/cloudwatch/
2. In the navigation pane, choose Alarms, All alarms.
3. Choose Create alarm.
4. Choose Select metric, and the specify the following:
   a. Choose EC2/API.
   b. Choose Per-Action Metrics.
   c. Select the check box next to DescribeInstances that is in the same row as the ServerErrors metric name.
   d. Choose Select metric.
5. The Specify metric and conditions page appears, showing a graph and other information about the metric and statistic that you selected.
   a. Under Metric, specify the following:
      i. For Statistic, choose Sum.
      ii. For Period, verify that 5 minutes is selected.
   b. Under Conditions, specify the following:
For Threshold type, choose Static.

ii. For Whenever ServerErrors is, choose Greater/Equal >=.

iii. For than..., enter 10.

c. Choose Next.

6. The Configure actions page appears.

- Under Notification, specify the following:

  i. For Alarm state trigger, choose In alarm.

  ii. For Select an SNS topic, choose Select an existing SNS topic or Create new topic, and complete the required fields for the notification.

  iii. Choose Next.

7. The Add name and description page appears.

  a. For Alarm name, enter a name for your alarm. The name must contain only ASCII characters.

  b. For Alarm description, enter an optional description for your alarm.

  c. Choose Next.

8. The Preview and create page appears. Verify that the information is correct, and then choose Create alarm.

For more information, see Using Amazon CloudWatch alarms in the Amazon CloudWatch User Guide.

**VM Import Manifest**

The import manifest is an XML file created by the ec2-import-instance CLI command and consumed by the Amazon EC2 API operations ImportInstance or ImportVolume, or by the ec2-import-volume CLI command. The manifest allows a virtual machine image to be broken into small parts for transfer and then reassembled at the destination, with support for retrying failed partial transfers. This file is generally created, consumed, and destroyed by the Amazon EC2 tools without user intervention.
In some exceptional situations, developers may wish to construct a manifest manually or programmatically, making it possible to bypass certain API operations while still providing a manifest for other operations that require the file as a parameter value.

This topic documents the structure of the manifest and provides a sample file.

**Note**

Direct manipulation of the manifest departs from the standard workflow of the Amazon EC2 API and CLI. In general, we recommend that you follow the procedures in Importing and Exporting Instances when importing VM images.

**Manifest Schema**

The schema below describes the format of the manifest. Documentation for the schema elements is presented inline.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="manifest">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="version" type="xs:string">
          <xs:annotation>
            <xs:documentation> Version designator for the manifest file, </xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="file-format" type="xs:string">
          <xs:annotation>
            <xs:documentation> File format of volume to be imported, with value RAW, VHD, or VMDK. </xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="importer" type="Importer">
          <xs:annotation>
            <xs:documentation> Complex type describing the software that created the manifest. </xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```
Manifest Schema

API Version 2016-11-15 3727
<xs:complexType name="Import">
    <xs:sequence>
        <xs:element name="size" type="xs:long">
            <xs:annotation>
                <xs:documentation>Exact size of the file to be imported (bytes on disk).
                </xs:documentation>
            </xs:annotation>
        </xs:element>
        <xs:element name="volume-size" type="xs:long">
            <xs:annotation>
                <xs:documentation>Rounded size in gigabytes of volume to be imported.
                </xs:documentation>
            </xs:annotation>
        </xs:element>
        <xs:element name="parts" type="Parts">
            <xs:annotation>
                <xs:documentation>Complex type describing and counting the parts into which the file is split.
                </xs:documentation>
            </xs:annotation>
        </xs:element>
    </xs:sequence>
</xs:complexType>

<xs:complexType name="Parts">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="unbounded" name="part" type="Part">
            <xs:annotation>
                <xs:documentation>Definition of a particular part. Any number of parts may be defined.
                </xs:documentation>
            </xs:annotation>
        </xs:element>
    </xs:sequence>
</xs:complexType>

<xs:complexType name="Part">
</xs:complexType>
<xs:sequence>
  <xs:element name="byte-range" type="ByteRange">
    <xs:annotation>
      <xs:documentation> Complex type defining the starting and ending byte count of a part. </xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="key" type="xs:string">
    <xs:annotation>
      <xs:documentation> The S3 object name of the part. </xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="head-url" type="xs:anyURI">
    <xs:annotation>
      <xs:documentation> Signed URLs for issuing a HEAD request on the S3 object containing this part. </xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="get-url" type="xs:anyURI">
    <xs:annotation>
      <xs:documentation> Signed URLs for issuing a GET request on the S3 object containing this part. </xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="delete-url" minOccurs="0" type="xs:anyURI">
    <xs:annotation>
      <xs:documentation> Signed URLs for issuing a DELETE request on the S3 object containing this part. </xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:attribute name="index" type="xs:int">
    <xs:annotation>
      <xs:documentation> Index number of this part. </xs:documentation>
    </xs:annotation>
  </xs:attribute>
</xs:complexType>
<xs:attribute name="start" type="xs:long">
  <xs:annotation>
    <xs:documentation>Offset of a part's first byte in the disk image.</xs:documentation>
  </xs:annotation>
</xs:attribute>

<xs:attribute name="end" type="xs:long">
  <xs:annotation>
    <xs:documentation>Offset of a part's last byte in the disk image.</xs:documentation>
  </xs:annotation>
</xs:attribute>

</xs:complexType>
</xs:schema>

Examples

This first example of a manifest describes a volume image with two parts. The files containing the
parts are on a local system and must be uploaded to Amazon S3.

<manifest>
  <version>2010-11-15</version>
  <file-format>VMDK</file-format>
  <importer>
    <name>ec2-upload-disk-image</name>
    <version>1.0.0</version>
    <release>2010-11-15</release>
  </importer>
  <self-destruct-url>https://example-disk-part-bucket.s3.amazonaws.com/d6e1ca17-72f6-4ab0-b2c8-d7ba8186cb23/cirros-0.3.2-x86_64-disk.vmdkmanifest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1416618486&Signature=m%2B1%2FkuKuvfEeD%2Fya%2B0TrgeiH%2FLM%3D</self-destruct-url>
  <import>
    <size>12595200</size>
    <volume-size>1</volume-size>
    <parts count="2">
      <part index="0">
        <byte-range end="10485759" start="0"/>
        <key>d6e1ca17-72f6-4ab0-b2c8-d7ba8186cb23/cirros-0.3.2-x86_64-disk.vmdk.part0</key>
        <head-url>https://example-disk-part-bucket.s3.amazonaws.com/d6e1ca17-72f6-4ab0-b2c8-d7ba8186cb23/cirros-0.3.2-x86_64-disk.vmdk.part0?
The second example describes a volume image with a single part that has already been uploaded to Amazon S3.
Common query parameters

Most Amazon EC2 API actions support the parameters described in the following tables. The common parameters vary depending on whether you're using Signature Version 2 or Signature Version 4 to sign your requests.

For more information about using the Query API for Amazon EC2, see Making requests to the Amazon EC2 API.

Topics

- Common query parameters for Signature Version 2
- Common query parameters for Signature Version 4

Common query parameters for Signature Version 2

For more information about Signature Version 2, see Signature Version 2 Signing Process in the Amazon Web Services General Reference.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
<td>The action to perform.</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Example: RunInstances</td>
<td></td>
</tr>
<tr>
<td>Version</td>
<td>The API version to use.</td>
<td>Yes</td>
</tr>
<tr>
<td>AWSAccessKeyId</td>
<td>The access key ID for the request sender. This identifies the account which will be charged for usage of the service. The account that's associated with the access key ID must be signed up for Amazon EC2, or the request isn't accepted.</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Example: AKIAI0SF0DNN7EXAMPLE</td>
<td></td>
</tr>
<tr>
<td>Expires</td>
<td>The date and time at which the signature included in the request expires, in the format YYYY-MM-DDThh:mm:ssZ. For more information, see ISO 8601.</td>
<td>Condition Requests</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
<td>Required</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Example: 2006-07-07T15:04:56Z</td>
<td>The date and time at which the request is signed, in the format YYYY-MM-DDTh:mm:ssZ. For more information, see ISO 8601.</td>
<td>must include either Timestamp or Expires, but cannot contain both.</td>
</tr>
<tr>
<td>Timestamp</td>
<td>The date and time at which the request is signed, in the format YYYY-MM-DDTh:mm:ssZ. For more information, see ISO 8601.</td>
<td>Condition al. Requests must include either Timestamp or Expires, but cannot contain both.</td>
</tr>
<tr>
<td>Example: 2006-07-07T15:04:56Z</td>
<td>The request signature.</td>
<td>Yes</td>
</tr>
<tr>
<td>Signature</td>
<td>The request signature.</td>
<td>Yes</td>
</tr>
<tr>
<td>Example: Qnp14Qk/7tINHzfXCiT7VEXAMPLE</td>
<td>The hash algorithm you use to create the request signature. Valid values: HmacSHA256</td>
<td>Yes</td>
</tr>
<tr>
<td>SignatureMethod</td>
<td>The hash algorithm you use to create the request signature. Valid values: HmacSHA256</td>
<td>Yes</td>
</tr>
<tr>
<td>Example: HmacSHA256</td>
<td>The signature version you use to sign the request. Set this value to 2.</td>
<td>Yes</td>
</tr>
<tr>
<td>Example: 2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Name | Description | Required
--- | --- | ---
**DryRun** | Checks whether you have the required permissions for the action, without actually making the request. If you have the required permissions, the request returns DryRunOperation; otherwise, it returns UnauthorizedOperation. | No

**SecurityToken** | The temporary security token obtained through a call to AWS Security Token Service. 

Example: AQoEXAMPLEH4aoAH0gNCAPyJxz4B1CFFxWNE1OPTgk5ThT+FvwqnKwRc0lfrRh3c/L | No

Parameter values must be URL-encoded. This is true for any Query parameter passed to Amazon EC2 and is typically necessary in the Signature parameter. Some clients do this automatically, but this is not the norm.

### Common query parameters for Signature Version 4

For more information about Signature Version 4, see [Signature Version 4 Signing Process](#) in the *Amazon Web Services General Reference*.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action</strong></td>
<td>The action to perform.</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Example: RunInstances</td>
<td></td>
</tr>
<tr>
<td><strong>Version</strong></td>
<td>The API version to use.</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>X-Amz-Algorithm</strong></td>
<td>The hash algorithm you use to create the request signature.</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Example: AWS4-HMAC-SHA256</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
<td>Required</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>X-Amz-Credential</td>
<td>The credential scope for the request, in the format <code>access-key-ID/YYYYMMDD/region/service/aws4_request</code></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Example: AKIDEXAMPLE/20140707/us-east-1/ec2/aws4_request</td>
<td></td>
</tr>
<tr>
<td>X-Amz-Date</td>
<td>The date and time at which the request is signed, in the format <code>YYYYMMDDThhmmssZ</code>. The date must match the date that's included in the credential scope for the <code>X-Amz-Credential</code> parameter, or the date used in an Authorization header (see the note below the table).</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Example: 20140707T150456Z</td>
<td></td>
</tr>
<tr>
<td>X-Amz-SignedHeaders</td>
<td>The headers you are including as part of the request. At a minimum, you must include the <code>host</code> header. If you include an <code>x-amz-date</code> header in your request, you must include it in the list of signed headers.</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Example: <code>content-type;host;user-agent</code></td>
<td></td>
</tr>
<tr>
<td>X-Amz-Signature</td>
<td>A signature derived from your secret access key.</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Example: <code>ced6826de92d2bdeed8f846f0bf508e8559example</code></td>
<td></td>
</tr>
<tr>
<td>X-Amz-Security-Token</td>
<td>The temporary security token obtained through a call to AWS Security Token Service.</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Example: <code>AQoEXAMPLEH4aoAH0gNCAPyJxz4B1CFxFwNE1OPTgk5TthT+FvwqnKwRc0IfrRh3c/L</code></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
<td>Required</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>DryRun</td>
<td>Checks whether you have the required permissions for the action, without actually making the request. If you have the required permissions, the request returns DryRunOperation; otherwise, it returns UnauthorizedOperation.</td>
<td>No</td>
</tr>
</tbody>
</table>

**Note**

The X-Amz-Algorithm, X-Amz-Credential, X-Amz-SignedHeaders, and X-Amz-Signature parameters can either be specified as separate parameters in the query string, or their values can be included in a single Authorization header. For more information, see [Adding Signing Information to the Authorization Header](#) in the Amazon Web Services General Reference.
Granting required permissions for Amazon EC2 resources

By default, users, groups, and roles don't have permission to create or modify Amazon EC2 resources, or perform tasks using the Amazon EC2 API. To create or modify EC2 resources and perform tasks, see Identity and access management for Amazon EC2 in the Amazon EC2 User Guide.

When you make an API request, the parameters that you specify in the request determine the required permissions for your EC2 resources. If the user, group, or role that makes the request doesn't have the required permission, the request fails. For example, to use RunInstances to launch an instance in a subnet (by specifying the SubnetId parameter), a user must have permission to use the VPC.

*Resource-level permissions* refers to the ability to specify which resources users are allowed to perform actions on. Amazon EC2 has partial support for resource-level permissions. This means that for certain Amazon EC2 actions, you can control when users are allowed to use those actions based on conditions that have to be fulfilled, or specific resources that users are allowed to use. For example, you can grant users permission to launch instances, but only of a specific type, and only using a specific AMI.

For more information about the resources that are created or modified by the Amazon EC2 actions, and the ARNs and Amazon EC2 condition keys that you can use in an IAM policy statement, see Actions, resources, and condition keys for Amazon EC2 in the Service Authorization Reference.

For example policies, see IAM policies for Amazon EC2 in the Amazon EC2 User Guide.
Error codes for the Amazon EC2 API

Amazon EC2 has two types of error codes:

- **Client errors.** These errors are usually caused by something the client did, such as specifying an incorrect or invalid parameter in the request, or using an action or resource on behalf of a user that doesn't have permission to use the action or resource. These errors are accompanied by a 400-series HTTP response code.

- **Server errors.** These errors are usually caused by an AWS server-side issue. These errors are accompanied by a 500-series HTTP response code.

Contents

- Common client error codes
- Client error codes for specific actions
- Server error codes
- Example error response
- Eventual consistency

Common client error codes

This section lists the client error codes that all Amazon EC2 API actions can return.

<table>
<thead>
<tr>
<th>Error code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AuthFailure</td>
<td>The provided credentials could not be validated. You might not be authorized to carry out the request; for example, trying to associate an Elastic IP address that is not yours, or trying to use an AMI for which you do not have permissions. Ensure that your account is authorized to use Amazon EC2, that your credit card details are correct, and that you are using the correct credentials.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Blocked</td>
<td>Your account is currently blocked. Contact <a href="https://aws.amazon.com/support/">AWS Support</a> if you have questions.</td>
</tr>
<tr>
<td>DryRunOperation</td>
<td>The user has the required permissions, so the request would have succeeded, but the DryRun parameter was used.</td>
</tr>
<tr>
<td>IdempotentParameterMismatch</td>
<td>The request uses the same client token as a previous, but non-identical request. Do not reuse a client token with different requests, unless the requests are identical.</td>
</tr>
<tr>
<td>IncompleteSignature</td>
<td>The request signature does not conform to AWS standards.</td>
</tr>
<tr>
<td>InvalidAction</td>
<td>The action or operation requested is not valid. Verify that the action is typed correctly.</td>
</tr>
<tr>
<td>InvalidCharacter</td>
<td>A specified character is invalid.</td>
</tr>
<tr>
<td>InvalidClientTokenId</td>
<td>The X.509 certificate or credentials provided do not exist in our records.</td>
</tr>
<tr>
<td>InvalidPaginationToken</td>
<td>The specified pagination token is not valid or is expired.</td>
</tr>
<tr>
<td>InvalidParameter</td>
<td>A parameter specified in a request is not valid, is unsupported, or cannot be used. The returned message provides an explanation of the error value. For example, if you are launching an instance, you can't specify a security group and subnet that are in different VPCs.</td>
</tr>
<tr>
<td>InvalidParameterCombination</td>
<td>Indicates an incorrect combination of parameters, or a missing parameter. For example, trying to terminate an instance without specifying the instance ID.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidParameterDependency</td>
<td>Indicates an incorrect combination of parameters, or a missing parameter. For example, trying to terminate an instance without specifying the instance ID.</td>
</tr>
<tr>
<td>InvalidParameterValue</td>
<td>A value specified in a parameter is not valid, is unsupported, or cannot be used. Ensure that you specify a resource by using its full ID. The returned message provides an explanation of the error value.</td>
</tr>
<tr>
<td>InvalidQueryParameter</td>
<td>The AWS query string is malformed or does not adhere to AWS standards.</td>
</tr>
<tr>
<td>MalformedQueryString</td>
<td>The query string contains a syntax error.</td>
</tr>
<tr>
<td>MissingAction</td>
<td>The request is missing an action or a required parameter.</td>
</tr>
<tr>
<td>MissingAuthenticationToken</td>
<td>The request must contain valid credentials.</td>
</tr>
<tr>
<td>MissingParameter</td>
<td>The request is missing a required parameter. Ensure that you have supplied all the required parameters for the request; for example, the resource ID.</td>
</tr>
<tr>
<td>OptInRequired</td>
<td>You are not authorized to use the requested service. Ensure that you have subscribed to the service you are trying to use. If you are new to AWS, your account might take some time to be activated while your credit card details are being verified.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>PendingVerification</td>
<td>Your account is pending verification. Until the verification process is complete, you may not be able to carry out requests with this account. If you have questions, contact AWS Support.</td>
</tr>
<tr>
<td>RequestExpired</td>
<td>The request reached the service more than 15 minutes after the date stamp on the request or more than 15 minutes after the request expiration date (such as for presigned URLs), or the date stamp on the request is more than 15 minutes in the future. If you're using temporary security credentials, this error can also occur if the credentials have expired. For more information, see Temporary security credentials in the IAM User Guide.</td>
</tr>
<tr>
<td>TagPolicyViolation</td>
<td>You attempted to create or update a resource with tags that are not compliant with the tag policy requirements for this account. For more information, see Grant permission to tag resources during creation.</td>
</tr>
<tr>
<td>UnauthorizedOperation</td>
<td>You are not authorized to perform this operation. Check your IAM policies, and ensure that you are using the correct credentials. For more information, see Identity and access management for Amazon EC2. If the returned message is encoded, you can decode it using the DecodeAuthorizationMessage action. For more information, see DecodeAuthorizationMessage in the AWS Security Token Service API Reference.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>UnknownParameter</td>
<td>An unknown or unrecognized parameter was supplied. Requests that could cause this error include supplying a misspelled parameter or a parameter that is not supported for the specified API version.</td>
</tr>
<tr>
<td>UnsupportedInstanceAttribute</td>
<td>The specified attribute cannot be modified.</td>
</tr>
<tr>
<td>UnsupportedOperation</td>
<td>The specified request includes an unsupported operation. For example, you can't stop an instance that's instance store-backed. Or you might be trying to launch an instance type that is not supported by the specified AMI. The returned message provides details of the unsupported operation.</td>
</tr>
<tr>
<td>UnsupportedProtocol</td>
<td>SOAP has been deprecated and is no longer supported. For more information, see <a href="#">SOAP requests</a>.</td>
</tr>
<tr>
<td>ValidationError</td>
<td>The input fails to satisfy the constraints specified by an AWS service.</td>
</tr>
</tbody>
</table>

**Client error codes for specific actions**

This section lists client errors that are specific to certain Amazon EC2 API actions.

<table>
<thead>
<tr>
<th>Error code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AccountDisabled</td>
<td>The functionality you have requested has been administratively disabled for this account.</td>
</tr>
<tr>
<td>ActiveVpcPeeringConnectionPerVpcLimitExceeded</td>
<td>You've reached the limit on the number of active VPC peering connections you can have for the specified VPC.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>AddressLimitExceeded</td>
<td>You've reached the limit on the number of Elastic IP addresses that you can allocate. For more information, see <a href="#">Elastic IP address limit</a>.</td>
</tr>
<tr>
<td>AsnConflict</td>
<td>The Autonomous System Numbers (ASNs) of the specified customer gateway and the specified virtual private gateway are the same.</td>
</tr>
<tr>
<td>AttachmentLimitExceeded</td>
<td>You've reached the limit on the number of Amazon EBS volumes or network interfaces that can be attached to a single instance.</td>
</tr>
<tr>
<td>BootForVolumeTypeUnsupported</td>
<td>The specified volume type cannot be used as a boot volume. For more information, see <a href="#">Amazon EBS volume types</a>.</td>
</tr>
<tr>
<td>BundlingInProgress</td>
<td>The specified instance already has a bundling task in progress.</td>
</tr>
<tr>
<td>CannotDelete</td>
<td>You cannot delete the 'default' security group in your VPC, but you can change its rules. For more information, see <a href="#">Amazon EC2 security groups</a>.</td>
</tr>
<tr>
<td>CapacityBlockDescribeLimitExceeded</td>
<td>You've reached the limit for this account. The returned message provides details.</td>
</tr>
<tr>
<td>ClientInvalidParameterValue</td>
<td>A parameter specified in a request is not valid, unsupported, or cannot be used. The returned message provides an explanation of the error value. For example, if you are launching an instance, you can't specify a security group and subnet that are in different VPCs.</td>
</tr>
<tr>
<td>ClientVpnAuthorizationRuleLimitExceeded</td>
<td>You've reached the limit on the number of authorization rules that can be added to a single Client VPN endpoint.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>ClientVpnCertificateRevocationListLimitExceeded</td>
<td>You've reached the limit on the number of client certificate revocation lists that can be added to a single Client VPN endpoint.</td>
</tr>
<tr>
<td>ClientVpnEndpointAssociationExists</td>
<td>The specified target network is already associated with the Client VPN endpoint.</td>
</tr>
<tr>
<td>ClientVpnEndpointLimitExceeded</td>
<td>You've reached the limit on the number of Client VPN endpoints that you can create.</td>
</tr>
<tr>
<td>ClientVpnRouteLimitExceeded</td>
<td>You've reached the limit on the number of routes that can be added to a single Client VPN endpoint.</td>
</tr>
<tr>
<td>ClientVpnTerminateConnectionsLimitExceeded</td>
<td>The number of client connections you're attempting to terminate exceeds the limit.</td>
</tr>
<tr>
<td>ConcurrentCreateImageNoRebootLimitExceeded</td>
<td>The maximum number of concurrent CreateImage requests for the instance has been reached. Wait for the current CreateImage requests to complete, and then retry your request.</td>
</tr>
<tr>
<td>ConcurrentSnapshotLimitExceeded</td>
<td>You've reached the limit on the number of concurrent snapshots you can create on the specified volume. Wait until the 'pending' requests have completed, and check that you do not have snapshots that are in an incomplete state, such as 'error', which count against your concurrent snapshot limit.</td>
</tr>
<tr>
<td>ConcurrentTagAccess</td>
<td>You can't run simultaneous commands to modify a tag for a specific resource. Allow sufficient wait time for the previous request to complete, then retry your request. For more information, see Error retries and exponential backoff in AWS.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>CreditSpecificationUpdateInProgress</td>
<td>The default credit specification for the instance family is currently being updated. It takes about five minutes to complete. For more information, see <a href="#">Set the default credit specification for the account</a>.</td>
</tr>
<tr>
<td>CustomerGatewayLimitExceeded</td>
<td>You've reached the limit on the number of customer gateways you can create for the AWS Region. For more information, see <a href="#">Amazon VPC quotas</a>.</td>
</tr>
<tr>
<td>CustomerKeyHasBeenRevoked</td>
<td>The customer master key cannot be accessed. For more information, see <a href="#">Amazon EBS encryption</a>.</td>
</tr>
<tr>
<td>DeleteConversionTaskError</td>
<td>The conversion task cannot be canceled.</td>
</tr>
<tr>
<td>DefaultSubnetAlreadyExistsInAvailabilityZone</td>
<td>A default subnet already exists in the specified Availability Zone. You can have only one default subnet per Availability Zone.</td>
</tr>
<tr>
<td>DefaultVpcAlreadyExists</td>
<td>A default VPC already exists in the AWS Region. You can only have one default VPC per Region.</td>
</tr>
<tr>
<td>DefaultVpcDoesNotExist</td>
<td>There is no default VPC in which to carry out the request. If you've deleted your default VPC, you can create a new one. For more information, see <a href="#">Create a default VPC</a>.</td>
</tr>
<tr>
<td>DependencyViolation</td>
<td>The specified object has dependent resources. A number of resources in a VPC may have dependent resources, which prevent you from deleting or detaching them. Remove the dependencies first, then retry your request. For example, this error occurs if you try to delete a security group in a VPC that is in use by another security group.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>DiskImageSizeTooLarge</td>
<td>The disk image exceeds the allowed limit (for instance or volume import).</td>
</tr>
<tr>
<td>DuplicateSubnetsInSameZone</td>
<td>For an interface VPC endpoint, you can specify only one subnet per Availability Zone.</td>
</tr>
<tr>
<td>EncryptedVolumesNotSupported</td>
<td>Encrypted Amazon EBS volumes may only be attached to instances that support Amazon EBS encryption. For more information, see Amazon EBS encryption.</td>
</tr>
<tr>
<td>ExistingVpcEndpointConnections</td>
<td>You cannot delete a VPC endpoint service configuration or change the load balancers for the endpoint service if there are endpoints attached to the service.</td>
</tr>
<tr>
<td>FleetNotInModifiableState</td>
<td>The Spot Fleet request must be in the active state in order to modify it. For more information, see Spot Fleet request types.</td>
</tr>
<tr>
<td>FlowLogAlreadyExists</td>
<td>A flow log with the specified configuration already exists.</td>
</tr>
<tr>
<td>FlowLogsLimitExceeded</td>
<td>You've reached the limit on the number of flow logs you can create. For more information, see Amazon VPC quotas.</td>
</tr>
<tr>
<td>FilterLimitExceeded</td>
<td>The request uses too many filters or too many filter values.</td>
</tr>
<tr>
<td>Gateway.NotAttached</td>
<td>An internet gateway is not attached to a VPC. If you are trying to detach an internet gateway, ensure that you specify the correct VPC. If you are trying to associate an Elastic IP address with a network interface or an instance, ensure that an internet gateway is attached to the relevant VPC.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>HostAlreadyCoveredByReservation</td>
<td>The specified Dedicated Host is already covered by a reservation.</td>
</tr>
<tr>
<td>HostLimitExceeded</td>
<td>You've reached the limit on the number of Dedicated Hosts that you can allocate. For more information, see <a href="#">Dedicated Hosts</a>.</td>
</tr>
<tr>
<td>IdempotentInstanceTerminated</td>
<td>The request to launch an instance uses the same client token as a previous request for which the instance has been terminated.</td>
</tr>
<tr>
<td>InaccessibleStorageLocation</td>
<td>The specified Amazon S3 URL cannot be accessed. Check the access permissions for the URL.</td>
</tr>
<tr>
<td>IncorrectInstanceState</td>
<td>The instance is in an incorrect state for the requested action. For example, some instance attributes, such as user data, can only be modified if the instance is in a 'stopped' state.</td>
</tr>
<tr>
<td></td>
<td>If you are associating an Elastic IP address with a network interface, ensure that the instance that the interface is attached to is not in the 'pending' state.</td>
</tr>
<tr>
<td>IncorrectModificationState</td>
<td>A new modification action on an EBS Elastic Volume cannot occur because the volume is currently being modified.</td>
</tr>
<tr>
<td>IncorrectSpotRequestState</td>
<td>The Spot Instance request is in an incorrect state for the request. Spot request status information can help you track your Amazon EC2 Spot Instance requests. For more information, see <a href="#">Spot request status</a>.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>IncorrectState</td>
<td>The resource is in an incorrect state for the request. This error can occur if you are trying to attach a volume that is still being created or detach a volume that is not in the 'available' state. Verify that the volume is in the 'available' state. If you are creating a snapshot, ensure that the previous request to create a snapshot on the same volume has completed. If you are deleting a virtual private gateway, ensure that it's detached from the VPC.</td>
</tr>
<tr>
<td>IncompatibleHostRequirements</td>
<td>There are no available or compatible Dedicated Hosts available on which to launch or start the instance.</td>
</tr>
<tr>
<td>InstanceCreditSpecification .NotSupported</td>
<td>The specified instance does not use CPU credits for CPU usage; only T2 instances use CPU credits for CPU usage.</td>
</tr>
<tr>
<td>InstanceEventStartTimeCannotChange</td>
<td>The specified scheduled event start time does not meet the requirements for rescheduling a scheduled event. For more information, see Limitations.</td>
</tr>
<tr>
<td>InstanceLimitExceeded</td>
<td>You've reached the limit on the number of instances you can run concurrently. This error can occur if you are launching an instance or if you are creating a Capacity Reservation. Capacity Reservations count towards your On-Demand Instance limits. If your request fails due to limit constraints, increase your On-Demand Instance limit for the required instance type and try again. For more information, see EC2 On-Demand instance limits.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InsufficientCapacityOnHost</td>
<td>There is not enough capacity on the Dedicated Host to launch or start the instance.</td>
</tr>
<tr>
<td>InstanceTpmEkPubNotFound</td>
<td>The public Trusted Platform Module (TPM) Endorsement Key (EK) cannot be found.</td>
</tr>
<tr>
<td>InsufficientFreeAddressesInSubnet</td>
<td>The specified subnet does not contain enough free private IP addresses to fulfill your request. Use the <a href="#">DescribeSubnets</a> request to view how many IP addresses are available (unused) in your subnet. IP addresses associated with stopped instances are considered unavailable.</td>
</tr>
<tr>
<td>InsufficientReservedInstancesCapacity</td>
<td>There is insufficient capacity for the requested Reserved Instances.</td>
</tr>
<tr>
<td>InterfaceInUseByTrafficMirrorOrSession</td>
<td>The Traffic Mirror source that you are trying to create uses an interface that is already associated with a session. An interface can only be associated with a session, or with a target, but not both.</td>
</tr>
<tr>
<td>InterfaceInUseByTrafficMirrorOrTarget</td>
<td>The Traffic Mirror source that you are trying to create uses an interface that is already associated with a target. An interface can only be associated with a session, or with a target, but not both. If the interface is associated with a target, it cannot be associated with another target.</td>
</tr>
<tr>
<td>InternetGatewayLimitExceeded</td>
<td>You've reached the limit on the number of internet gateways that you can create. For more information, see <a href="#">Amazon VPC quotas</a>.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidAddress.Locked</td>
<td>The specified Elastic IP address cannot be released from your account. A reverse DNS record may be associated with the Elastic IP address. To unlock the address, contact AWS Support.</td>
</tr>
<tr>
<td>InvalidAddress.Malformed</td>
<td>The specified IP address is not valid. Ensure that you provide the address in the form xx.xx.xx.xx; for example, 55.123.45.67</td>
</tr>
<tr>
<td>InvalidAddress.NotFound</td>
<td>The specified Elastic IP address that you are describing cannot be found. Ensure that you specify the AWS Region in which the IP address is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidAddressID.NotFound</td>
<td>The specified allocation ID for the Elastic IP address you are trying to release cannot be found. Ensure that you specify the AWS Region in which the IP address is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidAffinity</td>
<td>The specified affinity value is not valid.</td>
</tr>
<tr>
<td>InvalidAllocationID.NotFound</td>
<td>The specified allocation ID you are trying to describe or associate does not exist. Ensure that you specify the AWS Region in which the IP address is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidAMIAttributeItemValue</td>
<td>The value of an item added to, or removed from, an image attribute is not valid. If you are specifying a userId, check that it is in the form of an AWS account ID, without hyphens.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
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<td>--------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidAMIID.Malformed</td>
<td>The specified AMI ID is malformed. Ensure that you provide the full AMI ID, in the form ami-xxxxxxxxxxxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidAMIID.NotFound</td>
<td>The specified AMI does not exist. Check the AMI ID, and ensure that you specify the AWS Region in which the AMI is located, if it's not in the default Region. This error may also occur if you specified an incorrect kernel ID when launching an instance.</td>
</tr>
<tr>
<td>InvalidAMIID.Unavailable</td>
<td>The specified AMI has been deregistered and is no longer available, or is not in a state from which you can launch an instance or modify attributes.</td>
</tr>
<tr>
<td>InvalidAMIName.Duplicate</td>
<td>The specified AMI name is already in use by another AMI. If you have recently deregistered an AMI with the same name, allow enough time for the change to propagate through the system, and retry your request.</td>
</tr>
<tr>
<td>InvalidAMIName.Malformed</td>
<td>AMI names must be between 3 and 128 characters long, and may only contain letters, numbers, and the following special characters: '—', '_', '.', '/', '(', and ')'.</td>
</tr>
<tr>
<td>InvalidAssociationID.NotFound</td>
<td>The specified association ID (for an Elastic IP address, a route table, or network ACL) does not exist. Ensure that you specify the AWS Region in which the association ID is located, if it’s not in the default Region.</td>
</tr>
<tr>
<td>InvalidAttachment.NotFound</td>
<td>Indicates an attempt to detach a volume from an instance to which it is not attached.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
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<td>----------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidAttachmentID.NotFound</td>
<td>The specified network interface attachment does not exist.</td>
</tr>
<tr>
<td>InvalidAutoPlacement</td>
<td>The specified value for auto-placement is not valid.</td>
</tr>
<tr>
<td>InvalidAvailabilityZone</td>
<td>The specified Availability Zone is not valid.</td>
</tr>
<tr>
<td>InvalidBlockDeviceMapping</td>
<td>A block device mapping parameter is not valid. The returned message indicates the incorrect value.</td>
</tr>
<tr>
<td>InvalidBundleID.NotFound</td>
<td>The specified bundle task ID cannot be found. Ensure that you specify the AWS Region in which the bundle task is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidCapacityBlockOfferingIdExpired</td>
<td>The Capacity Block offering ID is no longer available.</td>
</tr>
<tr>
<td>InvalidCapacityBlockOfferingIdMalformed</td>
<td>The Capacity Block offering ID is malformed.</td>
</tr>
<tr>
<td>InvalidCapacityBlockOfferingIdNotFound</td>
<td>The Capacity Block offering ID cannot be found for this account.</td>
</tr>
<tr>
<td>InvalidCapacityReservationState.PendingActivation</td>
<td>Your Capacity Block is not active yet.</td>
</tr>
<tr>
<td>InvalidCarrierGatewayID.NotFound</td>
<td>The specified carrier gateway ID cannot be found. Ensure that you specify the AWS Region in which the carrier gateway is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidCidr.InUse</td>
<td>The specified inside tunnel CIDR is already in use by another VPN tunnel for the virtual private gateway.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
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</tr>
<tr>
<td>InvalidClientToken</td>
<td>The specified client token is not valid. For more information, see <a href="https://docs.aws.amazon.com/AmazonVPC/latest/APIReference/IdempotencyToken.html">Idempotency in Amazon EC2</a>.</td>
</tr>
<tr>
<td>InvalidClientVpnActiveAssociationNotFoundException</td>
<td>You cannot perform this action on the Client VPN endpoint while it is in the pending-association state.</td>
</tr>
<tr>
<td>InvalidClientVpnAssociationIdNotFoundException</td>
<td>The specified target network association cannot be found.</td>
</tr>
<tr>
<td>InvalidClientVpnConnectionIdNotFoundException</td>
<td>The specified Client VPN endpoint cannot be found.</td>
</tr>
<tr>
<td>InvalidClientVpnConnectionUserNotFoundException</td>
<td>The specified user does not have an active connection to the specified Client VPN endpoint.</td>
</tr>
<tr>
<td>InvalidClientVpnDuplicateAssociationException</td>
<td>The specified target network has already been associated with the Client VPN endpoint.</td>
</tr>
<tr>
<td>InvalidClientVpnDuplicateAuthorizationRule</td>
<td>The specified authorization has already been added to the Client VPN endpoint.</td>
</tr>
<tr>
<td>InvalidClientVpnDuplicateRoute</td>
<td>The specified route has already been added to the Client VPN endpoint.</td>
</tr>
<tr>
<td>InvalidClientVpnEndpointAuthorizationRuleNotFoundException</td>
<td>The specified authorization rule cannot be found.</td>
</tr>
<tr>
<td>InvalidClientVpnEndpointIdNotFoundException</td>
<td>The specified Client VPN Endpoint cannot be found.</td>
</tr>
<tr>
<td>InvalidClientVpnRouteNotFoundException</td>
<td>The specified route cannot be found.</td>
</tr>
<tr>
<td>InvalidClientVpnSubnetIdDifferentAccount</td>
<td>The specified subnet belongs to a different account.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
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<tr>
<td>----------------------------------------</td>
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</tr>
<tr>
<td>InvalidClientVpnSubnetId.DuplicateAz</td>
<td>You have already associated a subnet from this Availability Zone with the Client VPN endpoint.</td>
</tr>
<tr>
<td>InvalidClientVpnSubnetId.NotFound</td>
<td>The specified subnet cannot be found in the VPN with which the Client VPN endpoint is associated.</td>
</tr>
<tr>
<td>InvalidClientVpnSubnetId.OverlappingCidr</td>
<td>The specified target network's CIDR range overlaps with the Client VPN endpoint's client CIDR range.</td>
</tr>
<tr>
<td>InvalidConversionTaskId</td>
<td>The specified conversion task ID (for instance or volume import) is not valid.</td>
</tr>
<tr>
<td>InvalidConversionTaskId.Malformed</td>
<td>The specified conversion task ID (for instance or volume import) is malformed. Ensure that you've specified the ID in the form import-i-xxxxxxxx.</td>
</tr>
<tr>
<td>InvalidCpuCredits</td>
<td>The specified CpuCredit value is invalid. Valid values are standard and unlimited.</td>
</tr>
<tr>
<td>InvalidCpuCredits.Malformed</td>
<td>The specified CpuCredit value is invalid. Valid values are standard and unlimited.</td>
</tr>
<tr>
<td>InvalidCustomerGateway.DuplicateIpAddress</td>
<td>There is a conflict among the specified gateway IP addresses. Each VPN connection in an AWS Region must be created with a unique customer gateway IP address (across all AWS accounts). For more information, see Your customer gateway device in the AWS Site-to-Site VPN User Guide.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
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<td>------------------------------------------------</td>
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</tr>
<tr>
<td>InvalidCustomerGatewayId.Malformed</td>
<td>The specified customer gateway ID is malformed, or cannot be found. Specify the ID in the form cgw-xxxxxxxx, and ensure that you specify the AWS Region in which the customer gateway is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidCustomerGatewayID.NotFound</td>
<td>The specified customer gateway ID cannot be found. Ensure that you specify the AWS Region in which the customer gateway is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidCustomerGatewayState</td>
<td>The customer gateway is not in the available state, and therefore cannot be used.</td>
</tr>
<tr>
<td>InvalidParameterValue</td>
<td>The device to which you are trying to attach (for example, /dev/sdh) is already in use on the instance.</td>
</tr>
<tr>
<td>InvalidDhcpOptionID.NotFound</td>
<td>The specified DHCP options set does not exist. Ensure that you specify the AWS Region in which the DHCP options set is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidDhcpOptionsID.NotFound</td>
<td>The specified DHCP options set does not exist. Ensure that you specify the AWS Region in which the DHCP options set is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidDhcpOptionsId.Malformed</td>
<td>The specified DHCP options set ID is malformed. Ensure that you provide the full DHCP options set ID in the request, in the form dopt-xxxxxxxx.</td>
</tr>
<tr>
<td>InvalidEgressOnlyInternetGatewayId.Malformed</td>
<td>The specified egress-only internet gateway ID is malformed. Ensure that you specify the ID in the form eigw-xxxxxxxxxxxxxxxxxx.</td>
</tr>
<tr>
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<td>Description</td>
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</tr>
<tr>
<td>InvalidEgressOnlyInternetGatewayId.NotFound</td>
<td>The specified egress-only internet gateway does not exist.</td>
</tr>
<tr>
<td>InvalidElasticGpuID.Malformed</td>
<td>The specified Elastic GPU ID is malformed. Ensure that you specify the ID in the form egpu-xxxxxxxxxxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidElasticGpuID.NotFound</td>
<td>The specified Elastic GPU does not exist.</td>
</tr>
<tr>
<td>InvalidExportTaskID.Malformed</td>
<td>The specified export task ID cannot be found.</td>
</tr>
<tr>
<td>InvalidExportTaskID.NotFound</td>
<td>The specified export task ID is malformed. Ensure that you specify the ID in the form export-am i-xxxxxxxxxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidFilter</td>
<td>The specified filter is not valid.</td>
</tr>
<tr>
<td>InvalidFlowLogId.NotFound</td>
<td>The specified flow log does not exist.</td>
</tr>
<tr>
<td>InvalidFormat</td>
<td>The specified disk format (for the instance or volume import) is not valid.</td>
</tr>
<tr>
<td>InvalidFpgaImageID.Malformed</td>
<td>The specified Amazon FPGA image (AFI) ID is malformed. Ensure that you provide the full AFI ID in the request, in the form afi-xxxxxxxxxxxx xxxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidFpgaImageID.NotFound</td>
<td>The specified Amazon FPGA image (AFI) ID does not exist. Ensure that you specify the AWS Region in which the AFI is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidGatewayID.NotFound</td>
<td>The specified gateway does not exist.</td>
</tr>
<tr>
<td>InvalidGroup.Duplicate</td>
<td>You cannot create a security group with the same name as an existing security group in the same VPC.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidGroupId.Malformed</td>
<td>The specified security group ID is malformed. Ensure that you provide the full security group ID in the request, in the form <code>sg-xxxxxxxxxxxxx</code>.</td>
</tr>
<tr>
<td>InvalidGroup.InUse</td>
<td>The specified security group can't be deleted because it's in use by another security group. You can remove dependencies by modifying or deleting rules in the affected security groups.</td>
</tr>
<tr>
<td>InvalidGroup.NotFound</td>
<td>The specified security group does not exist. This error can occur because the ID of a recently created security group has not propagated through the system. For more information, see <a href="#">Eventual consistency</a>. You can't specify a security group that is in a different AWS Region or VPC than the request.</td>
</tr>
<tr>
<td>InvalidGroup.Reserved</td>
<td>The name 'default' is reserved, and cannot be used to create a new security group.</td>
</tr>
<tr>
<td>InvalidHostConfiguration</td>
<td>The specified Dedicated Host configuration is not supported.</td>
</tr>
<tr>
<td>InvalidHostId</td>
<td>The specified Dedicated Host ID is not valid.</td>
</tr>
<tr>
<td>InvalidHostID.Malformed</td>
<td>The specified Dedicated Host ID is not formed correctly. Ensure that you provide the full ID in the form <code>h-xxxxxxxxxxxxxxxxx</code>.</td>
</tr>
<tr>
<td>InvalidHostId.Malformed</td>
<td>The specified Dedicated Host ID is not formed correctly. Ensure that you provide the full ID in the form <code>h-xxxxxxxxxxxxxxxxx</code>.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
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<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>InvalidHostID.NotFound</td>
<td>The specified Dedicated Host ID does not exist. Ensure that you specify the AWS Region in which the Dedicated Host is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidHostId.NotFound</td>
<td>The specified Dedicated Host ID does not exist. Ensure that you specify the region in which the Dedicated Host is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidHostReservationId.Malformed</td>
<td>The specified Dedicated Host Reservation ID is not formed correctly. Ensure that you provide the full ID in the form hr-xxxxxxxxxxxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidHostReservationOfferingId.Malformed</td>
<td>The specified Dedicated Host Reservation offering is not formed correctly. Ensure that you provide the full ID in the form hro-xxxxxxxxxxx xxxxxxxx.</td>
</tr>
<tr>
<td>InvalidHostState</td>
<td>The Dedicated Host must be in the available state to complete the operation.</td>
</tr>
<tr>
<td>InvalidIamInstanceProfileArn.Malformed</td>
<td>The specified IAM instance profile ARN is not valid. For more information about valid ARN formats, see <a href="https://docs.aws.amazon.com/general/latest/gr/aws-arns-partials.html">Amazon Resource Names (ARNs)</a>.</td>
</tr>
</tbody>
</table>
| InvalidID | The specified ID for the resource you are trying to tag is not valid. Ensure that you provide the full resource ID; for example, ami-2bb65342 for an AMI.  
If you're using the command line tools on a Windows system, you might need to use quotation marks for the key-value pair; for example, "Name=TestTag". |
<table>
<thead>
<tr>
<th>Error code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>InvalidInput</td>
<td>An input parameter in the request is not valid. For example, you may have specified an incorrect Reserved Instance listing ID in the request or the Reserved Instance you tried to list cannot be sold in the Reserved Instances Marketplace (for example, if it has a scope of Region, or is a Convertible Reserved Instance).</td>
</tr>
<tr>
<td>InvalidInstanceAttributeValue</td>
<td>The specified instance attribute value is not valid. This error is most commonly encountered when trying to set the InstanceType /--instance-type attribute to an unrecognized value.</td>
</tr>
<tr>
<td>InvalidInstanceConnectEndpointId.Malformed</td>
<td>The specified EC2 Instance Connect Endpoint ID is malformed. Ensure that you specify the ID in the form eice-xxxxxxxxxxxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidInstanceConnectEndpointId.NotFound</td>
<td>The specified EC2 Instance Connect Endpoint does not exist.</td>
</tr>
<tr>
<td>InvalidInstanceCreditSpecification</td>
<td>If you are modifying the credit option for CPU usage for T2 instances, the request may not contain duplicate instance IDs.</td>
</tr>
<tr>
<td>InvalidInstanceCreditSpecification.DuplicateInstanceId</td>
<td>If you are modifying the credit option for CPU usage for T2 instances, the request may not contain duplicate instance IDs.</td>
</tr>
<tr>
<td>InvalidInstanceEventIDNotFound</td>
<td>The specified ID of the event whose date and time you are modifying cannot be found. Verify the ID of the event and try your request again.</td>
</tr>
<tr>
<td>InvalidInstanceEventStartTime</td>
<td>The specified scheduled event start time does not meet the requirements for rescheduling a scheduled event. For more information, see Limitations.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
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</tr>
<tr>
<td>InvalidInstanceFamily</td>
<td>The instance family is not supported for this request. For example, the instance family for the Dedicated Host Reservation offering is different from the instance family of the Dedicated Hosts. Or, you can only modify the default credit specification for burstable performance instance families (T2, T3, and T3a). For more information, see <a href="#">Set the default credit specification for the account</a>.</td>
</tr>
<tr>
<td>InvalidInstanceID</td>
<td>This error can occur when trying to perform an operation on an instance that has multiple network interfaces. A network interface can have individual attributes; therefore, you may need to specify the network interface ID as part of the request, or use a different request. For example, each network interface in an instance can have a source/destination check flag. To modify this attribute, modify the network interface attribute, and not the instance attribute. To create a route in a route table, provide a specific network interface ID as part of the request.</td>
</tr>
<tr>
<td>InvalidInstanceID.Malformed</td>
<td>The specified instance ID is malformed. Ensure that you provide the full instance ID in the request, in the form i-xxxxxxxx or i-xxxxxxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidInstanceID.NotFound</td>
<td>The specified instance does not exist. This error might occur because the ID of a recently created instance has not propagated through the system. For more information, see <a href="#">Eventual consistency</a>.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
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</tr>
<tr>
<td>InvalidInstanceID.NotLinkable</td>
<td>The specified instance cannot be linked to the specified VPC. This error may also occur if the instance was recently launched, and its ID has not yet propagated through the system. Wait a few minutes, or wait until the instance is in the running state, and then try again.</td>
</tr>
<tr>
<td>InvalidInstanceState</td>
<td>The instance is not in an appropriate state to complete the request. If you're modifying the instance placement, the instance must be in the stopped state.</td>
</tr>
<tr>
<td>InvalidInstanceType</td>
<td>The instance type is not supported for this request. For example, you can only bundle instance store-backed Windows instances.</td>
</tr>
<tr>
<td>InvalidInterface.IpAddressLimitExceeded</td>
<td>The number of private IP addresses for a specified network interface exceeds the limit for the type of instance you are trying to launch. For more information, see IP addresses per network interface.</td>
</tr>
<tr>
<td>InvalidInternetGatewayId.Malformed</td>
<td>The specified internet gateway ID is malformed. Ensure that you provide the full ID in the request, in the form igw-xxxxxxxxxxxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidInternetGatewayID.NotFound</td>
<td>The specified internet gateway does not exist. Ensure that you specify the AWS Region in which the internet gateway is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidIPAddress.InUse</td>
<td>The specified IP address is already in use. If you are trying to release an address, you must first disassociate it from the instance.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
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</tr>
<tr>
<td>InvalidKernelId.Malformed</td>
<td>The specified kernel ID is not valid. Ensure that you specify the kernel ID in the form aki-xxxxxxxx.</td>
</tr>
<tr>
<td>InvalidKey.Format</td>
<td>The key pair is not specified in a valid OpenSSH public key format.</td>
</tr>
<tr>
<td>InvalidKeyPair.Duplicate</td>
<td>The key pair name already exists in that AWS Region. If you are creating or importing a key pair, ensure that you use a unique name.</td>
</tr>
<tr>
<td>InvalidKeyPair.Format</td>
<td>The format of the public key you are attempting to import is not valid.</td>
</tr>
<tr>
<td>InvalidKeyPair.NotFound</td>
<td>The specified key pair name does not exist. Ensure that you specify the AWS Region in which the key pair is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidCapacityReservationIdMalformedException</td>
<td>The ID for the Capacity Reservation is malformed. Ensure that you specify the Capacity Reservation ID in the form cr-xxxxxxxxxxxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidCapacityReservationIdNotFoundException</td>
<td>The specified Capacity Reservation ID does not exist.</td>
</tr>
<tr>
<td>InvalidLaunchTargets</td>
<td>One or more specified targets are invalid. Verify the capacity for the Capacity Reservation selected or verify the ID.</td>
</tr>
<tr>
<td>InvalidLaunchTemplateId.Malformed</td>
<td>The ID for the launch template is malformed. Ensure that you specify the launch template ID in the form lt-xxxxxxxxxxxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidLaunchTemplateId.NotFound</td>
<td>The specified launch template ID does not exist. Ensure that you specify the AWS Region in which the launch template is located.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
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</tr>
<tr>
<td>InvalidLaunchTemplateId.VersionNotFound</td>
<td>The specified launch template version does not exist.</td>
</tr>
<tr>
<td>InvalidLaunchTemplateName.AlreadyExistsException</td>
<td>The specified launch template name is already in use.</td>
</tr>
<tr>
<td>InvalidLaunchTemplateName.MalformedException</td>
<td>The specified launch template name is invalid. A launch template name must be between 3 and 128 characters, and may contain letters, numbers, and the following characters: '-', '_', ';', '(', and ')'.</td>
</tr>
<tr>
<td>InvalidLaunchTemplateName.NotFoundException</td>
<td>The specified launch template name does not exist. Check the spelling of the name and ensure that you specify the AWS Region in which the launch template is located. Launch template names are case-sensitive.</td>
</tr>
<tr>
<td>InvalidManifest</td>
<td>The specified AMI has an unparsable manifest, or you may not have access to the location of the manifest file in Amazon S3.</td>
</tr>
<tr>
<td>InvalidMaxResults</td>
<td>The specified value for MaxResults is not valid.</td>
</tr>
<tr>
<td>InvalidNatGatewayID.NotFound</td>
<td>The specified NAT gateway ID does not exist. Ensure that you specify the AWS Region in which the NAT gateway is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidNetworkAclEntry.NotFound</td>
<td>The specified network ACL entry does not exist.</td>
</tr>
<tr>
<td>InvalidNetworkAclId.Malformed</td>
<td>The specified network ACL ID is malformed. Ensure that you provide the ID in the form acl-xxxxxxxxxxxxxxxxxx.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
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</tr>
<tr>
<td><code>InvalidNetworkAclID.NotFound</code></td>
<td>The specified network ACL does not exist. Ensure that you specify the AWS Region in which the network ACL is located, if it's not in the default Region.</td>
</tr>
<tr>
<td><code>InvalidNetworkLoadBalancerArn.NotFound</code></td>
<td>The specified Network Load Balancer ARN does not exist.</td>
</tr>
<tr>
<td><code>InvalidNetworkInterfaceAttachmentId.Malformed</code></td>
<td>The ID for the network interface attachment is malformed. Ensure that you use the attachment ID rather than the network interface ID, in the form <code>eni-attach-xxxxxxxxxxxxxxxxxx</code>.</td>
</tr>
<tr>
<td><code>InvalidNetworkInterface.InUse</code></td>
<td>The specified interface is currently in use and cannot be deleted or attached to another instance. Ensure that you have detached the network interface first. If a network interface is in use, you may also receive the <code>InvalidParameterValue</code> error.</td>
</tr>
<tr>
<td><code>InvalidNetworkInterfaceId.Malformed</code></td>
<td>The specified network interface ID is malformed. Ensure that you specify the network interface ID in the form <code>eni-xxxxxxxxxxxxxxxxxx</code>.</td>
</tr>
<tr>
<td><code>InvalidNetworkInterfaceID.NotFound</code></td>
<td>The specified network interface does not exist. Ensure that you specify the AWS Region in which the network interface is located, if it's not in the default Region.</td>
</tr>
</tbody>
</table>

Client error codes for specific actions

API Version 2016-11-15 3765
<table>
<thead>
<tr>
<th>Error code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>InvalidNextToken</td>
<td>The specified NextToken is not valid.</td>
</tr>
<tr>
<td>InvalidOption.Conflict</td>
<td>A VPN connection between the virtual private gateway and the customer gateway already exists.</td>
</tr>
<tr>
<td>InvalidPermission.Duplicate</td>
<td>The specified inbound or outbound rule already exists for that security group.</td>
</tr>
<tr>
<td>InvalidPermission.Malformed</td>
<td>The specified security group rule is malformed. If you are specifying an IP address range, ensure that you use CIDR notation; for example, 20 3.0.113.0/24.</td>
</tr>
<tr>
<td>InvalidPermission.NotFound</td>
<td>The specified rule does not exist in this security group.</td>
</tr>
<tr>
<td>InvalidPlacementGroup.Duplicate</td>
<td>The specified placement group already exists in that AWS Region.</td>
</tr>
<tr>
<td>InvalidPlacementGroup.InUse</td>
<td>The specified placement group is in use. If you are trying to delete a placement group, ensure that its instances have been terminated.</td>
</tr>
<tr>
<td>InvalidPlacementGroup.Unknown</td>
<td>The specified placement group cannot be found. Ensure that you specify the AWS Region in which the placement group is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidPlacementGroupId.Malformed</td>
<td>The specified placement group ID is malformed. Ensure that you specify the ID in the form pg-xxxxxxxxxxxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidPolicyDocument</td>
<td>The specified policy document is not a valid JSON policy document.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidPrefixListId.Malformed</td>
<td>The specified prefix list ID is malformed. Ensure that you provide the ID in the form pl-xxxxxxxxxx xxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidPrefixListID.NotFound</td>
<td>The specified prefix list ID does not exist.</td>
</tr>
<tr>
<td>InvalidProductInfo</td>
<td>(AWS Marketplace) The product code is not valid.</td>
</tr>
<tr>
<td>InvalidPurchaseToken.Expired</td>
<td>The specified purchase token has expired.</td>
</tr>
<tr>
<td>InvalidPurchaseToken.Malformed</td>
<td>The specified purchase token is not valid.</td>
</tr>
<tr>
<td>InvalidQuantity</td>
<td>The specified quantity of Dedicated Hosts is not valid.</td>
</tr>
<tr>
<td>InvalidRamDiskId.Malformed</td>
<td>The specified RAM disk ID is not valid. Ensure that you specify the RAM disk ID in the form ari-xxxxxxxx.</td>
</tr>
<tr>
<td>InvalidRegion</td>
<td>The specified AWS Region is not valid. For copying a snapshot or image, specify the source Region using its Region code, for example, us-west-2.</td>
</tr>
<tr>
<td>InvalidRequest</td>
<td>The request is not valid. The returned message provides details about the nature of the error.</td>
</tr>
<tr>
<td>InvalidReservationID.Malformed</td>
<td>The specified reservation ID is not valid.</td>
</tr>
<tr>
<td>InvalidReservationID.NotFound</td>
<td>The specified reservation does not exist.</td>
</tr>
<tr>
<td>InvalidReservedInstancesId</td>
<td>The specified Reserved Instance does not exist.</td>
</tr>
<tr>
<td>InvalidReservedInstancesOfferingId</td>
<td>The specified Reserved Instances offering does not exist.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidResourceType.Unknown</td>
<td>The specified resource type is not supported or is not valid. To view resource types that support longer IDs, use DescribeIdFormat.</td>
</tr>
<tr>
<td>InvalidRoute.InvalidState</td>
<td>The specified route is not valid.</td>
</tr>
<tr>
<td>InvalidRoute.Malformed</td>
<td>The specified route is not valid. If you are deleting a route in a VPN connection, ensure that you've entered the value for the CIDR block correctly.</td>
</tr>
<tr>
<td>InvalidRoute.NotFound</td>
<td>The specified route does not exist in the specified route table. Ensure that you indicate the exact CIDR range for the route in the request. This error can also occur if you've specified a route table ID in the request that does not exist.</td>
</tr>
<tr>
<td>InvalidRouteTableId.Malformed</td>
<td>The specified route table ID is malformed. Ensure that you specify the route table ID in the form rtb-xxxxxxxxxxxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidRouteTableID.NotFound</td>
<td>The specified route table does not exist. Ensure that you specify the AWS Region in which the route table is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidScheduledInstance</td>
<td>The specified Scheduled Instance does not exist.</td>
</tr>
<tr>
<td>InvalidSecurityGroupId.Malformed</td>
<td>The specified security group ID is not valid. Ensure that you specify the security group ID in the form sg-xxxxxxxxxxxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidSecurityGroupId.NotFound</td>
<td>The specified security group does not exist.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidSecurityGroupRuleId.Malformed</td>
<td>The specified security group rule ID is not valid. Ensure that you specify the security group rule ID in the form <code>sgr-xxxxxxxxxxxxxxxxxx</code>.</td>
</tr>
<tr>
<td>InvalidSecurityGroupRuleId.NotFound</td>
<td>The specified security group rule does not exist.</td>
</tr>
<tr>
<td>InvalidSecurity.RequestHasExpired</td>
<td>The difference between the request timestamp and the AWS server time is greater than 5 minutes. Ensure that your system clock is accurate and configured to use the correct time zone.</td>
</tr>
<tr>
<td>InvalidServiceName</td>
<td>The name of the service is not valid. To get a list of available service names, use <code>DescribeVpcEndpointServices</code>.</td>
</tr>
<tr>
<td>InvalidSnapshot.NotFound</td>
<td>The specified snapshot does not exist. Ensure that you specify the AWS Region in which the snapshot is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidSnapshotID.Malformed</td>
<td>The snapshot ID is not valid.</td>
</tr>
<tr>
<td>InvalidSnapshot.InUse</td>
<td>The snapshot that you are trying to delete is in use by one or more AMIs.</td>
</tr>
<tr>
<td>InvalidSnapshot.NotFound</td>
<td>The specified snapshot does not exist. Ensure that you specify the AWS Region in which the snapshot is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidSpotDatafeed.NotFound</td>
<td>You have no data feed for Spot Instances.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidSpotFleetRequestConfig</td>
<td>The Spot Fleet request configuration is not valid. Ensure that you provide valid values for all of the configuration parameters; for example, a valid AMI ID. Limits apply on the target capacity and the number of launch specifications per Spot Fleet request. For more information, see <a href="#">Fleet quotas</a>.</td>
</tr>
<tr>
<td>InvalidSpotFleetRequestId.Malformed</td>
<td>The specified Spot Fleet request ID is malformed. Ensure that you specify the Spot Fleet request ID in the form <code>sfr-</code> followed by 36 characters, including hyphens; for example, <code>sfr-123f8fc2-11aa-22bb-33cc-example12710</code>.</td>
</tr>
<tr>
<td>InvalidSpotFleetRequestId.NotFound</td>
<td>The specified Spot Fleet request ID does not exist. Ensure that you specify the AWS Region in which the Spot Fleet request is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidSpotInstanceRequestId.Malformed</td>
<td>The specified Spot Instance request ID is not valid. Ensure that you specify the Spot Instance request ID in the form <code>sir-xxxxxxxx</code>.</td>
</tr>
<tr>
<td>InvalidSpotInstanceRequestId.NotFound</td>
<td>The specified Spot Instance request ID does not exist. Ensure that you specify the AWS Region in which the Spot Instance request is located, if it's not in the default Region.</td>
</tr>
<tr>
<td>InvalidState</td>
<td>The specified resource is not in the correct state for the request; for example, if you are trying to enable monitoring on a recently terminated instance, or if you are trying to create a snapshot when a previous identical request has not yet completed.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------</td>
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</tr>
<tr>
<td>InvalidStateTransition</td>
<td>The specified VPC peering connection is not in the correct state for the request. For example, you may be trying to accept a VPC peering request that has failed, or that was rejected.</td>
</tr>
<tr>
<td>InvalidSubnet</td>
<td>The specified subnet ID is not valid or does not exist.</td>
</tr>
<tr>
<td>InvalidSubnet.Conflict</td>
<td>The specified CIDR block conflicts with that of another subnet in your VPC.</td>
</tr>
<tr>
<td>InvalidSubnetID.Malformed</td>
<td>The specified subnet ID is malformed. Ensure that you specify the ID in the form subnet-xxxxxxxxxxxxxxxxxx</td>
</tr>
<tr>
<td>InvalidSubnetID.NotFound</td>
<td>The specified subnet does not exist.</td>
</tr>
<tr>
<td>InvalidSubnet.Range</td>
<td>The CIDR block you’ve specified for the subnet is not valid. The allowed block size is between a /28 netmask and /16 netmask.</td>
</tr>
<tr>
<td>InvalidTagKey.Malformed</td>
<td>The specified tag key is not valid. Tag keys cannot be empty or null, and cannot start with aws:.</td>
</tr>
<tr>
<td>InvalidTargetArn.Unknown</td>
<td>The specified ARN for the specified user or role is not valid or does not exist.</td>
</tr>
<tr>
<td>InvalidTenancy</td>
<td>The tenancy of the instance or VPC is not supported for the requested action. For example, you cannot modify the tenancy of an instance or VPC that has a tenancy attribute of default.</td>
</tr>
<tr>
<td>InvalidTime</td>
<td>The specified timestamp is not valid.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidTrafficMirrorFilterNotFound</td>
<td>The specified Traffic Mirror filter does not exist.</td>
</tr>
<tr>
<td>InvalidTrafficMirrorFilterRuleNotFound</td>
<td>The specified Traffic Mirror filter rule does not exist.</td>
</tr>
<tr>
<td>InvalidTrafficMirrorSessionNotFound</td>
<td>The specified Traffic Mirror session does not exist.</td>
</tr>
<tr>
<td>InvalidTrafficMirrorTargetNotFound</td>
<td>The specified Traffic Mirror target does not exist.</td>
</tr>
<tr>
<td>InvalidUserID.Malformed</td>
<td>The specified user or owner is not valid. If you are performing a DescribeImages request, you must specify a valid value for the owner or executableBy parameters, such as an AWS account ID. If you are performing a DescribeSnapshots request, you must specify a valid value for the owner or restorableBy parameters.</td>
</tr>
<tr>
<td>InvalidVolumeID.Duplicate</td>
<td>The Amazon EBS volume already exists.</td>
</tr>
<tr>
<td>InvalidVolumeID.Malformed</td>
<td>The specified volume ID is not valid. Check the letter-number combination carefully.</td>
</tr>
<tr>
<td>InvalidVolumeID.ZoneMismatch</td>
<td>The specified volume and instance are in different Availability Zones.</td>
</tr>
<tr>
<td>InvalidVolume.NotFound</td>
<td>The specified volume does not exist.</td>
</tr>
<tr>
<td>InvalidVolume.ZoneMismatch</td>
<td>The specified volume is not in the same Availability Zone as the specified instance. You can only attach an Amazon EBS volume to an instance if they are in the same Availability Zone.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidVpcEndpoint.NotFound</td>
<td>The specified VPC endpoint does not exist. If you are performing a bulk request that is partially successful or unsuccessful, the response includes a list of the unsuccessful items. If the request succeeds, the list is empty.</td>
</tr>
<tr>
<td>InvalidVpcEndpointId.Malformed</td>
<td>The specified VPC endpoint ID is malformed. Use the full VPC endpoint ID in the request, in the form <code>vpce-xxxxxxxxxxxxxxxxxxxx</code>.</td>
</tr>
<tr>
<td>InvalidVpcEndpointId.NotFound</td>
<td>The specified VPC endpoint does not exist. If you are performing a bulk request that is partially successful or unsuccessful, the response includes a list of the unsuccessful items. If the request succeeds, the list is empty.</td>
</tr>
<tr>
<td>InvalidVpcEndpointService.NotFound</td>
<td>The specified VPC endpoint service does not exist. If you are performing a bulk request that is partially successful or unsuccessful, the response includes a list of the unsuccessful items. If the request succeeds, the list is empty.</td>
</tr>
<tr>
<td>InvalidVpcEndpointServiceId.Malformed</td>
<td>The specified VPC endpoint service ID is malformed. Ensure that you specify the ID in the form <code>vpc-svc-xxxxxxxxxxxxxxxxxxxx</code>.</td>
</tr>
<tr>
<td>InvalidVpcEndpointServiceId.NotFound</td>
<td>The specified VPC endpoint service does not exist. If you are performing a bulk request that is partially successful or unsuccessful, the response includes a list of the unsuccessful items. If the request succeeds, the list is empty.</td>
</tr>
<tr>
<td>InvalidVpcEndpointType</td>
<td>The specified VPC endpoint type is not valid.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
</tr>
</tbody>
</table>
| InvalidVpcID.Malformed | The specified VPC ID is malformed. Ensure that you've specified the ID in the form `vpc-xxxxxxxxxxxxx`.
| InvalidVpcID.NotFound | The specified VPC does not exist. |
| InvalidVpcPeeringConnectionId.Malformed | The specified VPC peering connection ID is malformed. Ensure that you provide the ID in the form `pcx-xxxxxxxxxxxxxxxxx`.
<p>| InvalidVpcPeeringConnectionId.NotFound | The specified VPC peering connection ID does not exist. |
| InvalidVpcPeeringConnectionState.DnsHostnamesDisabled | To enable DNS hostname resolution for the VPC peering connection, DNS hostname support must be enabled for the VPCs. |
| InvalidVpcRange | The specified CIDR block range is not valid. The block range must be between a /28 netmask and /16 netmask. For more information, see <a href="#">VPC CIDR blocks</a>. |
| InvalidVpcState | The specified VPC already has a virtual private gateway attached to it. |
| InvalidVpnConnectionID | The specified VPN connection ID cannot be found. |
| InvalidVpnConnectionID.NotFound | The specified VPN connection ID does not exist. |
| InvalidVpnConnection.InvalidState | The VPN connection must be in the available state to complete the request. |
| InvalidVpnConnection.InvalidType | The specified VPN connection does not support static routes. |</p>
<table>
<thead>
<tr>
<th>Error code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>InvalidVpnGatewayAttachment.NotFound</td>
<td>An attachment between the specified virtual private gateway and specified VPC does not exist. This error can also occur if you've specified an incorrect VPC ID in the request.</td>
</tr>
<tr>
<td>InvalidVpnGatewayID.NotFound</td>
<td>The specified virtual private gateway does not exist.</td>
</tr>
<tr>
<td>InvalidVpnGatewayState</td>
<td>The virtual private gateway is not in an available state.</td>
</tr>
<tr>
<td>InvalidZone.NotFound</td>
<td>The specified Availability Zone does not exist, or is not available for you to use. Use the <code>DescribeAvailabilityZones</code> request to list the Availability Zones that are currently available to you. Specify the full name of the Availability Zone: for example, us-east-1a.</td>
</tr>
<tr>
<td>KeyPairLimitExceeded</td>
<td>You've reached the limit on the number of key pairs that you can have in this AWS Region. For more information, see Amazon EC2 key pairs.</td>
</tr>
<tr>
<td>LegacySecurityGroup</td>
<td>Any VPC created using an API version older than 2011-01-01 may have the 2009-07-15-default security group. You must delete this security group before you can attach an internet gateway to the VPC.</td>
</tr>
<tr>
<td>LimitPriceExceeded</td>
<td>The cost of the total order is greater than the specified limit price (instance count * price).</td>
</tr>
<tr>
<td>LogDestinationNotFoundException</td>
<td>The specified Amazon S3 bucket does not exist. Ensure that you have specified the ARN for an existing Amazon S3 bucket, and that the ARN is in the correct format.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
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<td>------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>LogDestinationPermissionIssue</td>
<td>You do not have sufficient permissions to publish flow logs to the specific Amazon S3 bucket.</td>
</tr>
<tr>
<td>MaxConfigLimitExceededException</td>
<td>You've exceeded your maximum allowed Spot placement configurations. You can retry configurations that you used within the last 24 hours, or wait for 24 hours before specifying a new configuration. For more information, see Spot placement score.</td>
</tr>
<tr>
<td>MaxIOPSLimitExceeded</td>
<td>You've reached the limit on your IOPS usage for that AWS Region. For more information, see Amazon EBS service quotas.</td>
</tr>
<tr>
<td>MaxScheduledInstanceCapacityExceeded</td>
<td>You've attempted to launch more instances than you purchased.</td>
</tr>
<tr>
<td>MaxSpotFleetRequestCountExceeded</td>
<td>You've reached one or both of these limits: the total number of Spot Fleet requests that you can make, or the total number of instances in all Spot Fleets for the AWS Region (the target capacity). For more information, see Fleet quotas.</td>
</tr>
<tr>
<td>MaxSpotInstanceCountExceeded</td>
<td>You've reached the limit on the number of Spot Instances that you can launch. The limit depends on the instance type. For more information, see Spot Instance limits.</td>
</tr>
<tr>
<td>MaxTemplateLimitExceeded</td>
<td>You've reached the limit on the number of launch templates you can create. For more information, see Launch template restrictions.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
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</tr>
<tr>
<td>MaxTemplateVersionLimitExceeded</td>
<td>You've reached the limit on the number of launch template versions that you can create. For more information, see <a href="#">Launch template restrictions</a>.</td>
</tr>
<tr>
<td>MissingInput</td>
<td>An input parameter is missing.</td>
</tr>
<tr>
<td>NatGatewayLimitExceeded</td>
<td>You've reached the limit on the number of NAT gateways that you can create. For more information, see <a href="#">Amazon VPC quotas</a>.</td>
</tr>
<tr>
<td>NatGatewayMalformed</td>
<td>The specified NAT gateway ID is not formed correctly. Ensure that you specify the NAT gateway ID in the form <code>nat-xxxxxxxxxxxxxxxxxx</code>.</td>
</tr>
<tr>
<td>NatGatewayNotFound</td>
<td>The specified NAT gateway does not exist.</td>
</tr>
<tr>
<td>NetworkAclEntryAlreadyExists</td>
<td>The specified rule number already exists in this network ACL.</td>
</tr>
<tr>
<td>NetworkAclEntryLimitExceeded</td>
<td>You've reached the limit on the number of rules that you can add to the network ACL. For more information, see <a href="#">Amazon VPC quotas</a>.</td>
</tr>
<tr>
<td>NetworkAclLimitExceeded</td>
<td>You've reached the limit on the number of network ACLs that you can create for the specified VPC. For more information, see <a href="#">Amazon VPC quotas</a>.</td>
</tr>
<tr>
<td>NetworkInterfaceLimitExceeded</td>
<td>You've reached the limit on the number of network interfaces that you can create. For more information, see <a href="#">Amazon VPC quotas</a>.</td>
</tr>
<tr>
<td>NetworkInterfaceNotFoundException</td>
<td>The specified network interface does not exist.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
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<tr>
<td>-----------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>NetworkInterfaceNotSupported dException</td>
<td>The network interface is not supported for Traffic Mirroring.</td>
</tr>
<tr>
<td>NetworkLoadBalancerNotFoundException</td>
<td>The specified Network Load Balancer does not exist.</td>
</tr>
<tr>
<td>NlbInUseByTrafficMirrorTargetException</td>
<td>The Network Load Balancer is already configured as a Traffic Mirror target.</td>
</tr>
<tr>
<td>NonEBSInstance</td>
<td>The specified instance does not support Amazon EBS. Restart the instance and try again, to ensure that the code is run on an instance with updated code.</td>
</tr>
<tr>
<td>NoSuchVersion</td>
<td>The specified API version does not exist.</td>
</tr>
<tr>
<td>NotExportable</td>
<td>The specified instance cannot be exported. You can only export certain instances. For more information, see <a href="#">Considerations for instance export</a>.</td>
</tr>
<tr>
<td>OperationNotPermitted</td>
<td>The specified operation is not allowed. This error can occur for a number of reasons; for example, you might be trying to terminate an instance that has termination protection enabled, or trying to detach the primary network interface (eth0) from an instance.</td>
</tr>
<tr>
<td>OutstandingVpcPeeringConnectionLimitExceeded</td>
<td>You've reached the limit on the number of VPC peering connection requests that you can create for the specified VPC.</td>
</tr>
<tr>
<td>PendingSnapshotLimitExceeded</td>
<td>You've reached the limit on the number of Amazon EBS snapshots that you can have in the pending state.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
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</tr>
<tr>
<td>PendingVpcPeeringConnectionLimitExceeded</td>
<td>You've reached the limit on the number of pending VPC peering connections that you can have.</td>
</tr>
<tr>
<td>PlacementGroupLimitExceeded</td>
<td>You've reached the limit on the number of placement groups that you can have.</td>
</tr>
<tr>
<td>PrivateIpAddressLimitExceeded</td>
<td>You've reached the limit on the number of private IP addresses that you can assign to the specified network interface for that type of instance. For more information, see IP addresses per network interface.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------</td>
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</tr>
<tr>
<td>RequestResourceCountExceeded</td>
<td>Details in your Spot request exceed the numbers allowed by the Spot service in one of the following ways, depending on the action that generated the error:</td>
</tr>
<tr>
<td></td>
<td>—If you get this error when you submitted a request for Spot Instances, check the number of Spot Instances specified in your request. The number shouldn't exceed the 3,000 maximum allowed per request. Resend your Spot Instance request and specify a number less than 3,000. If your account's regional Spot request limit is greater than 3,000 instances, you can access these instances by submitting multiple smaller requests.</td>
</tr>
<tr>
<td></td>
<td>—If you get this error when you sent Describe Spot Instance requests, check the number of requests for Spot Instance data, the amount of data you requested, and how often you sent the request. The frequency with which you requested the data combined with the amount of data exceeds the levels allowed by the Spot service. Try again and submit fewer large Describe requests over longer intervals.</td>
</tr>
<tr>
<td>ReservationCapacityExceeded</td>
<td>The targeted Capacity Reservation does not enough available instance capacity to fulfill your request. Either increase the instance capacity for the targeted Capacity Reservation, or target a different Capacity Reservation.</td>
</tr>
<tr>
<td>ReservedInstancesCountExceeded</td>
<td>You've reached the limit for the number of Reserved Instances.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
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</tr>
<tr>
<td>ReservedInstancesLimitExceeded</td>
<td>Your current quota does not allow you to purchase the required number of Reserved Instances.</td>
</tr>
<tr>
<td>ReservedInstancesUnavailable</td>
<td>The requested Reserved Instances are not available.</td>
</tr>
<tr>
<td>Resource.AlreadyAssigned</td>
<td>The specified private IP address is already assigned to a resource. Unassign the private IP first, or use a different private IP address.</td>
</tr>
<tr>
<td>Resource.AlreadyAssociated</td>
<td>The specified resource is already in use. For example, in EC2-VPC, you cannot associate an Elastic IP address with an instance if it's already associated with another instance. You also cannot attach an internet gateway to more than one VPC at a time.</td>
</tr>
<tr>
<td>ResourceCountExceeded</td>
<td>You have exceeded the number of resources allowed for this request; for example, if you try to launch more instances than AWS allows in a single request. This limit is separate from your individual resource limit. If you get this error, break up your request into smaller requests; for example, if you are launching 15 instances, try launching 5 instances in 3 separate requests.</td>
</tr>
<tr>
<td>ResourceCountLimitExceeded</td>
<td>You have exceeded a resource limit for creating routes.</td>
</tr>
<tr>
<td>ResourceLimitExceeded</td>
<td>You have exceeded an Amazon EC2 resource limit. For example, you might have too many snapshot copies in progress.</td>
</tr>
<tr>
<td>RouteAlreadyExists</td>
<td>A route for the specified CIDR block already exists in this route table.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>RouteLimitExceeded</td>
<td>You've reached the limit on the number of routes that you can add to a route table.</td>
</tr>
<tr>
<td>RouteTableLimitExceeded</td>
<td>You've reached the limit on the number of route tables that you can create for the specified VPC. For more information about route table limits, see <a href="#">Amazon VPC quotas</a>.</td>
</tr>
<tr>
<td>RulesPerSecurityGroupLimitExceeded</td>
<td>You've reached the limit on the number of rules that you can add to a security group. For more information, see <a href="#">Amazon VPC quotas</a>.</td>
</tr>
<tr>
<td>ScheduledInstanceLimitExceeded</td>
<td>You've reached the limit on the number of Scheduled Instances that you can purchase.</td>
</tr>
<tr>
<td>ScheduledInstanceParameterMismatch</td>
<td>The launch specification does not match the details for the Scheduled Instance.</td>
</tr>
<tr>
<td>ScheduledInstanceSlotNotOpen</td>
<td>You can launch a Scheduled Instance only during its scheduled time periods.</td>
</tr>
<tr>
<td>ScheduledInstanceSlotUnavailable</td>
<td>The requested Scheduled Instance is no longer available during this scheduled time period.</td>
</tr>
<tr>
<td>SecurityGroupLimitExceeded</td>
<td>You've reached the limit on the number of security groups that you can create, or that you can assign to an instance.</td>
</tr>
<tr>
<td>SecurityGroupsPerInstanceLimitExceeded</td>
<td>You've reached the limit on the number of security groups that you can assign to an instance. For more information, see <a href="#">Amazon EC2 security groups</a>.</td>
</tr>
<tr>
<td>SecurityGroupsPerInterfaceLimitExceeded</td>
<td>You've reached the limit on the number of security groups you can associate with the specified network interface. For more information, see <a href="#">Amazon VPC quotas</a>.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>SignatureDoesNotMatch</td>
<td>The request signature that Amazon has does not match the signature that you provided. Check your AWS credentials and signing method.</td>
</tr>
<tr>
<td>SnapshotCopyUnsupported.InterRegion</td>
<td>Inter-region snapshot copy is not supported for this AWS Region.</td>
</tr>
<tr>
<td>SnapshotCreationPerVolumeRateExceeded</td>
<td>The rate limit for creating concurrent snapshots of an EBS volume has been exceeded. Wait at least 15 seconds between concurrent volume snapshots.</td>
</tr>
<tr>
<td>SnapshotLimitExceeded</td>
<td>You've reached the limit on the number of Amazon EBS snapshots that you can create.</td>
</tr>
<tr>
<td>SpotMaxPriceTooLow</td>
<td>The request can't be fulfilled yet because your maximum price is below the Spot price. In this case, no instance is launched and your request remains open.</td>
</tr>
<tr>
<td>SubnetLimitExceeded</td>
<td>You've reached the limit on the number of subnets that you can create for the specified VPC. For more information, see Amazon VPC quotas.</td>
</tr>
<tr>
<td>TagLimitExceeded</td>
<td>You've reached the limit on the number of tags that you can assign to the specified resource. For more information, see Tag restrictions.</td>
</tr>
<tr>
<td>TargetCapacityLimitExceededException</td>
<td>The value for targetCapacity exceeds your limit on the amount of Spot placement target capacity you can explore. Reduce the targetCapacity value, and try again. For more information, see Spot placement score.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>TrafficMirrorFilterInUse</td>
<td>The Traffic Mirror filter cannot be deleted because a Traffic Mirror session is currently using it.</td>
</tr>
<tr>
<td>TrafficMirrorSessionsPerInterfaceLimitExceeded</td>
<td>The allowed number of Traffic Mirror sessions for the specified network interface has been exceeded.</td>
</tr>
<tr>
<td>TrafficMirrorSessionsPerTargetLimitExceeded</td>
<td>The maximum number of Traffic Mirror sessions for the specified Traffic Mirror target has been exceeded.</td>
</tr>
<tr>
<td>TrafficMirrorSourcesPerTargetLimitExceeded</td>
<td>The maximum number of Traffic Mirror sources for the specified Traffic Mirror target has been exceeded.</td>
</tr>
<tr>
<td>TrafficMirrorTargetInUseException</td>
<td>The Traffic Mirror target cannot be deleted because a Traffic Mirror session is currently using it.</td>
</tr>
<tr>
<td>TrafficMirrorFilterLimitExceeded</td>
<td>The maximum number of Traffic Mirror filters has been exceeded.</td>
</tr>
<tr>
<td>TrafficMirrorFilterRuleLimitExceeded</td>
<td>The maximum number of Traffic Mirror filter rules has been exceeded.</td>
</tr>
<tr>
<td>TrafficMirrorSessionLimitExceeded</td>
<td>The maximum number of Traffic Mirror sessions has been exceeded.</td>
</tr>
<tr>
<td>TrafficMirrorTargetLimitExceeded</td>
<td>The maximum number of Traffic Mirror targets has been exceeded.</td>
</tr>
<tr>
<td>TrafficMirrorFilterRuleAlreadyExists</td>
<td>The Traffic Mirror filter rule already exists.</td>
</tr>
<tr>
<td>UnavailableHostRequirements</td>
<td>There are no valid Dedicated Hosts available on which you can launch an instance.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>UnfulfillableCapacity</td>
<td>At this time there isn't enough spare capacity to fulfill your request for Spot Instances. You can wait a few minutes to see whether capacity becomes available for your request. Alternatively, create a more flexible request. For example, include additional instance types, include additional Availability Zones, or use the capacity-optimized allocation strategy.</td>
</tr>
<tr>
<td>UnknownPrincipalType.Unsupported</td>
<td>The principal type is not supported.</td>
</tr>
<tr>
<td>UnknownVolumeType</td>
<td>The specified volume type is unsupported. The supported volume types are gp2, io1, st1, sc1, and standard.</td>
</tr>
<tr>
<td>Unsupported</td>
<td>The specified request is unsupported. For example, you might be trying to launch an instance in an Availability Zone that currently has constraints on that instance type. The returned message provides details of the unsupported request.</td>
</tr>
<tr>
<td>UnsupportedException</td>
<td>Capacity Reservations are not supported for this Region.</td>
</tr>
<tr>
<td>UnsupportedHibernationConfiguration</td>
<td>The instance could not be launched because one or more parameter values do not meet the prerequisites for enabling hibernation. For more information, see Hibernation Prerequisites. Alternatively, the instance could not be hibernated because it is not enabled for hibernation.</td>
</tr>
<tr>
<td>UnsupportedHostConfiguration</td>
<td>The specified Dedicated Host configuration is unsupported. For more information about supported configurations, see Dedicated Hosts.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>UnsupportedInstanceTypeOnHost</td>
<td>The instance type is not supported on the Dedicated Host. For more information about supported instance types, see <a href="https://aws.amazon.com/ec2/pricing/dedicated-hosts/">Amazon EC2 Dedicated Hosts Pricing</a>.</td>
</tr>
<tr>
<td>UnsupportedTenancy</td>
<td>The specified tenancy is unsupported. You can change the tenancy of a VPC to default only.</td>
</tr>
<tr>
<td>UpdateLimitExceeded</td>
<td>The default credit specification for an instance family can be modified only once in a rolling 5-minute period, and up to four times in a rolling 24-hour period. For more information, see <a href="https://docs.aws.amazon.com/AWSEC2/latest/APIReference/api-2016-11-15.html">Set the default credit specification for the account</a>.</td>
</tr>
<tr>
<td>VcpuLimitExceeded</td>
<td>You've reached the limit on the number of vCPUs (virtual processing units) assigned to the running instances in your account. You are limited to running one or more On-Demand instances in an AWS account, and Amazon EC2 measures usage towards each limit based on the total number of vCPUs that are assigned to the running On-Demand instances in your AWS account. If your request fails due to limit constraints, increase your On-Demand instance limits and try again. For more information, see <a href="https://docs.aws.amazon.com/AWSEC2/latest/APIReference/api-2016-11-15.html">EC2 On-Demand instance limits</a>.</td>
</tr>
<tr>
<td>VolumeInUse</td>
<td>The specified Amazon EBS volume is attached to an instance. Ensure that the specified volume is in an ‘available’ state.</td>
</tr>
<tr>
<td>VolumeIOPSLimit</td>
<td>The maximum IOPS limit for the volume has been reached. For more information, see <a href="https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/BlockDeviceMapping.html">Amazon EBS volume types</a>.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>VolumeLimitExceeded</td>
<td>You've reached the limit on your Amazon EBS volume storage. For more information, see Amazon EBS quotas.</td>
</tr>
<tr>
<td>VolumeModificationSizeLimitExceeded</td>
<td>You've reached the limit on your Amazon EBS volume modification storage in this Region. For more information, see Amazon EBS quotas.</td>
</tr>
<tr>
<td>VolumeTypeNotAvailableInZone</td>
<td>The specified Availability Zone does not support Provisioned IOPS SSD volumes. Try launching your instance in a different Availability Zone, or don't specify a zone in the request. If you're creating a volume, try specifying a different Availability Zone in the request.</td>
</tr>
<tr>
<td>VPCIdNotSpecified</td>
<td>You have no default VPC in which to carry out the request. Specify a VPC or subnet ID or, in the case of security groups, specify the ID and not the security group name. To create a new default VPC, contact AWS Support.</td>
</tr>
<tr>
<td>VpcEndpointLimitExceeded</td>
<td>You've reached the limit on the number of VPC endpoints that you can create in the AWS Region. For more information, see Amazon VPC quotas.</td>
</tr>
<tr>
<td>VpcLimitExceeded</td>
<td>You've reached the limit on the number of VPCs that you can create in the AWS Region. For more information about VPC limits, see Amazon VPC quotas.</td>
</tr>
<tr>
<td>VpcPeeringConnectionAlreadyExists</td>
<td>A VPC peering connection between the VPCs already exists.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>VpcPeeringConnectionsPerVpcLimitExceeded</td>
<td>You've reached the limit on the number of VPC peering connections that you can have per VPC. For more information, see Amazon VPC quotas.</td>
</tr>
<tr>
<td>VPCResourceNotSpecified</td>
<td>The specified resource can be used only in a VPC; for example, T2 instances. Ensure that you have a VPC in your account, and then specify a subnet ID or network interface ID in the request.</td>
</tr>
<tr>
<td>VpnConnectionLimitExceeded</td>
<td>You've reached the limit on the number of VPN connections that you can create. For more information, see Amazon VPC quotas.</td>
</tr>
<tr>
<td>VpnGatewayAttachmentLimitExceeded</td>
<td>You've reached the limit on the number of VPCs that can be attached to the specified virtual private gateway.</td>
</tr>
<tr>
<td>VpnGatewayLimitExceeded</td>
<td>You've reached the limit on the number of virtual private gateways that you can create. For more information about limits, see Amazon VPC quotas.</td>
</tr>
<tr>
<td>ZonesMismatched</td>
<td>The Availability Zone for the instance does not match that of the Dedicated Host.</td>
</tr>
</tbody>
</table>

**Common causes of client errors**

There are a number of reasons that you might encounter an error while performing a request. Some errors can be prevented or easily solved by following these guidelines:

- **Specify the Region**: Some resources can't be shared between AWS Regions. If you are specifying a resource that's located in a Region other than the current Region, specify its Region in the request. If the resource cannot be found, you get the following error: Client.InvalidResource.NotFound; for example, Client.InvalidInstanceID.NotFound.
• **Allow for eventual consistency**: Some errors are caused because a previous request has not yet propagated thorough the system. For more information, see [Eventual consistency](#).

• **Use a sleep interval between request rates**: Amazon EC2 API requests are throttled to help maintain the performance of the service. If your requests have been throttled, you get the following error: Client.RequestLimitExceeded. For more information, see [Query API request rate](#).

• **Use the full ID of the resource**: When specifying a resource, ensure that you use its full ID, and not its user-supplied name or description. For example, when specifying a security group in a request, use its ID in the form sg-xxxxxxxxxxxxxxxx.

• **Check your services**: Ensure that you have signed up for all the services you are attempting to use. You can check which services you’re signed up for by going to the [My Account](#) section of the [AWS home page](#).

• **Check your permissions**: Ensure that you have the required permissions to carry out the request. If you are not authorized, you get the following error: Client.UnauthorizedOperation. For more information, see [Identity and access management for Amazon EC2](#).

• **Check your VPC**: Some resources cannot be shared between VPCs; for example, security groups.

• **Check your credentials**: Ensure that you entered the credentials correctly; and, if you have more than one account, that you are using the correct credentials for the specific account. If the provided credentials are incorrect, you might get the following error: Client.AuthFailure.

## Server error codes

This section lists server error codes that can be returned.

<table>
<thead>
<tr>
<th>Error code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BandwidthLimitExceeded</td>
<td>You've reached the limit on the network bandwidth that is available to an Amazon EC2 instance. For more information, see <a href="#">Amazon EC2 instance network bandwidth</a>.</td>
</tr>
<tr>
<td>InsufficientAddressCapacity</td>
<td>Not enough available addresses to satisfy your minimum request. Reduce the number of addresses you are requesting or wait for additional capacity to become available.</td>
</tr>
<tr>
<td>Error code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InsufficientCapacity</td>
<td>There is not enough capacity to fulfill your import instance request. You can wait for additional capacity to become available.</td>
</tr>
<tr>
<td>InsufficientInstanceCapacity</td>
<td>There is not enough capacity to fulfill your request. This error can occur if you launch a new instance, restart a stopped instance, create a new Capacity Reservation, or modify an existing Capacity Reservation. Reduce the number of instances in your request, or wait for additional capacity to become available. You can also try launching an instance by selecting different instance types (which you can resize at a later stage). The returned message might also give specific guidance about how to solve the problem.</td>
</tr>
<tr>
<td>InsufficientHostCapacity</td>
<td>There is not enough capacity to fulfill your Dedicated Host request. Reduce the number of Dedicated Hosts in your request, or wait for additional capacity to become available.</td>
</tr>
<tr>
<td>InsufficientReservedInstanceCapacity</td>
<td>Not enough available Reserved Instances to satisfy your minimum request. Reduce the number of Reserved Instances in your request or wait for additional capacity to become available.</td>
</tr>
</tbody>
</table>
### Error code

<table>
<thead>
<tr>
<th>Error code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ServerInternal</td>
<td>An internal error has occurred. Retry your request, but if the problem persists, contact us with details by posting a message on the AWS forums.</td>
</tr>
<tr>
<td>InternalFailure</td>
<td>The request processing has failed because of an unknown error, exception, or failure.</td>
</tr>
<tr>
<td>RequestLimitExceeded</td>
<td>The maximum request rate permitted by the Amazon EC2 APIs has been exceeded for your account. For best results, use an increasing or variable sleep interval between requests. For more information, see Query API request rate.</td>
</tr>
<tr>
<td>ServiceUnavailable</td>
<td>The request has failed due to a temporary failure of the server.</td>
</tr>
<tr>
<td>InternalError</td>
<td>An internal error has occurred. Retry your request, but if the problem persists, contact us with details by posting a message on the AWS forums.</td>
</tr>
<tr>
<td>Unavailable</td>
<td>The server is overloaded and can't handle the request.</td>
</tr>
</tbody>
</table>

### Example error response

The following shows the structure of a request error response.

```
<Response>
  <Errors>
    <Error>
      <Code>Error code text</Code>
      <Message>Error message</Message>
    </Error>
  </Errors>
  <RequestID>request ID</RequestID>
</Response>
```
The following shows an example of an error response.

```xml
<Response>
  <Errors>
    <Error>
      <Code>InvalidInstanceID.NotFound</Code>
      <Message>The instance ID 'i-1a2b3c4d' does not exist</Message>
    </Error>
  </Errors>
  <RequestID>ea966190-f9aa-478e-9ede-example</RequestID>
</Response>
```

**Eventual consistency**

The Amazon EC2 API follows an eventual consistency model, due to the distributed nature of the system supporting the API. This means that when you run an API command, the result may not be immediately visible to subsequent API commands, which can result in an error.

For more information about eventual consistency and how to manage it, see [Eventual consistency](#).