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Welcome

This is the Amazon EC2 API Reference. It provides descriptions, syntax, and usage examples for each of the actions and data types for Amazon EC2, Amazon EBS, and Amazon VPC.

The documentation for each action shows the Query API request parameters and the XML response.

Alternatively, you can use one of the AWS SDKs to access an API that's tailored to the programming language or platform that you're using. For more information, see AWS SDKs.

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- Amazon EC2 documentation
- Amazon EBS product page
- Amazon VPC product page
- Amazon VPC documentation
- AWS CLI Command Reference - Amazon EC2 commands
- AWS Tools for PowerShell Cmdlet Reference - Amazon EC2 cmdlets
- (Deprecated) Amazon EC2 Command Line Reference
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AcceptReservedInstancesExchangeQuote

Accepts the Convertible Reserved Instance exchange quote described in the GetReservedInstancesExchangeQuote (p. 631) 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 (p. 1194) 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 Errors (p. 1302).
See Also

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

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

Accepts one or more interface 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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

VpcEndpointId.N

The IDs of one or more 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 (p. 1200) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).
Example

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-e8aexample</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
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 570) 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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: No

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 (p. 1231) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

Example

This example accepts the specified VPC peering connection request.
Sample Request

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

Sample Response

<?xml version="1.0" encoding="UTF-8"?>
  <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>
    </accepterVpcInfo>
    <status>
      <code>active</code>
      <message>Active</message>
    </status>
    <tagSet/>
  </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
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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.

[EC2-VPC] 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. You cannot recover an Elastic IP address for EC2-Classic. To attempt to recover an Elastic IP address that you released, specify it in this operation.

An Elastic IP address is for use either in the EC2-Classic platform or in a VPC. By default, you can allocate 5 Elastic IP addresses for EC2-Classic per region and 5 Elastic IP addresses for EC2-VPC per region.

For more information, see Elastic IP Addresses 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 (p. 1267).

Address

[EC2-VPC] The Elastic IP address to recover.

Type: String

Required: No

Domain

Set to vpc to allocate the address for use with instances in a VPC.

Default: The address is for use with instances in EC2-Classic.

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

Response Elements

The following elements are returned by the service.

allocationId

[EC2-VPC] The ID that AWS assigns to represent the allocation of the Elastic IP address for use with instances in a VPC.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example for EC2-Classic

This example request allocates an Elastic IP address for use with instances in EC2-Classic.

Sample Request

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

Sample Response

<AllocateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <publicIp>192.0.2.1</publicIp>
  <domain>standard</domain>
</AllocateAddressResponse>

Example for EC2-VPC

This example request allocates an Elastic IP address for use with instances in a VPC.

Sample Request

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

```xml
<AllocateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
(rowIndex>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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
AllocateHosts

Allocates a Dedicated Host to your account. At a minimum, specify the instance size type, Availability Zone, and quantity 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 (p. 1267).

AutoPlacement

This is enabled by default. This property allows instances to be automatically placed onto available Dedicated Hosts, when you are launching instances without specifying a host ID.

- Default: Enabled
- Type: String
- Valid Values: on | off
- Required: No

AvailabilityZone

The Availability Zone for the Dedicated Hosts.

- 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 in the Amazon Elastic Compute Cloud User Guide.

- Type: String
- Required: No

InstanceType

Specify the instance type for which to configure your Dedicated Hosts. When you specify the instance type, that is the only instance type that you can launch onto that host.

- Type: String
- Required: Yes

Quantity

The number of Dedicated Hosts to allocate to your account with these parameters.

- Type: Integer
- Required: Yes

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 Errors (p. 1302).

**Examples**

**Example**

This example allocates a Dedicated Host to your account, on to which you can launch m3.medium instances.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=AllocateHosts
&AvailabilityZone=us-east-1b
&InstanceType=m3.medium
&Quantity=1
&AUTHPARAMS
```

**Sample Response**

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

**Example**

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

**Sample Request**

```
https://ec2.amazonaws.com/?Action=AllocateHosts
&AvailabilityZone=us-east-1b
&InstanceType=m3.medium
&Quantity=1
&AUTOPlacement=off
&AUTHPARAMS
```

**Sample Response**

```
```

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

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

**Ipv6AddressCount**

The number of IPv6 addresses to assign 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**

One or more specific 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

**NetworkInterfaceId**

The ID of the network interface.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

**assignedIpv6Addresses**

The IPv6 addresses assigned to the network interface.

Type: Array of strings

**networkInterfaceId**

The ID of the network interface.

Type: String

**requestId**

The ID of the request.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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=AssignIpv6Addresses
&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

https://ec2.amazonaws.com/?Action=AssignIpv6Addresses
&NetworkInterfaceId=eni-d83388b1
&Ipv6AddressCount=2
&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:db8:1234:1a00:3304:8879:34cf: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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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.

AssignPrivateIpAddresses is available only in EC2-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 (p. 1267).

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

NetworkInterfaceId

The ID of the network interface.

Type: String

Required: Yes

PrivateIpAddress.N

One or more 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.

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 Errors (p. 1302).

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

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

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


Sample Response

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

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

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

Associates an Elastic IP address with an instance or a network interface. Before you can use an Elastic IP address, you must allocate it to your account.

An Elastic IP address is for use in either the EC2-Classic platform or in a VPC. For more information, see Elastic IP Addresses in the Amazon Elastic Compute Cloud User Guide.

[EC2-Classic, VPC in an EC2-VPC-only 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.

[VPC in an EC2-Classic account] If you don't specify a private IP address, the Elastic IP address is associated with the primary IP address. If the Elastic IP address is already associated with a different instance or a network interface, you get an error unless you allow reassociation. You cannot associate an Elastic IP address with an instance or network interface that has an existing Elastic IP address.

**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 (p. 1267).

**AllocationId**

[EC2-VPC] The allocation ID. This is required for EC2-VPC.

Type: String

Required: No

**AllowReassociation**

[EC2-VPC] For a VPC in an EC2-Classic account, specify true to allow an Elastic IP address that is already associated with an instance or network interface to be reassigned with the specified instance or network interface. Otherwise, the operation fails. In a VPC in an EC2-VPC-only account, reassociation is automatic, therefore you can specify false to ensure the operation fails if the Elastic IP address is already associated with another resource.

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
Response Elements

The following elements are returned by the service.

**InstanceId**

The ID of the instance. This is required for EC2-Classic. For EC2-VPC, you can specify either the instance ID or the network interface ID, but not both. The operation fails if you specify an instance ID unless exactly one network interface is attached.

Type: String

Required: No

**NetworkInterfaceId**

[EC2-VPC] The ID of the network interface. If the instance has more than one network interface, you must specify a network interface ID.

Type: String

Required: No

**PrivateIpAddress**

[EC2-VPC] 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**

The Elastic IP address. This is required for EC2-Classic.

Type: String

Required: No

**Response Elements**

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example for EC2-Classic

This example request associates an Elastic IP address with an instance in EC2-Classic.
Sample Request

https://ec2.amazonaws.com/?Action=AssociateAddress
&InstanceId=i-1234567890abcdef0
&PublicIp=192.0.2.1
&AUTHPARAMS

Sample Response

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

Example for EC2-VPC

This example request associates an Elastic IP address with an instance in a VPC. 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

<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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
**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](https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/dhcp-options.html) 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](https://docs.aws.amazon.com/AmazonVPC/latest/APIReference/stringsmithing anv parameter names and types.html).

**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 Errors (p. 1302).

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
See Also

- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
**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](p. 1267).

- **iamInstanceProfile**
  
  The IAM instance profile.
  
  Type: `iamInstanceProfileSpecification (p. 919) 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 (p. 918) object`

- **requestId**
  
  The ID of the request.
  
  Type: String

**Errors**

For information about the errors that are common to all actions, see [Common Client Errors](p. 1302).

**Example**

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

**Sample Request**

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

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

See Also

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

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

Associates a subnet with a route table. The subnet and route table must be in the same VPC. This association causes traffic originating from the subnet 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 from the subnet later. A route table can be associated with multiple subnets.

For more information, see Route Tables 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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

SubnetId

The ID of the subnet.

Type: String
Required: Yes

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

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).
Example

This example associates a route table with the ID rtb-e4ad488d with a subnet with the ID subnet-15ad487c.

Sample Request

https://ec2.amazonaws.com/?Action=AssociateRouteTable
&RouteTableId=rtb-e4ad488d
&SubnetId=subnet-15ad487c

Sample Response

<AssociateRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <associationId>rtbassoc-f8ad4891</associationId>
</AssociateRouteTableResponse>

See Also

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

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

Associates a CIDR block with your subnet. You can only associate a single IPv6 CIDR block with your subnet. An IPv6 CIDR block must have a prefix length of /64.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

**Ipv6CidrBlock**

The IPv6 CIDR block for your subnet. The subnet must have a /64 prefix length.

Type: String

Required: Yes

**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 CIDR block association.

Type: SubnetIpv6CidrBlockAssociation (p. 1186) 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 Errors (p. 1302).

**Example**

**Example**

This example associates IPv6 CIDR block 2001:db8:123a: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

<?xml version="1.0" encoding="UTF-8"?>
<AssociateSubnetCidrBlock xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <subnetId>vpc-1a2b3c4d</subnetId>
  <ipv6CidrBlockAssociation>
    <ipv6CidrBlock>2001:db8:1234:1a00::/64</ipv6CidrBlock>
    <ipv6CidrBlockState>
      <state>associating</state>
    </ipv6CidrBlockState>
    <associationId>subnet-cidr-assoc-3aa54053</associationId>
  </ipv6CidrBlockAssociation>
</AssociateSubnetCidrBlock>

See Also

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

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

Associates a CIDR block with your VPC. You can associate a secondary IPv4 CIDR block, or you can associate an Amazon-provided IPv6 CIDR block. The IPv6 CIDR block size is fixed at /56.

For more information about associating CIDR blocks with your VPC and applicable restrictions, see VPC and Subnet Sizing 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 (p. 1267).

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

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 (p. 1224) object

ipv6CidrBlockAssociation

Information about the IPv6 CIDR block association.

Type: VpcIpv6CidrBlockAssociation (p. 1230) 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 Errors (p. 1302).

**Examples**

**Example 1**

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

**Sample Request**

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

**Sample Response**

```xml
<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**

```plaintext
https://ec2.amazonaws.com/?Action=AssociateVpcCidrBlock
&VpcId=vpc-1a2b3c4d
&CidrBlock=10.2.0.0/16
&AUTHPARAMS
```

**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>
    </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
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
AttachClassicLinkVpc

Attaches an EC2-Classic instance to a ClassicLink-enabled VPC through one or more of the VPC's 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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 an EC2-Classic instance to link to the ClassicLink-enabled VPC.

Type: String

Required: Yes

**SecurityGroupId.N**

The ID of one or more of the VPC's security groups. You cannot specify security groups from a different VPC.

Type: Array of strings

Required: Yes

**VpcId**

The ID of a ClassicLink-enabled VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example

This example links instance i-1234567890abcdef0 to VPC vpc-88888888 through the VPC's security group sg-12312312.

Sample Request

```
https://ec2.amazonaws.com/?Action=AttachClassicLinkVpc
&VpcId=vpc-88888888
&InstanceId=i-1234567890abcdef0
&GroupId.1=sg-12312312
&AUTHPARAMS
```

Sample Response

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

Example

This example links instance i-1234567890abcdef0 to VPC vpc-88888888 through the VPC's security groups sg-12312312 and sg-44455566.

Sample Request

```
https://ec2.amazonaws.com/?Action=AttachClassicLinkVpc
&VpcId=vpc-88888888
&InstanceId=i-1234567890abcdef0
&GroupId.1=sg-12312312
&GroupId.2=sg-44455566
&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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
AttachInternetGateway

Attaches an internet gateway to a VPC, enabling connectivity between the internet and the VPC. For more information about your VPC and internet gateway, see 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).
Example

Example

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

Sample Request

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

Sample Response

<AttachInternetGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLEx</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

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

InstanceId

The ID of the instance.

Type: String

Required: Yes

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

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
**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 may only be attached to instances that support Amazon EBS encryption. For more information, see Amazon EBS Encryption in the Amazon Elastic Compute Cloud User Guide.

For a list of supported device names, see Attaching an EBS Volume to an Instance. Any device names that aren't reserved for instance store volumes can be used for EBS volumes. For more information, see Amazon EC2 Instance Store in the Amazon Elastic Compute Cloud User Guide.

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 about EBS volumes, see Attaching 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 (p. 1267).

**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 Errors (p. 1302).

**Example**

**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

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeId>vol-1234567890abcdef0</volumeId>
  <instanceId>i-1234567890abcdef0</instanceId>
  <device>/dev/sdh</device>
  <status>attaching</status>
  <attachTime>YYYY-MM-DDTHH:MM:SS.000Z</attachTime>
</AttachVolumeResponse>

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 Managed VPN Connections 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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 (p. 1223) object

**requestId**

The ID of the request.

- **Type:** String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).
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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
AuthorizeSecurityGroupEgress

[EC2-VPC only] Adds one or more egress rules to a security group for use with a VPC. Specifically, this action permits instances to send traffic to one or more destination IPv4 or IPv6 CIDR address ranges, or to one or more destination security groups for the same VPC. This action doesn't apply to security groups for use in EC2-Classic. For more information, see Security Groups for Your VPC in the Amazon Virtual Private Cloud User Guide. For more information about security group limits, see Amazon VPC Limits.

Each rule consists of the protocol (for example, TCP), plus either a CIDR range or a source group. 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. You can optionally specify a description for the rule.

Rule changes are propagated to affected instances 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 (p. 1267).

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

One or more 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 (p. 973) 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

**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**

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 Errors (p. 1302).

**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

```
&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=1433
&IpPermissions.1.ToPort=1433
&IpPermissions.1.Groups.1.GroupId=sg-9a8d7f5c
```

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
```

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

```
```
See Also

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

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

Adds one or more ingress rules to a security group.

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

[EC2-Classic] This action gives one or more IPv4 CIDR address ranges permission to access a security group in your account, or gives one or more security groups (called the source groups) permission to access a security group for your account. A source group can be for your own AWS account, or another. You can have up to 100 rules per group.

[EC2-VPC] This action gives one or more IPv4 or IPv6 CIDR address ranges permission to access a security group in your VPC, or gives one or more other security groups (called the source groups) permission to access a security group for your VPC. The security groups must all be for the same VPC or a peer VPC in a VPC peering connection. For more information about VPC security group limits, see Amazon VPC Limits.

You can optionally specify a description for the security group 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 (p. 1267).

CidrIp

The CIDR IPv4 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

The start of port range for the TCP and UDP protocols, or an ICMP/ICMPv6 type number. For the ICMP/ICMPv6 type number, use -1 to specify all types. If you specify all ICMP/ICMPv6 types, you must specify all codes.

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
Request Parameters

Required: No

GroupName

[EC2-Classic, default VPC] The name of the security group. You must specify either the security group ID or the security group name in the request.

Type: String

Required: No

IpPermissions.N

One or more sets of IP permissions. Can be used to specify multiple rules in a single command.

Type: Array of IpPermission (p. 973) objects

Required: No

IpProtocol

The IP protocol name (tcp, udp, icmp) or number (see Protocol Numbers). (VPC only) Use -1 to specify all protocols. If you specify -1, or a protocol number other than tcp, udp, icmp, or 58 (ICMPv6), traffic on all ports is allowed, regardless of any ports you specify. For tcp, udp, and icmp, you must specify a port range. For protocol 58 (ICMPv6), you can optionally specify a port range; if you don't, traffic for all types and codes is allowed.

Type: String

Required: No

SourceSecurityGroupName

[EC2-Classic, 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. For EC2-VPC, the source security group must be in the same VPC.

Type: String

Required: No

SourceSecurityGroupOwnerId

[EC2-Classic] 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

ToPort

The end of port range for the TCP and UDP protocols, or an ICMP/ICMPv6 code number. For the ICMP/ICMPv6 code number, use -1 to specify all codes. If you specify all ICMP/ICMPv6 types, you must specify all codes.

Type: Integer
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 Errors (p. 1302).

Examples

Example 1

[EC2-Classic] This example request grants TCP port 80 access from the 192.0.2.0/24 and 198.51.100.0/24 IPv4 address ranges to the security group in EC2-Classic named websrv.

Sample Request

https://ec2.amazonaws.com/?Action=AuthorizeSecurityGroupIngress
&GroupName=websrv
&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

Example 2

[EC2-Classic, default VPC] This example request grants full ICMP, UDP, and TCP access from a source group called webserver1 (in AWS account 123456789012) to a security group in your account with the ID sg-1a2b3c4d. For EC2-VPC, the group owner ID parameter is not required, and the source security group must be in the same VPC. For an example of granting access to specific protocols and ports, see example 3.

Sample Request

https://ec2.amazonaws.com/?Action=AuthorizeSecurityGroupIngress
&GroupId=sg-1a2b3c4d
&SourceSecurityGroupOwnerId=123456789012
&SourceSecurityGroupName=webserver1

Example 3

[EC2-Classic, default VPC] This example request grants TCP port 80 access from the source group named OtherAccountGroup (in AWS account 123456789012) to the security group named websrv. For EC2-VPC, the user ID parameter is not required, and the source security group must be in the same VPC.

Sample Request

```plaintext
https://ec2.amazonaws.com/?Action=AuthorizeSecurityGroupIngress
&GroupName=websrv
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&IpPermissions.1.Groups.1.GroupName=OtherAccountGroup
&IpPermissions.1.Groups.1.UserId=123456789012
&AUTHPARAMS
```

Example 4

[EC2-VPC] This example request grants TCP port 80 access from the source group sg-2a2b3c4d to the security group sg-1a2b3c4d. In EC2-VPC, you must use the security group IDs in a request, not the security group names. The source security group must be in the same VPC or in a peer VPC (requires a VPC peering connection).

Sample Request

```plaintext
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 5

[EC2-Classic, default VPC] This example request grants your local system the ability to use SSH (port 22) to connect to any instance in the security group named default. For a nondefault VPC, use the GroupId parameter instead.

Sample Request

```plaintext
https://ec2.amazonaws.com/
?Action=AuthorizeSecurityGroupIngress
&GroupName=default
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=22
&IpPermissions.1.ToPort=22
&IpPermissions.1.IpRanges.1.CidrIp=your-local-system's-public-ip-address/32
&AUTHPARAMS
```

Example 6

[EC2-Classic, default VPC] This example request grants your local system the ability to use Remote Desktop (port 3389) to connect to any instance in the security group named default. For a nondefault VPC, use the GroupId parameter instead.
Sample Request

https://ec2.amazonaws.com/?Action=AuthorizeSecurityGroupIngress
&GroupName=default
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=3389
&IpPermissions.1.ToPort=3389
&IpPermissions.1.IpRanges.1.CidrIp=your-local-system's-public-ip-address/32

Example 7

[EC2-VPC] 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 8

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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](p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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

**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](p. 1181) object
Required: Yes

**Response Elements**

The following elements are returned by the service.

**bundleInstanceTask**

Information about the bundle task.

Type: [BundleTask](p. 833) object
requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

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 Managing AWS Access Keys.

Sample Request

https://ec2.amazonaws.com/?Action=BundleInstance
&InstanceId=i-1234567890abcdef0
&Storage.S3.AWSAccessKeyId='AKIAIOSFODNN7EXAMPLE'
&Storage.S3.Bucket=myawsbucket
&Storage.S3.Prefix=winami
&Storage.S3.UploadPolicy=eyJleHBpcmF0aW9uIjogIjIwMDgtMDgtMzBUMDg6NDk6MDlaIiwib2JqIjogIjIwMDgtMDgtMzBUMDg6NDk6MDlaIiwibmF0dGlvbiI6XCJleHBpcmF0aW9uIiwicGx1Z2UgXSJ9.fh5tyyyQD8W4COEthj3nLGEXAMPLE
&AUTHPARAMS

Sample Response

<BundleInstanceResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <bundleInstanceTask>
    <instanceId>i-1234567890abcdef0</instanceId>
    <bundleId>bun-c1a540a8</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
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 (p. 1267).

**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 (p. 833) object

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

**Example**

**Example**

This example request cancels the specified bundle task.

**Sample Request**

https://ec2.amazonaws.com/?Action=CancelBundleTask
Sample Response

```xml
<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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

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 Errors (p. 1302).
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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

ExportTaskId

The ID of the export task. This is the ID returned by CreateInstanceExportTask.

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 Errors (p. 1302).

Example

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

Sample Request

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

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

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.

Type: String

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.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

See Also

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

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

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

For more information, see Reserved Instance Marketplace 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 (p. 1267).

**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 (p. 1091) objects

**Errors**

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

**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

```xml
<CancelReservedInstancesListingResponse>
  <requestId>bec2cf62-98ef-434a-8a15-886fc@example</requestId>
  <reservedInstancesListingsSet>
    <item>
      <reservedInstancesListingId>3ebe97b5-f273-43b6-a204-7a18c@example</reservedInstancesListingId>
      <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0@example</reservedInstancesId>
      <createDate>2012-07-12T16:55:28.000Z</createDate>
      <updateDate>2012-07-12T16:55:28.000Z</updateDate>
      <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>Canceled</state>
          <instanceCount>1</instanceCount>
        </item>
        <item>
          <state>Pending</state>
          <instanceCount>0</instanceCount>
        </item>
      </instanceCounts>
      <priceSchedules>
        <item>
          <term>5</term>
          <price>166.64</price>
          <currencyCode>USD</currencyCode>
          <active>false</active>
        </item>
        <item>
          <term>4</term>
          <price>133.32</price>
          <currencyCode>USD</currencyCode>
          <active>false</active>
        </item>
        <item>
          <term>3</term>
          <price>99.99</price>
          <currencyCode>USD</currencyCode>
          <active>false</active>
        </item>
        <item>
          <term>2</term>
          <price>66.66</price>
          <currencyCode>USD</currencyCode>
          <active>false</active>
        </item>
        <item>
          <term>1</term>
          <price>33.33</price>
          <currencyCode>USD</currencyCode>
          <active>false</active>
        </item>
      </priceSchedules>
    </item>
  </reservedInstancesListingsSet>
  <tagSet/>
  <clientToken>XqJ1t1342112125076</clientToken>
</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CancelSpotFleetRequests

Cancels the specified Spot Fleet requests.

After you cancel a Spot Fleet request, the Spot Fleet launches no new Spot Instances. You must specify whether the Spot Fleet should also terminate its Spot Instances. If you 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 instances for a Spot Fleet request if it is canceled successfully.

Type: Boolean

Required: Yes

**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.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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

```
  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**DryRun**
Checks whether you have the required permissions for the action, without actually making the request, 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**
One or more Spot Instance request 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

- **spotInstanceRequestSet**
  - One or more Spot Instance requests.
  - **Type:** Array of CancelledSpotInstanceRequest (p. 836) objects

**Errors**

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

**Example**

This example cancels the specified Spot Instance request.
Sample Request

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

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <spotInstanceRequestSet>
    <item>
      <spotInstanceRequestId>sir-1a2b3c4d</spotInstanceRequestId>
      <state>cancelled</state>
    </item>
  </spotInstanceRequestSet>
</CancelSpotInstanceRequestsResponse>

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).

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>
  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**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 Errors (p. 1302).

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CopyImage

Initiates the copy of an AMI from the specified source region to the current region. You specify the destination region by using its endpoint when making the request.

For more information about the prerequisites and limits when copying an AMI, see Copying an 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 (p. 1267).

ClientToken

Unique, case-sensitive identifier you provide to ensure idempotency of the request. For more information, see How to Ensure Idempotency in the Amazon Elastic Compute Cloud User Guide.

Type: String
Required: No

Description

A description for the new AMI in the destination 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

Encrypted

Specifies whether the destination snapshots of the copied image should be encrypted. The default CMK for EBS is used unless a non-default AWS Key Management Service (AWS KMS) CMK is specified with 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 AWS Key Management Service (AWS KMS) customer master key (CMK) to use when creating the encrypted volume. This parameter is only required if you want to use a non-default CMK; if this parameter is not specified, the default CMK for EBS is used. If a KmsKeyId is specified, the Encrypted flag must also be set.

The CMK identifier may be provided in any of the following formats:

• Key ID
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 Errors (p. 1302).
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

```xml
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

```xml
  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CopySnapshot

Copies a point-in-time snapshot of an EBS volume and stores it in Amazon S3. You can copy the snapshot within the same region or from one region to another. You can use the snapshot to create EBS volumes or Amazon Machine Images (AMIs). The snapshot is copied to the regional endpoint that you send the HTTP request to.

Copies of encrypted EBS snapshots remain encrypted. Copies of unencrypted snapshots remain unencrypted, unless the Encrypted flag is specified during the snapshot copy operation. By default, encrypted snapshot copies use the default AWS Key Management Service (AWS KMS) customer master key (CMK); however, you can specify a non-default CMK with the KmsKeyId parameter.

To copy an encrypted snapshot that has been shared from another account, you must have permissions for the CMK used to encrypt the snapshot.

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

For more information, see Copying 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 (p. 1267).

Description

A description for the EBS snapshot.

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

Specifies whether the destination snapshot should be encrypted. You can encrypt a copy of an unencrypted snapshot using this flag, but you cannot use it to create an unencrypted copy from an
encrypted snapshot. Your default CMK for EBS is used unless a non-default AWS Key Management Service (AWS KMS) CMK is specified with 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 AWS Key Management Service (AWS KMS) customer master key (CMK) to use when creating the encrypted volume. This parameter is only required if you want to use a non-default CMK; if this parameter is not specified, the default CMK for EBS is used. If a KmsKeyId is specified, the Encrypted flag must also be set.

The CMK 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 CMK, the AWS account ID of the CMK owner, the key namespace, and then the CMK 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 CMK, the AWS account ID of the CMK owner, the alias namespace, and then the CMK 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. The action will eventually fail.

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 by 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
Required: No

**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.
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

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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%3A21077411744%3Akey%2FEXAMPLE-24bc-479b-a9da-7132eEXAMPLE
&Action=CopySnapshot
&Encrypted=true
&DestinationRegion=us-east-1
&AUTHPARAMS

Sample Response

  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateCustomerGateway

Provides information to AWS about your VPN customer gateway device. The customer gateway is the appliance at your end of the VPN connection. (The device on the AWS side of the VPN connection is the virtual private gateway.) You must provide the Internet-routable IP address of the customer gateway's external interface. The IP address must be static and may 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 (in the 64512 - 65534 range).

**Note**

Amazon EC2 supports all 2-byte ASN numbers in the range of 1 - 65534, with the exception of 7224, which is reserved in the us-east-1 region, and 9059, which is reserved in the eu-west-1 region.

For more information about VPN customer gateways, see AWS Managed VPN Connections in the Amazon Virtual Private Cloud User Guide.

**Important**

You cannot create more than one customer gateway with the same VPN type, IP address, and BGP ASN parameter values. If you run an identical request more than one time, the first request creates the customer gateway, and subsequent requests return information about the existing customer gateway. The subsequent requests do not create new customer gateway 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 (p. 1267).

**BgpAsn**

For devices that support BGP, the customer gateway's BGP ASN.

Default: 65000

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

**IpAddress**

The Internet-routable IP address for the customer gateway's outside interface. The address must be static.

Type: String

Required: Yes
Amazon Elastic Compute Cloud API Reference

Response Elements

Type

The type of VPN connection that this customer gateway supports (ipsec.1).

Type: String

Valid Values: ipsec.1

Required: Yes

Response Elements

The following elements are returned by the service.

`customerGateway`

Information about the customer gateway.

Type: `CustomerGateway (p. 856)` object

`requestId`

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see `Common Client Errors (p. 1302)`.

Example

Example

This example passes information to AWS about the customer gateway with 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

AUTHPARAMS
```

Sample Response

```
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <customerGateway>
    <customerGatewayId.cgw-b4dc3961</customerGatewayId>
    <state>pending</state>
    <type>ipsec.1</type>
    <ipAddress>12.1.2.3</ipAddress>
    <bgpAsn>65534</bgpAsn>
  <tagSet/>
```

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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 Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 Creating a Default Subnet 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 (p. 1267).

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

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 (p. 1183) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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&AUTHPARAMS

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-111f7123</subnetId>
    <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 VPC and Default Subnets in the Amazon Virtual Private Cloud 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.

If your account supports EC2-Classic, you cannot use this action to create a default VPC in a Region that supports EC2-Classic. If you want a default VPC in a Region that supports EC2-Classic, see "I really want a default VPC for my existing EC2 account. Is that possible?" in the Default VPCs FAQ.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 (p. 1221) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

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/>
  </vpc>
  <vpcId>vpc-3f139646</vpcId>
</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 to 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, MyCompany.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 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 (p. 1267).

**DhcpConfiguration.N**

A DHCP configuration option.

Type: Array of NewDhcpConfiguration (p. 1047) 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
Response Elements

The following elements are returned by the service.

dhcpOptions

A set of DHCP options.
Type: DhcpOptions (p. 864) object

requestId

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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=example.com
&DhcpConfiguration.2.Key=domain-name-servers
&DhcpConfiguration.2.Value=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-7a8b9c2d</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>
      </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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**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

**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 (p. 874) object

**requestId**

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateFleet

Launches an EC2 Fleet.

You can create a single EC2 Fleet that includes multiple launch specifications that vary by instance type, AMI, Availability Zone, or subnet.

For more information, see Launching an EC2 Fleet 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 (p. 1267).

ClientToken

Unique, case-sensitive identifier you provide to ensure 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

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.

Type: String

Valid Values: no-termination | termination

Required: No

LaunchTemplateConfigs.N

The configuration for the EC2 Fleet.

Type: Array of FleetLaunchTemplateConfigRequest (p. 892) objects

Array Members: Maximum number of 50 items.

Required: Yes

OnDemandOptions

The allocation strategy of On-Demand Instances in an EC2 Fleet.

Type: OnDemandOptionsRequest (p. 1049) object

Required: No
ReplaceUnhealthyInstances

Indicates whether EC2 Fleet should replace unhealthy instances.

Type: Boolean

Required: No

SpotOptions

Describes the configuration of Spot Instances in an EC2 Fleet.

Type: SpotOptionsRequest (p. 1172) object

Required: No

TagSpecification.N

The key-value pair for tagging the EC2 Fleet request on creation. The value for ResourceType must be fleet, otherwise the fleet request fails. To tag instances at launch, specify the tags in the launch template. For information about tagging after launch, see Tagging Your Resources.

Type: Array of TagSpecification (p. 1190) objects

Required: No

TargetCapacitySpecification

The TotalTargetCapacity, OnDemandTargetCapacity, SpotTargetCapacity, and DefaultCapacityType structure.

Type: TargetCapacitySpecificationRequest (p. 1192) object

Required: Yes

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 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

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
Response Elements

The following elements are returned by the service.

fleetId
The ID of the EC2 Fleet.
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 Errors (p. 1302).

Example

Example

This example creates an EC2 Fleet with a target capacity of 100 instances, of which 70 are specified as On-Demand Instances, and the balance are Spot Instances.

Sample Request

```xml
https://ec2.amazonaws.com/?Action=CreateFleet
&FleetRequestConfig.IamFleetRole=arn:aws:iam::123456789011:role/fleet-role
&FleetRequestConfig.LaunchTemplateName=ABC123
&FleetRequestConfig.TotalTargetCapacity=100
&FleetRequestConfig.OnDemandTargetCapacity=70
&FleetRequestConfig.InstanceTypes=c3.large, c4.large, c5.large
&FleetRequestConfig.DefaultTargetCapacity=Spot
&AUTHPARAMS
```

Sample Response

```xml
<CreateFleetResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>60262cc5-2bd4-4c8d-98ed-example</requestId>
  <fleetId>fleet-123f8fc2-cb31-425e-abcd-example2710</fleetId>
</CreateFleetResponse>
```
See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

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

DeliverLogsPermissionArn

The ARN for the IAM role that's used to post flow logs to a log 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

LogDestination

Specifies the destination to which the flow log data is to be published. Flow log data can be published to an CloudWatch Logs log group or an Amazon S3 bucket. The value specified for this parameter depends on the value specified for LogDestinationType.

If LogDestinationType is not specified or cloud-watch-logs, specify the Amazon Resource Name (ARN) of the CloudWatch Logs log group.

If LogDestinationType is s3, specify the ARN of the Amazon S3 bucket. You can also specify a subfolder in the bucket. To specify a subfolder in the bucket, use the following ARN format: bucket_ARN/subfolder_name/. For example, to specify a subfolder named my-logs in a bucket named my-bucket, use the following ARN: arn:aws:s3:::my-bucket/my-logs/.
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.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example 1

This example creates a flow log that captures all rejected traffic for network interface eni-aa22bb33 and publishes the data to an 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

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

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 one or more 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 (p. 1267).

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 (p. 1182) object
Required: Yes

LogsStorageLocation

The location in Amazon S3 for the output logs.

Type: StorageLocation (p. 1182) object
Required: No

Name

A name for the AFI.

Type: String
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 Errors (p. 1302).

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
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
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 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 Creating Amazon EBS-Backed Linux AMIs 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 (p. 1267).

**BlockDeviceMapping.N**

Information about one or more block device mappings.

Type: Array of BlockDeviceMapping (p. 832) objects

Required: No

**Description**

A description for the new image.

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**

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

By default, Amazon EC2 attempts to shut down and reboot the instance before creating the image. If the 'No Reboot' option is set, Amazon EC2 doesn't shut down the instance before creating the image. When this option is used, file system integrity on the created image can't be guaranteed.

Type: Boolean
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 Errors (p. 1302).

Examples

Example

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

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>

See Also

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

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

Exports a running or stopped instance to an S3 bucket.

For information about the 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 (p. 1267).

Description

A description for the conversion task or the resource being exported. The maximum length is 255 bytes.

Type: String

Required: No

ExportToS3

The format and location for an instance export task.

Type: ExportToS3TaskSpecification (p. 886) object

Required: No

InstanceId

The ID of the instance.

Type: String

Required: Yes

TargetEnvironment

The target virtualization environment.

Type: String

Valid Values: citrix | vmware | microsoft

Required: No

Response Elements

The following elements are returned by the service.

exportTask

Information about the instance export task.

Type: ExportTask (p. 883) object

requestId

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

This example request creates an Export VM task that makes a Windows instance available as an OVA.

Sample Request

```plaintext
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
See Also

- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateInternetGateway

Creates an internet gateway for use with a VPC. After creating the internet gateway, you attach it to a VPC using AttachInternetGateway (p. 54).

For more information about your VPC and internet gateway, see the Amazon Virtual Private Cloud User Guide.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

internetGateway

Information about the internet gateway.

Type: InternetGateway (p. 971) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

This example creates an internet gateway.

Sample Request

https://ec2.amazonaws.com/?Action=CreateInternetGateway
&AUTHPARAMS
Sample Response

```xml
<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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateKeyPair

Creates a 2048-bit RSA key pair with the specified name. 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. If a key with the specified name already exists, Amazon EC2 returns an error.

You can have up to five thousand key pairs per region.

The key pair returned to you is available only in the 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 (p. 641).

For more information, see 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

Constraints: Up to 255 ASCII characters

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

keyFingerprint

The SHA-1 digest of the DER encoded private key.

Type: String

keyMaterial

An unencrypted PEM encoded RSA private key.

Type: String

keyName

The name of the key pair.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example

This example request creates a key pair named my-key-pair.

Sample Request

https://ec2.amazonaws.com/?Action=CreateKeyPair
&KeyName=my-key-pair
&AUTHPARAMS

Sample Response

<CreateKeyPairResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>1b5b5bcf-3670-4c16-83d7-c2c9example</requestId>
  <keyName>my-key-pair</keyName>
  <keyFingerprint>
  </keyFingerprint>
  <keyMaterial>---- BEGIN RSA PRIVATE KEY ----
    MIICiTCCAfICCQD6m7oU0xOJANBgkhkkiG9w0BAQFAQ/FADBQiDELMAkGA1UEBhMC
    VVMxCSzAjbGNVBAgTAldDMRAwDgYDVQQHEw9wTWF0dGxlMQ8wDQYDVQQKEwZbWF6
    b24xPDASBGNVBSCTCBD6BD25zb2x1MR1wEAYDVQDoEmEuUZWNQ21eYW5HdAd
    BgkqhkiG9w0BCQEWEGSv25b1QGFTYXvpb15jb20WkCvNMEdW11MyJd9N1WwhcN
    v02WnD1OmJGqNTJxWjC1DELMAtkGA1UEBhMCVVMxCSzAjbGNVBAgTAldBMRAwDgYD
    VQQHEw9wTWF0dGxlMQ8wDQYDVQQKEwZbWF6b24xPDASBGNVBSCTCBD6BD25zb
    b2x1MR1wEAYDVQDoEmEuUZWNQ21eYW5HdAdBgkqhkiG9w0BCQEWEGSv25b1QGFT
    YXvpb15jb20WqgZ8wDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAMaK0dn+a48uWfV
    21uUSfWf3DrEyS5C2xXAD4zN+B+LYyVI4sZThirdKeyPairMaterial
    ----- BEGIN RSA PRIVATE KEY -----</keyMaterial>
</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 that you launched 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

```bash
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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateLaunchTemplate

Creates a launch template. A launch template contains the parameters to launch an instance. When you launch an instance using RunInstances (p. 781), you can specify a launch template instead of providing the launch parameters 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 (p. 1267).

ClientToken

Unique, case-sensitive identifier you provide to ensure 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

LaunchTemplateData

The information for the launch template.

Type: RequestLaunchTemplateData (p. 1073) object

Required: Yes

LaunchTemplateName

A name for the launch template.

Type: String


Pattern: [a-zA-Z0-9\(\)\./\-]+

Required: Yes

VersionDescription

A description for the first version of the launch template.

Type: String

Length Constraints: Maximum length of 255.

Required: No
Response Elements

The following elements are returned by the service.

launchTemplate

Information about the launch template.

Type: LaunchTemplate (p. 984) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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

Sample Response

<CreateLaunchTemplateResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>39f602bc-7580-4239-a6d8-af56example</requestId>
  <launchTemplate>
    <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>
  </launchTemplate>
</CreateLaunchTemplateResponse>

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

See Also

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

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

Creates a new version for 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.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

ClientToken

Unique, case-sensitive identifier you provide to ensure 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

LaunchTemplateData

The information for the launch template.

Type: RequestLaunchTemplateData (p. 1073) object
Required: Yes

LaunchTemplateId

The ID of the launch template. You must specify either the launch template ID or launch template name in the request.

Type: String
Required: No

LaunchTemplateName

The name of the launch template. You must specify either the launch template ID or launch template name in the request.

Type: String
Pattern: [a-zA-Z0-9\(\)\.-/_]+
Required: No
Response Elements

The following elements are returned by the service.

**launchTemplateVersion**

Information about the launch template version.

- **Type:** LaunchTemplateVersion (p. 1018) object

**requestId**

The ID of the request.

- **Type:** String

**Errors**

For information about the errors that are common to all actions, see [Common Client Errors (p. 1302)](https://docs.aws.amazon.com/AmazonElasticCloudHostedServices/latest/UserGuide/API-Error-Reference.html).

**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**

```plaintext
https://ec2.amazonaws.com/?Action=CreateLaunchTemplate
&SourceVersion=2
&LaunchTemplateName=MyLaunchTemplate
&VersionDescription=VersionWithNewAMI
&LaunchTemplateData.ImageId=ami-aabbccdd
&AUTHPARAMS
```
Sample Response

```xml
  <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>
    <launchTemplateId>lt-0a20c965061f6454a</launchTemplateId>
    <launchTemplateName>MyLaunchTemplate</launchTemplateName>
    <versionDescription>VersionWithNewAMI</versionDescription>
    <versionNumber>4</versionNumber>
  </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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateNatGateway

Creates a NAT gateway in the specified public subnet. This action creates a network interface in the specified subnet with a private IP address from the IP address range of the subnet. Internet-bound traffic from a private subnet can be routed to the NAT gateway, therefore enabling instances in the private subnet to connect to the internet. For more information, see NAT Gateways 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 (p. 1267).

AllocationId

The allocation ID of an Elastic IP address to associate with the NAT gateway. If the Elastic IP address is associated with another resource, you must first disassociate it.

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.

Constraint: Maximum 64 ASCII characters.

Type: String
Required: No

SubnetId

The subnet in which to create the NAT gateway.

Type: String
Required: Yes

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 (p. 1026) object

requestId

The ID of the request.
Type: String

**Errors**

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

**Example**

This example creates a NAT gateway in subnet subnet-1a2b3c4d and associates the Elastic IP address (with the allocation ID eipalloc-37fc1a52) to the NAT gateway.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=CreateNatGateway
&SubnetId=subnet-1a2b3c4d
&AllocationId=eipalloc-37fc1a52
```

**Sample Response**

```
  <requestId>1b74dc5c-bcda-403f-867d-example</requestId>
  <natGateway>
    <subnetId>subnet-1a2b3c4d</subnetId>
    <natGatewayAddressSet>
      <item>
        <allocationId>eipalloc-37fc1a52</allocationId>
      </item>
    </natGatewayAddressSet>
    <createTime>2015-11-25T14:00:55.416Z</createTime>
    <vpcId>vpc-4e20d42b</vpcId>
    <natGatewayId>nat-04e77a5e9c34432f9</natGatewayId>
    <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

networkAcl

Information about the network ACL.

Type: NetworkAcl (p. 1030) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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>
      <item>
        <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
See Also

- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 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 (p. 1267).

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 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 the ICMP protocol, or protocol 58 (ICMPv6) with an IPv6 CIDR block.

Type: IcmpTypeCode (p. 920) object

Required: No

Ipv6CidrBlock

The IPv6 network range to allow or deny, in CIDR notation (for example 2001:db8:1234:1a00::/64).
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 Errors (p. 1302).

Examples

Example 1

This example creates an entry with rule number 110 in the network ACL with the ID acl-2cb85d45. The rule allows ingress traffic from any IPv4 address (0.0.0.0/0) on UDP port 53.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateNetworkAclEntry
&NetworkAclId=acl-2cb85d45
&RuleNumber=110
&Protocol=udp
&RuleAction=allow
&Egress=false
&CidrBlock=0.0.0.0/0
&PortRange.From=53
&PortRange.To=53
```

Sample Response

```
<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 network ACL with the ID acl-2cb85d45. The rule allows ingress traffic from any IPv6 address (::/0) on TCP port 80.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateNetworkAclEntry
&NetworkAclId=acl-2cb85d45
&RuleNumber=120
&Protocol=tcp
&RuleAction=allow
&Egress=false
&Ipv6CidrBlock=::/0
&PortRange.From=80
&PortRange.To=80
```

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
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateNetworkInterface

Creates a network interface in the specified subnet.

For more information about network interfaces, see Elastic Network Interfaces 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 (p. 1267).

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

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. If your subnet has the AssignIpv6AddressOnCreation attribute set to true, you can specify 0 to override this setting.

Type: Integer

Required: No

Ipv6Addresses.N

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 InstanceIpv6Address (p. 951) objects

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
PrivatelpIpAddresses.N

One or more private IPv4 addresses.

Type: Array of PrivatelpIpAddressSpecification (p. 1063) objects

Required: No

SecondaryPrivatelpIpAddressCount

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.

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.

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

Response Elements

The following elements are returned by the service.

networkInterface

Information about the network interface.

Type: NetworkInterface (p. 1035) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).
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
&AUTHPARAMS

Sample Response

  <requestId>8dbe591e-5a22-48cb-b948-example</requestId>
  <networkInterface>
    <networkInterfaceId>eni-cfca76a6</networkInterfaceId>
    <subnetId>subnet-b2a249da</subnetId>
    <vpcId>vpc-c31dafa6</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>
    <tagSet/>
    <privateIpAddressesSet>
      <item>
        <privateIpAddress>10.0.2.157</privateIpAddress>
        <privateDnsName>ip-10-0-2-157.ap-southeast-1.compute.internal</privateDnsName>
        <primary>true</primary>
      </item>
    </privateIpAddressesSet>
  </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

API Version 2016-11-15
153
&SecondaryPrivateIpAddressCount=4
&SubnetId=subnet-a61dafcf
&AUTHPARAMS

Sample Response

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
  <requestId>bd78c839-0895-4fac-a17f-example</requestId>
  <networkInterface>
    <networkInterfaceId>eni-1bcb7772</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:b0:70:7f:1a</macAddress>
    <privateIpAddress>10.0.2.140</privateIpAddress>
    <sourceDestCheck>true</sourceDestCheck>
    <groupSet>
      <item>
        <groupId>sg-1a2b3c4d</groupId>
        <groupName>default</groupName>
      </item>
    </groupSet>
    <tagSet/>
    <privateIpAddressesSet>
      <item>
        <privateIpAddress>10.0.2.140</privateIpAddress>
        <primary>true</primary>
      </item>
      <item>
        <privateIpAddress>10.0.2.172</privateIpAddress>
        <primary>false</primary>
      </item>
      <item>
        <privateIpAddress>10.0.2.169</privateIpAddress>
        <primary>false</primary>
      </item>
      <item>
        <privateIpAddress>10.0.2.170</privateIpAddress>
        <primary>false</primary>
      </item>
      <item>
        <privateIpAddress>10.0.2.171</privateIpAddress>
        <primary>false</primary>
      </item>
    </privateIpAddressesSet>
    <ipv6AddressesSet/>
  </networkInterface>
</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
&PrivateIpAddresses.1.Primary=true
```
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

```xml
https://ec2.amazonaws.com/?Action=CreateNetworkInterface
&PrivateIpAddresses.1.Primary=true
&PrivateIpAddresses.1.PrivateIpAddress=10.0.2.130
&Ipv6AddressCount=2
&SubnetId=subnet-a61dafcf
&EUTHPARAMS
```

Sample Response

```xml
  <requestId>a9565e4c-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>
        <groupName>default</groupName>
      </item>
    </groupSet>
    <tagSet/>
    <privateIpAddressesSet>
      <item>
        <privateIpAddress>10.0.2.130</privateIpAddress>
        <primary>true</primary>
      </item>
      <ipv6AddressesSet>
        <item>
          <ipv6Address>2001:db8:1234:1a00::123</ipv6Address>
        </item>
        <item>
          <ipv6Address>2001:db8:1234:1a00::456</ipv6Address>
        </item>
      </ipv6AddressesSet>
    </privateIpAddressesSet>
  </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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**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 (p. 1043) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

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

  <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
See Also

- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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.

For more information, see Placement Groups 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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: Yes

Strategy

The placement strategy.

Type: String

Valid Values: cluster | spread

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 Errors (p. 1302).

Example

This example creates a cluster placement group named XYZ-cluster.

Sample Request

https://ec2.amazonaws.com/?Action=CreatePlacementGroup
&GroupName=XYZ-cluster
&Strategy=cluster
&AUTHPARAMS

Sample Response

<?xml version="1.0" encoding="UTF-8"?>
  <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE"</requestId>
  <return>true</return>
</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 446) operation.

**Note**

Only Standard Reserved Instances with a capacity reservation can be sold in the Reserved Instance Marketplace. Convertible Reserved Instances and Standard Reserved Instances with a regional benefit 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 (p. 450) operation.

For more information, see Reserved Instance Marketplace 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 (p. 1267).

**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.N**

A list specifying the price of the Standard Reserved Instance for each month remaining in the Reserved Instance term.

Type: Array of PriceScheduleSpecification (p. 1060) objects

Required: Yes

**ReservedInstancesId**

The ID of the active Standard Reserved Instance.
Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**reservedInstancesListingsSet**

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 Errors (p. 1302).

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-335a-4e9e-b291-bd18dexample</requestId>
  <reservedInstancesListingsSet>
    <item>
      <!-- Reserved Instances Listings item details -->
    </item>
  </reservedInstancesListingsSet>
</CreateReservedInstancesListingResponse>
```
<reservedInstancesListingId>5ec28771-05ff-4b9b-aa31-9e57dEXAMPLE</reservedInstancesListingId>
<reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesId>
<createDate>2012-07-17T11:11:09.449Z</createDate>
<updateDate>2012-07-17T11:11:09.468Z</updateDate>
<status>active</status>
<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>
  <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>1.5</price>
    <currencyCode>USD</currencyCode>
    <active>false</active>
  </item>
  <item>
    <term>2</term>
    <price>1.5</price>
    <currencyCode>USD</currencyCode>
    <active>false</active>
  </item>
  <item>
    <term>1</term>
    <price>1.5</price>
    <currencyCode>USD</currencyCode>
    <active>false</active>
  </item>
</priceSchedules>
<active>false</active>
</item>
</item>
<item>
<term>4</term>
<price>1.5</price>
<currencyCode>USD</currencyCode>
<active>false</active>
</item>
</item>
<item>
<term>3</term>
<price>0.7</price>
<currencyCode>USD</currencyCode>
<active>false</active>
</item>
</item>
<item>
<term>2</term>
<price>0.7</price>
<currencyCode>USD</currencyCode>
<active>false</active>
</item>
</item>
<item>
<term>1</term>
<price>0.1</price>
<currencyCode>USD</currencyCode>
<active>false</active>
</item>
</item>
</priceSchedules>
<tagSet/>
</clientToken>myIdempToken1</clientToken>
</item>
</reservedInstancesListingsSet>
</CreateReservedInstancesListingResponse>

See Also

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

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

Create a route in a route table within a VPC.

You must specify one of the following targets: internet gateway or virtual private gateway, NAT instance, NAT gateway, VPC peering connection, network interface, or egress-only internet gateway.

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 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 (p. 1267).

**DestinationCidrBlock**

The IPv4 CIDR address block used for the destination match. Routing decisions are based on the most specific match.

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

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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
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 Errors (p. 1302).

Examples

Example 1

This example creates a route in the route table with the ID rtb-e4ad488d. 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-e4ad488d
&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-g8ff4ea2. 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-g8ff4ea2
&DestinationCidrBlock=0.0.0.0/0
&InstanceId=i-1234567890abcdef0
&AUTHPARAMS

Example 3

This example creates a route in route table rtb-g8ff4ea2. 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-g8ff4ea2
&DestinationCidrBlock=10.0.0.0/16
&VpcPeeringConnectionId=pcx-111aaa22
&AUTHPARAMS

Example 4

This example creates a route in route table rtb-g8ff4ea2. The route sends all IPv6 traffic ::/0 to an egress-only internet gateway.
Sample Request

https://ec2.amazonaws.com/?Action=CreateRoute
&RouteTableId=rtb-g8ff4ea2
&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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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

**routeTable**

Information about the route table.

Type: RouteTable (p. 1106) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

**Example 1**

This example creates a route table for the VPC with the ID vpc-11ad4@78. 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-11ad4878
&AUTHPARAMS

Sample Response

```
<CreateRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <routeTable>
    <routeTableId>rtb-f9ad4890</routeTableId>
    <vpcId>vpc-11ad4878</vpcId>
    <routeSet>
      <item>
        <destinationCidrBlock>10.0.0.0/22</destinationCidrBlock>
        <gatewayId>local</gatewayId>
        <state>active</state>
      </item>
    </routeSet>
    <associationSet/>
    <tagSet/>
  </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>
      </item>
      <item>
        <destinationIpv6CidrBlock>2001:db8:1234:1a00::/56</destinationIpv6CidrBlock>
        <gatewayId>local</gatewayId>
        <state>active</state>
      </item>
    </routeSet>
    <associationSet/>
  </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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateSecurityGroup

Creates a security group.

A security group is for use with instances either in the EC2-Classic platform or in a specific VPC. 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.

Important
EC2-Classic: You can have up to 500 security groups.
EC2-VPC: You can create up to 500 security groups per VPC.

When you create a security group, you specify a friendly name of your choice. You can have a security group for use in EC2-Classic with the same name as a security group for use in a VPC. However, you can’t have two security groups for use in EC2-Classic with the same name or two security groups for use in a VPC with the same name.

You have a default security group for use in EC2-Classic and 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 (p. 67), AuthorizeSecurityGroupEgress (p. 63), RevokeSecurityGroupIngress (p. 777), and RevokeSecurityGroupEgress (p. 773).

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 security group.

Constraints: Up to 255 characters in length. Cannot start with sg-.
Constraints for EC2-Classic: ASCII characters
Constraints for EC2-VPC: a-z, A-Z, 0-9, spaces, and _-:/()#,@\+&;{}!*$

Type: String
Required: Yes

VpcId
[EC2-VPC] The ID of the VPC. Required for EC2-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

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example for EC2-Classic

This example creates a security group named websrv for EC2-Classic.

Sample Request

https://ec2.amazonaws.com/?Action=CreateSecurityGroup
&GroupName=websrv
&GroupDescription=Web Servers
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
  <groupId>sg-1a2b3c4d</groupId>
</CreateSecurityGroupResponse>
Example for EC2-VPC

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
&AUTHPARAMS
```

Sample Response

```
  <requestId>59dbff89-35bd-4eac-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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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.

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 EBS volume at the time the snapshot command is issued; this may 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.

To create a snapshot for EBS volumes that serve as root devices, you should 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 Tagging 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 (p. 1267).

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

TagSpecification.N

The tags to apply to the snapshot during creation.

Type: Array of TagSpecification (p. 1190) objects
Required: No
Volumeld
The ID of the 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 the DescribeSnapshots (p. 489) API operation.
Type: String
description
The description for the snapshot.
Type: String
encrypted
Indicates whether the snapshot is encrypted.
Type: Boolean
kmsKeyId
The full ARN of the AWS Key Management Service (AWS KMS) customer master key (CMK) that was used to protect the volume encryption key for the parent volume.
Type: String
ownerAlias
Value from an Amazon-maintained list (amazon | aws-marketplace | microsoft) of snapshot owners. Not to be confused with the user-configured AWS account alias, which is set from the IAM console.
Type: String
ownerId
The AWS account ID of the EBS snapshot owner.
Type: String
progress
The progress of the snapshot, as a percentage.
Type: String
requestId
The ID of the request.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

Example

This example creates a snapshot of the volume with the ID vol-1234567890abcdef0.

Sample Request

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 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 (p. 1267).

Bucket

The Amazon S3 bucket in which to store the Spot Instance data feed.

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

A 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 (p. 1151) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).
Example

Example

This example creates a Spot Instance data feed for the account.

Sample Request

https://ec2.amazonaws.com/?Action=CreateSpotDatafeedSubscription
&Bucket=my-s3-bucket
&AUTH_PARAMS

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateSubnet

Creates a subnet in an existing VPC.

When you create each subnet, you provide the VPC ID and IPv4 CIDR block for the subnet. After you create a subnet, you can't change its CIDR block. The size of the subnet's IPv4 CIDR block can be the same as a VPC's IPv4 CIDR block, or a subset of a VPC's IPv4 CIDR block. If you create more than one subnet in a VPC, the subnets' CIDR blocks must not overlap. The smallest IPv4 subnet (and VPC) you can create uses a /28 netmask (16 IPv4 addresses), and the largest uses a /16 netmask (65,536 IPv4 addresses).

If you've associated an IPv6 CIDR block with your VPC, you can create a subnet with an IPv6 CIDR block that uses a /64 prefix length.

Important
AWS reserves both the first four and the last IPv4 address in each subnet's CIDR block. They're not available for use.

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.

If you launch an instance in a VPC using an Amazon EBS-backed AMI, the IP address doesn't change if you stop and restart the instance (unlike a similar instance launched outside a VPC, which gets a new IP address when restarted). 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 about subnets, see Your VPC and Subnets 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 (p. 1267).

AvailabilityZone

The Availability Zone for the subnet.

Default: AWS selects one for you. If you create more than one subnet in your VPC, we may not necessarily select a different zone for each subnet.

Type: String
Required: No

CidrBlock

The IPv4 network range for the subnet, in CIDR notation. For example, 10.0.0.0/24.

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
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 (p. 1183) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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
&CidrBlock=10.0.1.0/24
&AUTHPARAMS

Sample Response

<CreateSubnetResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
:requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
<subnet>
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-1a2b3c4d
&CidrBlock=10.0.1.0/24
&Ipv6CidrBlock=2001:db8:1234:1a00::/64
&AUTHPARAMS

Sample Response

<CreateSubnetResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <subnet>
    <subnetId>subnet-9d4a7b6c</subnetId>
    <state>pending</state>
    <vpcId>vpc-1a2b3c4d</vpcId>
    <cidrBlock>10.0.1.0/24</cidrBlock>
    <ipv6CidrBlockAssociationSet>
      <item>
        <ipv6CidrBlock>2001:db8:1234:1a00::/64</ipv6CidrBlock>
        <associationId>subnet-cidr-assoc-ababab</associationId>
        <ipv6CidrBlockState>
          <state>ASSOCIATING</state>
        </ipv6CidrBlockState>
      </item>
    </ipv6CidrBlockAssociationSet>
    <availableIpAddressCount>251</availableIpAddressCount>
    <availabilityZone>us-east-1a</availabilityZone>
    <defaultForAz>false</defaultForAz>
    <assignIpv6AddressOnLaunch>false</assignIpv6AddressOnLaunch>
    <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++
See Also

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateTags

Adds or overwrites one or more tags for the specified Amazon EC2 resource or resources. 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 Tagging Your 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 one or more resources to tag. For example, ami-1a2b3c4d.

Type: Array of strings

Required: Yes

Tag.N

One or more 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 (p. 1188) 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 Errors (p. 1302).

Example

Example

This example request adds (or overwrites) two tags for an AMI and an instance. One of the tags is just 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
&AUTHPARAMS

Sample Response

<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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateVolume

Creates an EBS volume that can be attached to an instance in the same Availability Zone. The volume is created in the regional endpoint that you send the HTTP request to. For more information see Regions and Endpoints.

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 with the Encrypted parameter. Encrypted volumes may only 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 Tagging Your Amazon EC2 Resources in the Amazon Elastic Compute Cloud User Guide.

For more information, see Creating 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 (p. 1267).

AvailabilityZone

The Availability Zone in which to create the volume. Use DescribeAvailabilityZones (p. 301) to list the Availability Zones that are currently available to you.

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

Encrypted

Specifies whether the volume should be encrypted. Encrypted Amazon EBS volumes may only be attached to instances that support Amazon EBS encryption. Volumes that are created from encrypted snapshots are automatically encrypted. There is no way to create an encrypted volume from an unencrypted snapshot or vice versa. If your AMI uses encrypted volumes, you can only launch it on supported instance types. For more information, see Amazon EBS Encryption in the Amazon Elastic Compute Cloud User Guide.

Type: Boolean
Required: No

Iops

The number of I/O operations per second (IOPS) to provision for the volume, with a maximum ratio of 50 IOPS/GiB. Range is 100 to 32000 IOPS for volumes in most regions. For exceptions, see Amazon EBS Volume Types in the Amazon Elastic Compute Cloud User Guide.
This parameter is valid only for Provisioned IOPS SSD (io1) volumes.

Type: Integer

Required: No

KmsKeyId

An identifier for the AWS Key Management Service (AWS KMS) customer master key (CMK) to use when creating the encrypted volume. This parameter is only required if you want to use a non-default CMK; if this parameter is not specified, the default CMK for EBS is used. If a KmsKeyId is specified, the Encrypted flag must also be set.

The CMK 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 CMK, the AWS account ID of the CMK owner, the key namespace, and then the CMK 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 CMK, the AWS account ID of the CMK owner, the alias namespace, and then the CMK 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. The action will eventually fail.

Type: String

Required: No

Size

The size of the volume, in GiBs.

Constraints: 1-16384 for gp2, 4-16384 for io1, 500-16384 for st1, 500-16384 for sc1, and 1-1024 for standard. If you specify a snapshot, the volume size must be equal to or larger than the snapshot size.

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

SnapshotId

The snapshot from which to create the volume.

Type: String

Required: No

TagSpecification.N

The tags to apply to the volume during creation.

Type: Array of TagSpecification (p. 1190) objects

Required: No

VolumeType

The volume type. This can be gp2 for General Purpose SSD, io1 for Provisioned IOPS SSD, st1 for Throughput Optimized HDD, sc1 for Cold HDD, or standard for Magnetic volumes.
Defaults: If no volume type is specified, the default is `standard` in us-east-1, eu-west-1, eu-central-1, us-west-2, us-west-1, sa-east-1, ap-northeast-1, ap-northeast-2, ap-southeast-1, ap-southeast-2, ap-south-1, us-gov-west-1, and cn-north-1. In all other regions, EBS defaults to `gp2`.

Type: String

Valid Values: `standard` | `io1` | `gp2` | `sc1` | `st1`

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 will be encrypted.

Type: Boolean

**iops**

The number of I/O operations per second (IOPS) that the volume supports. For Provisioned IOPS SSD volumes, this represents the number of IOPS that are provisioned for the volume. For General Purpose SSD volumes, this represents the baseline performance of the volume and the rate at which the volume accumulates I/O credits for bursting. For more information about General Purpose SSD baseline performance, I/O credits, and bursting, see Amazon EBS Volume Types in the Amazon Elastic Compute Cloud User Guide.

Constraint: Range is 100-32000 IOPS for `io1` volumes and 100-10000 IOPS for `gp2` volumes.

Condition: This parameter is required for requests to create `io1` volumes; it is not used in requests to create `gp2`, `st1`, `sc1`, or `standard` volumes.

Type: Integer

**kmsKeyId**

The full ARN of the AWS Key Management Service (AWS KMS) customer master key (CMK) that was used to protect the volume encryption key for the volume.

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

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 (p. 1188) objects

volumeId

The ID of the volume.

Type: String

volumeType

The volume type. This can be gp2 for General Purpose SSD, io1 for Provisioned IOPS SSD, st1 for Throughput Optimized HDD, sc1 for Cold HDD, or standard for Magnetic volumes.

Type: String

Valid Values: standard | io1 | gp2 | sc1 | st1

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example 1

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=1
&AUTHPARAMS
Sample Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeId>vol-1234567890abcdef0</volumeId>
  <size>80</size>
  <availabilityZone>us-east-1a</availabilityZone>
  <status>creating</status>
  <createTime>YYYY-MM-DDTHH:MM:SS.000Z</createTime>
  <volumeType>standard</volumeType>
  <encrypted>true</encrypted>
</CreateVolumeResponse>
```

Example 2

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
```

See Also

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

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

Creates a VPC with the specified IPv4 CIDR block. The smallest VPC you can create uses a /28 netmask (16 IPv4 addresses), and the largest uses a /16 netmask (65,536 IPv4 addresses). For more information about how large to make your VPC, see Your VPC and Subnets in the Amazon Virtual Private Cloud User Guide.

You can optionally request an Amazon-provided IPv6 CIDR block for the VPC. The IPv6 CIDR block uses a /56 prefix length, and is allocated from Amazon's pool of IPv6 addresses. You cannot choose the IPv6 range for your VPC.

By default, each instance 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 Options Sets in the Amazon Virtual Private Cloud 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 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 (p. 1267).

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.

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

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

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 (p. 1221) object

Errors
For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples
Example 1
This example creates a VPC with the IPv4 CIDR block 10.0.0.0/16.

Sample Request
https://ec2.amazonaws.com/?Action=CreateVpc
&CidrBlock=10.0.0.0/16
&AUTHPARAMS

Sample Response

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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>a9e49797-a74f-4f68-b302-example</requestId>
  <vpc>
    <vpcId>vpc-a48f48dd</vpcId>
    <state>pending</state>
    <cidrBlock>10.32.0.0/16</cidrBlock>
    <cidrBlockAssociationSet>
      <item>
        <cidrBlock>10.32.0.0/16</cidrBlock>
        <associationId>vpc-cidr-assoc-944abfff</associationId>
        <cidrBlockState>
          <state>associated</state>
        </cidrBlockState>
      </item>
    </cidrBlockAssociationSet>
    <ipv6CidrBlockAssociationSet/>
    <dhcpOptionsId>dopt-38f7a057</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>a9e49797-a74f-4f68-b302-example</requestId>
  <vpc>
    <vpcId>vpc-a48f48dd</vpcId>
    <state>pending</state>
    <cidrBlock>10.0.0.0/16</cidrBlock>
    <cidrBlockAssociationSet>
      <item>
        <cidrBlock>10.0.0.0/16</cidrBlock>
        <associationId>vpc-cidr-assoc-944abbff</associationId>
        <cidrBlockState>
          <state>associated</state>
        </cidrBlockState>
      </item>
    </cidrBlockAssociationSet>
    <ipv6CidrBlockAssociationSet/>
    <dhcpOptionsId>dopt-38f7a057</dhcpOptionsId>
    <tagSet/>
    <instanceTenancy>dedicated</instanceTenancy>
    <isDefault>false</isDefault>
  </vpc>
</CreateVpcResponse>
```
<requestId>a9e49797-a74f-4f68-b302-example</requestId>
<vpc>
  <vpcId>vpc-db8b4ca2</vpcId>
  <state>pending</state>
  <cidrBlock>10.0.0.0/16</cidrBlock>
  <cidrBlockAssociationSet>
    <item>
      <cidrBlock>10.0.0.0/16</cidrBlock>
      <associationId>vpc-cidr-assoc-074eb96c</associationId>
      <cidrBlockState>
        <state>associated</state>
      </cidrBlockState>
    </item>
  </cidrBlockAssociationSet>
  <ipv6CidrBlockAssociationSet>
    <item>
      <ipv6CidrBlock/>
      <associationId>vpc-cidr-assoc-064eb96d</associationId>
      <vpcId>vpc-1565b46c</vpcId>
      <state>pending</state>
      <cidrBlock>10.0.0.0/16</cidrBlock>
      <ipv6CidrBlockAssociationSet>
        <item>
          <ipv6CidrBlock/>
          <associationId>vpc-cidr-assoc-abababab</associationId>
          <dhcpOptionsId>dopt-38f7a057</dhcpOptionsId>
          <tagSet/>
          <instanceTenancy>default</instanceTenancy>
          <isDefault>false</isDefault>
        </item>
      </ipv6CidrBlockAssociationSet>
    </item>
  </ipv6CidrBlockAssociationSet>
</vpc></CreateVpcResponse>

See Also

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

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

Creates a VPC endpoint for a specified service. An endpoint enables you to create a private connection between your VPC and the service. The service may be provided by AWS, an AWS Marketplace partner, or another AWS account. For more information, see VPC Endpoints in the Amazon Virtual Private Cloud User Guide.

A gateway endpoint serves as a target for a route in your route table for traffic destined for the AWS service. You can specify an endpoint policy to attach to the endpoint that will control access to the service from your VPC. You can also specify the VPC route tables that use the endpoint.

An interface endpoint is a network interface in your subnet that serves as an endpoint for communicating with the specified service. You can specify the subnets in which to create an endpoint, and the security groups to associate with the endpoint network interface.

Use DescribeVpcEndpointServices (p. 565) to get a list of 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 (p. 1267).

ClientToken

Unique, case-sensitive identifier 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

PolicyDocument

(Gateway endpoint) 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) Indicate 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 (p. 695)` to set the VPC attributes.

**Default:** `true`

**Type:** Boolean

**Required:** No

**RouteTableId.N**

(Gateway endpoint) One or more route table IDs.

**Type:** Array of strings

**Required:** No

**SecurityGroupId.N**

(Interface endpoint) The ID of one or more security groups to associate with the endpoint network interface.

**Type:** Array of strings

**Required:** No

**ServiceName**

The service name. To get a list of available services, use the `DescribeVpcEndpointServices (p. 565)` request, or get the name from the service provider.

**Type:** String

**Required:** Yes

**SubnetId.N**

(Interface endpoint) The ID of one or more subnets in which to create an endpoint network interface.

**Type:** Array of strings

**Required:** No

**VpcEndpointType**

The type of endpoint.

**Default:** Gateway

**Type:** String

**Valid Values:** Interface | Gateway

**Required:** No

**VpcId**

The ID of the VPC in which the endpoint will be used.

**Type:** String

**Required:** Yes
Response Elements

The following elements are returned by the service.

clientToken

Unique, case-sensitive identifier 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 (p. 1227) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example 1

The 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

<!--Code not included here-->

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Example 2

The 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": "*"
        }
      ]
    }
  }
  <routeTableIdSet/>
  <dnsEntrySet>
    <item>
      <hostedZoneId>Z7HUB22UULQXV</hostedZoneId>
      <dnsName>vpce-0324151a02f327ff5-3k8nfxtt.elasticloadbalancing.us-east-1.vpce.amazonaws.com</dnsName>
    </item>
  </dnsEntrySet>
  <serviceName>com.amazonaws.us-east-1.elasticloadbalancing</serviceName>
  <privateDnsEnabled>true</privateDnsEnabled>
  <groupSet>
    <item>
      <groupName>default</groupName>
      <groupId>sg-11aa22bb</groupId>
    </item>
  </groupSet>
  <vpcEndpointId>vpce-0324151a02f327ff5</vpcEndpointId>
  <subnetIdSet>
    <item>subnet-1a2b3c4d</item>
  </subnetIdSet>
  <networkInterfaceIdSet>
    <item>eni-cd1a3319</item>
  </networkInterfaceIdSet>
</CreateVpcEndpointResponse>
```
See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

ClientToken

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

Type: String

Required: No

ConnectionEvents.N

One or more 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 you provide to ensure the idempotency of the request.

Type: String

collectionNotification

Information about the notification.

Type: ConnectionNotification (p. 846) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

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

```xml
https://ec2.amazonaws.com/?Action=CreateVpcEndpointConnectionNotification&VpcEndpointId=vpce-1234151a02f327123&ConnectionNotificationArn=arn:aws:sns:us-east-1:123456789012:endpointtopic&ConnectionEvents.1=Reject&ConnectionEvents.2=Delete
```

Sample Response

```xml
<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>
  </connectionNotification>
</CreateVpcEndpointConnectionNotificationResponse>
```
<connectionNotificationState>Enabled</connectionNotificationState>
<connectionNotificationId>vpce-nfn-04bcb952bc8af759b</connectionNotificationId>
<vpcEndpointId>vpce-1234151a02f327123</vpcEndpointId>
</connectionNotification>
</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateVpcEndpointServiceConfiguration

Creates a VPC endpoint service configuration to which service consumers (AWS accounts, IAM users, and IAM roles) can connect. Service consumers can create an interface VPC endpoint to connect to your service.

To create an endpoint service configuration, you must first create a Network Load Balancer for your service. For more information, see VPC Endpoint Services 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 (p. 1267).

AcceptanceRequired

Indicate whether requests from service consumers to create an endpoint to your service must be accepted. To accept a request, use AcceptVpcEndpointConnections (p. 20).

Type: Boolean
Required: No

ClientToken

Unique, case-sensitive identifier 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

NetworkLoadBalancerArn.N

The Amazon Resource Names (ARNs) of one or more Network Load Balancers for your service.

Type: Array of strings
Required: Yes

Response Elements

The following elements are returned by the service.

clientToken

Unique, case-sensitive identifier 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 (p. 1136) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

This example creates a VPC endpoint service configuration using the load balancer my-nlb. This example also specifies that requests to connect to the service through a VPC endpoint must be accepted.

Sample Request

https://ec2.amazonaws.com/?Action=CreateVpcEndpointServiceConfiguration
&NetworkLoadBalancerArn.1=arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/net/my-nlb/e94221227fiba532
&AcceptanceRequired=true

Sample Response

<div><pre>&lt;CreateVpcEndpointServiceConfigurationResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"&gt;
  &lt;requestId&gt;1b2f25d4-9d9f-4256-a8e3-297f7example&lt;/requestId&gt;
  &lt;serviceConfiguration&gt;
    &lt;serviceState&gt;Available&lt;/serviceState&gt;
    &lt;serviceType&gt;
      &lt;item&gt;
        &lt;serviceType&gt;Interface&lt;/serviceType&gt;
      &lt;/item&gt;
    &lt;/serviceType&gt;
    &lt;baseEndpointDnsNameSet&gt;
      &lt;item&gt;vpce-svc-0552b9c1298c4f123.us-east-1.vpce.amazonaws.com&lt;/item&gt;
    &lt;/baseEndpointDnsNameSet&gt;
    &lt;acceptanceRequired&gt;true&lt;/acceptanceRequired&gt;
    &lt;availabilityZoneSet&gt;
      &lt;item&gt;us-east-1d&lt;/item&gt;
    &lt;/availabilityZoneSet&gt;
    &lt;serviceId&gt;vpce-svc-0552b9c1298c4f123&lt;/serviceId&gt;
    &lt;serviceName&gt;com.amazonaws.vpce.us-east-1.vpce-svc-0552b9c1298c4f123&lt;/serviceName&gt;
    &lt;networkLoadBalancerArnSet&gt;
      &lt;item&gt;arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/net/my-nlb/e94221227fiba532&lt;/item&gt;
    &lt;/networkLoadBalancerArnSet&gt;
  &lt;/serviceConfiguration&gt;
&lt;/CreateVpcEndpointServiceConfigurationResponse&gt;</pre></div>
See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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](https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/vpc-peering-guide.html).

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](https://docs.aws.amazon.com/AmazonVPC/latest/APIReference/par-requirements.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

**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
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` (p. 1231) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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-vpc-1a2b3c4d</vpcId>
      <cidrBlock>10.0.0.0/28</cidrBlock>
      <peeringOptions>
        <allowEgressFromLocalClassicLinkToRemoteVpc>false</allowEgressFromLocalClassicLinkToRemoteVpc>
      </peeringOptions>
    </requesterVpcInfo>
  </vpcPeeringConnection>
</CreateVpcPeeringConnectionResponse>
```
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
&VpcId=vpc-1a2b3c4d
&PeerVpcId=vpc-a1b2c3d4
&PeerRegion=us-west-2
&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
- AWS SDK for JavaScript
- AWS SDK for PHP V3

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• AWS SDK for Python
• AWS SDK for Ruby V2
CreateVpnConnection

Creates a VPN connection between an existing virtual private gateway and a VPN customer gateway. The only 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.

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 Managed VPN Connections 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 (p. 1267).

**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 (p. 1240) object

*Required:* No

**Type**

The type of VPN connection (ipsec.1).

*Type:* String

*Required:* Yes

**VpnGatewayId**

The ID of the virtual private gateway.
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](p. 1237) object

Errors

For information about the errors that are common to all actions, see [Common Client Errors](p. 1302).

Examples

**Example 1**

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`. The response includes configuration information for the customer gateway. 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 Amazon Virtual Private Cloud Network Administrator Guide.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=CreateVpnConnection
&Type=ipsec.1
&CustomerGatewayId=cgw-b4dc3961
&VpnGatewayId=vgw-8db04f81
&AUTHPARAMS
```

**Sample Response**

```
<CreateVpnConnectionResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpnConnectionId>vpn-44a8938f</vpnConnectionId>
  <state>pending</state>
  <customerGatewayConfiguration>
    ...Customer gateway configuration data in escaped XML format...
  </customerGatewayConfiguration>
</CreateVpnConnectionResponse>
```
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). The response includes configuration information for the VPN connection's customer gateway. Because it's a long set of information, we haven't included the complete response here.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateVpnConnection
&Type=ipsec.1
&CustomerGatewayId=cgw-b4dc3961
&VpnGatewayId=vgw-8db04f81
&Options.StaticRoutesOnly=true
&AUTHPARAMS
```

Sample Response

```
<CreateVpnConnectionResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>5cc7891f-1f3b-4fc4-a626-bdea8f63ff5a</requestId>
  <vpnConnection>
    <vpnConnectionId>vpn-83ad48ea</vpnConnectionId>
    <state>pending</state>
    <customerGatewayConfiguration>
      ...Customer gateway configuration data in escaped XML format...
    </customerGatewayConfiguration>
    <customerGatewayId>cgw-63ae4b0a</customerGatewayId>
    <vpnGatewayId>vgw-4ea04527</vpnGatewayId>
    <options>
      <staticRoutesOnly>true</staticRoutesOnly>
    </options>
    <routes/>
  </vpnConnection>
</CreateVpnConnectionResponse>
```

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_Igfo1d1o9AT4LpJLFN4EXAMPLE
&Options.TunnelOptions.1.TunnelInsideCidr=169.254.44.110/30
&Options.TunnelOptions.2.PreSharedKey=HAM8lcnFYEvfl6gUrOatJLFN4EXAMPLE
&Options.TunnelOptions.2.TunnelInsideCidr=169.254.44.240/30
&AUTHPARAMS
```

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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 Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 about VPN connections, see AWS Managed VPN Connections 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 (p. 1267).

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 Errors (p. 1302).

Example

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

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 about virtual private gateways, see AWS Managed VPN Connections 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 (p. 1267).

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

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](p. 1241) object

**Errors**

For information about the errors that are common to all actions, see [Common Client Errors](p. 1302).

**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>
  </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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**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 Errors (p. 1302).

Example

**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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

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 Errors (p. 1302).

Example

This example deletes the specified set of DHCP options.
Sample Request

https://ec2.amazonaws.com/?Action=DeleteDhcpOptions&DhcpOptionsId=dopt-7a8b9c2d

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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](p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors](p. 1302).

**Example**

**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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeleteFleets

Deletes the specified EC2 Fleet.

After you delete an EC2 Fleet, it launches no new instances. You must specify whether an EC2 Fleet should also terminate its instances. If you 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.

Request Parameters

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

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

Type: Array of strings

Required: Yes

TerminateInstances

Indicates whether to terminate instances for an EC2 Fleet if it is deleted successfully.

Type: Boolean

Required: Yes

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 Errors (p. 1302).

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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.

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 (p. 1200) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

**Example**

This example deletes flow log fl-1a2b3c4d.

**Sample Request**

https://ec2.amazonaws.com/?Action=DeleteFlowLogs

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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 Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).

Example

Example

This example deletes the specified AFI.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteFpgaImage
Sample Response

```xml
  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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

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 Errors (p. 1302).

Example

Example

This example deletes the specified internet gateway.
Sample Request

https://ec2.amazonaws.com/?Action=DeleteInternetGateway
&InternetGatewayId=igw-eaad4883
&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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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: 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 Errors (p. 1302).

Example

**Example**

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

```xml
<DeleteKeyPairResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 launch template ID or launch template name in the request.

Type: String
Required: No

LaunchTemplateName

The name of the launch template. You must specify either the launch template ID or launch template name in the request.

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 (p. 984) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).
Example

This example deletes launch template lt-0a20c965061f64abc.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteLaunchTemplate &LaunchTemplateId=lt-0a20c965061f64abc
```

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>
    <launchTemplateName>MyLaunchTemplate</launchTemplateName>
  </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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeleteLaunchTemplateVersions

Deletes one or more versions of a launch template. You cannot 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 (p. 237).

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 launch template ID or launch template name in the request.

Type: String
Required: No

LaunchTemplateName

The name of the launch template. You must specify either the launch template ID or launch template name in the request.

Type: String
Pattern: \[a-zA-Z0-9\(\)\.-/_]+
Required: No

LaunchTemplateVersion.N

The version numbers of one or more launch template versions to delete.

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 (p. 862) objects

**unsuccessfullyDeletedLaunchTemplateVersionSet**

Information about the launch template versions that could not be deleted.

Type: Array of DeleteLaunchTemplateVersionsResponseErrorItem (p. 861) objects

**Errors**

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

**Example**

**Example**

This example deletes version 3 of launch template lt-0a20c965061f64abc.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=DeleteLaunchTemplateVersions
&LaunchTemplateId=lt-0a20c965061f64abc
&LaunchTemplateVersion.1=3
&AUTHPARAMS
```

**Sample Response**

```
<DeleteLaunchTemplateVersionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>67fc746a-1b3f-467e-8583-7061cexample</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
- AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
DeleteNatGateway

Deletes the specified NAT gateway. Deleting a 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

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

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 Errors (p. 1302).

Example

This example deletes NAT gateway nat-04ae55e711cec5680.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteNatGateway&NatGatewayId=nat-04ae55e711cec5680

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).

Example

Example

This example deletes the specified network ACL.
Sample Request

https://ec2.amazonaws.com/?Action=DeleteNetworkAcl&NetworkAclId=acl-2cb85d45

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).

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

```
<DeleteNetworkAclEntryResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).

Example

Example

This example deletes the specified network interface.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteNetworkInterface
See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).
Example

This example deletes the specified network interface permission.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteNetworkInterfacePermission
&NetworkInterfacePermissionId=eni-perm-06fd19020ede149ea
&AUTHPARAMS
```

Sample Response

```
  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**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

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).

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-e4ad488d
&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-e4ad488d
&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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).

Example

This example deletes the specified route table.
Sample Request

https://ec2.amazonaws.com/?Action=DeleteRouteTable
&RouteTableId=rtb-e4ad488d
&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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeleteSecurityGroup

Deletes a security group.

If you attempt to delete a security group that is associated with an instance, or is referenced by another security group, the operation fails with InvalidGroup.InUse in EC2-Classic or DependencyViolation in EC2-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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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. Required for a nondefault VPC.

Type: String
Required: No

GroupName

[EC2-Classic, default VPC] The name of the security group. You can specify either the security group name or 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 Errors (p. 1302).
Examples

Example for EC2-Classic

This example deletes the specified security group for EC2-Classic.

Sample Request

https://ec2.amazonaws.com/?Action=DeleteSecurityGroup
&GroupName=websrv
&AUTHPARAMS

Sample Response

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

Example for EC2-VPC

This example deletes the specified security group for EC2-VPC.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 Deleting 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the
request, 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 Errors (p. 1302).
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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).

Example

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/">
See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).

Example

Example

This example deletes the specified subnet.
Sample Request

https://ec2.amazonaws.com/?Action=DeleteSubnet
&SubnetId=subnet-9d4a7b6c
&AUTHPARAMS

Sample Response

  xmlns:AWS="http://dodson.de/2002/AmazonWS/"
  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeleteTags

Deletes the specified set of tags from the specified set of resources.

To list the current tags, use DescribeTags (p. 520). For more information about tags, see Tagging Your 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 one or more resources.

Type: Array of strings
Required: Yes

Tag.N

One or more 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).

Type: Array of Tag (p. 1188) 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 Errors (p. 1302).

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/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DeleteTagsResponse>
```

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-0598c7d56eba48d7
&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-0598c7d56eba48d7
&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
&ResourceId.1=i-1234567890abcdef0
&Tag.1.Key=Purpose
&Tag.2.Value=
&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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 Deleting 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).

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-be58ed587EXAMPLE</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).

Example

This example deletes the specified VPC.
Sample Request

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

Sample Response

  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeleteVpcEndpointConnectionNotifications

Deletes one or more 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 (p. 1267).

ConnectionNotificationId.N

One or more notification IDs.

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 (p. 1200) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeleteVpcEndpoints

Deletes one or more specified VPC endpoints. Deleting a gateway endpoint also deletes the endpoint routes in the route tables that were associated with the endpoint. Deleting an interface endpoint deletes the 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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

One or more VPC endpoint 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 VPC endpoints that were not successfully deleted.

Type: Array of UnsuccessfulItem (p. 1200) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

Example

This example deletes endpoint vpce-aa22bb33.
Sample Request

https://ec2.amazonaws.com/?Action=DeleteVpcEndpoints
&VpcEndpointId.1=vpce-aa22bb33
&AUTHPARAMS

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeleteVpcEndpointServiceConfigurations

Deletes one or more VPC endpoint service configurations in your account. Before you delete the 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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 one or more 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 (p. 1200) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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/>
</DeleteVpcEndpointServiceConfigurationsResponse>

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).

Example

This example deletes the specified VPC peering connection.
Sample Request

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

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 using the new configuration information returned with the new VPN connection 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).
Example

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

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 Errors (p. 1302).

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

https://ec2.amazonaws.com/?Action=DeleteVpnConnectionRoute
&DestinationCidrBlock=11.12.0.0%2F16
&VpnConnectionId=vpn-83ad48ea
&AUTHPARAMS

Sample Response

<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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeleteVpnGateway

Deletes the specified virtual private gateway. We recommend that before you delete a virtual private
gateway, you detach it from the VPC and delete the VPN connection. 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the
request, 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.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

This example deletes the specified virtual private gateway.
Sample Request

https://ec2.amazonaws.com/?Action=DeleteVpnGateway
&vpngatewayId=vgw-8db04f81
&AUTHPARAMS

Sample Response

  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeregisterImage

Deregisters the specified AMI. After you deregister an AMI, it can't be used to launch new instances; however, 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).

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
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeAccountAttributes

Describes attributes of your AWS account. The following are the supported account attributes:

- **supported-platforms**: Indicates whether your account can launch instances into EC2-Classic and EC2-VPC, or only into EC2-VPC.
- **default-vpc**: The ID of the default VPC for your account, or none.
- **max-instances**: The maximum number of On-Demand Instances that you can run.
- **vpc-max-security-groups-per-interface**: The maximum number of security groups that you can assign to a network interface.
- **max-elastic-ips**: The maximum number of Elastic IP addresses that you can allocate for use with EC2-Classic.
- **vpc-max-elastic-ips**: The maximum number of Elastic IP addresses that you can allocate for use with EC2-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](p. 1267).

**AttributeName.N**

One or more 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 one or more account attributes.

Type: Array of [AccountAttribute](p. 820) objects

**requestId**

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example

This example describes your account attributes. The response is for an account that supports EC2-Classic and EC2-VPC.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeAccountAttributes

Sample Response

```xml
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <accountAttributeSet>
    <item>
      <attributeName>vpc-max-security-groups-per-interface</attributeName>
      <attributeValueSet>
        <item>
          <attributeValue>5</attributeValue>
        </item>
      </attributeValueSet>
    </item>
    <item>
      <attributeName>max-instances</attributeName>
      <attributeValueSet>
        <item>
          <attributeValue>20</attributeValue>
        </item>
      </attributeValueSet>
    </item>
    <item>
      <attributeName>supported-platforms</attributeName>
      <attributeValueSet>
        <item>
          <attributeValue>EC2</attributeValue>
        </item>
        <item>
          <attributeValue>VPC</attributeValue>
        </item>
      </attributeValueSet>
    </item>
    <item>
      <attributeName>default-vpc</attributeName>
      <attributeValueSet>
        <item>
          <attributeValue>none</attributeValue>
        </item>
      </attributeValueSet>
    </item>
    <item>
      <attributeName>max-elastic-ips</attributeName>
      <attributeValueSet>
        <item>
          <attributeValue>0</attributeValue>
        </item>
      </attributeValueSet>
    </item>
  </accountAttributeSet>
</DescribeAccountAttributesResponse>
```
Example 2

This example describes the ID of your default VPC. The first response is for an account that supports only EC2-VPC. The second response if for an account that supports both EC2-Classic and EC2-VPC.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeAccountAttributes&AttributeName.1=default-vpc&AUTHPARAMS

Sample Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <accountAttributeSet>
    <item>
      <attributeName>default-vpc</attributeName>
      <attributeValueSet>
        <item>
          <attributeValue>none</attributeValue>
        </item>
      </attributeValueSet>
    </item>
  </accountAttributeSet>
</DescribeAccountAttributesResponse>

See Also

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

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

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DescribeAddresses

Describes one or more of your Elastic IP addresses.

An Elastic IP address is for use in either the EC2-Classic platform or in a VPC. For more information, see Elastic IP Addresses 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 (p. 1267).

AllocationId.N

[EC2-VPC] One or more allocation IDs.

Default: Describes all your 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

Filter.N

One or more filters. Filter names and values are case-sensitive.

- allocation-id - [EC2-VPC] The allocation ID for the address.
- association-id - [EC2-VPC] The association ID for the address.
- domain - Indicates whether the address is for use in EC2-Classic (standard) or in a VPC (vpc).
- instance-id - The ID of the instance the address is associated with, if any.
- network-interface-id - [EC2-VPC] 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 - [EC2-VPC] The private IP address associated with the Elastic IP address.
- public-ip - The Elastic 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 (p. 887) objects

Required: No

PublicIp.N

[EC2-Classic] 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 one or more Elastic IP addresses.
Type: Array of Address (p. 823) objects

requestId
The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example for EC2-Classic

This example request describes two specific Elastic IP addresses allocated to your account. Both addresses were created for instances in EC2-Classic, so you must specify them using their IP addresses. The address 192.0.2.1 is assigned to instance i-1234567890abcdef0, and 198.51.100.2 isn't assigned to an instance.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeAddresses
&PublicIp.1=192.0.2.1
&PublicIp.2=198.51.100.2
&AUTHPARAMS

Sample Response

<DescribeAddressesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
:requestId=59dbffe9-35bd-4eac-99ed-be587EXAMPLE">
<addressesSet>
  <item>
    <publicIp>192.0.2.1</publicIp>
    <domain>standard</domain>
    <instanceId>i-1234567890abcdef0</instanceId>
  </item>
  <item>
    <publicIp>198.51.100.2</publicIp>
    <domain>standard</domain>
    <instanceId/>
  </item>
</addressesSet>
</DescribeAddressesResponse>

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Example 1 for EC2-VPC

This example request describes a specific Elastic IP address allocated to your account. This address was created for instances in EC2-VPC, so you must use the allocation ID to specify the address.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeAddresses
&AllocationId.1= eipalloc-08229061
&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-08229061</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>

Example 2 for EC2-VPC

This example describes your Elastic IP addresses for EC2-VPC only.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeAddresses
&Filter.1.Name=domain
&Filter.1.Value.1=vpc
&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
- AWS SDK for JavaScript
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See Also

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 (p. 921) 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 Errors (p. 1302).
This example describes the overall ID format settings for the default region.

**Sample Request**

```plaintext
https://ec2.amazonaws.com/?Action=DescribeAggregateIdFormat
&AUTHPARAMS
```

**Sample Response**

```xml
  <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>
    <item>
      <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>
  </statusSet>
</DescribeAggregateIdFormatResponse>
```
<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>snapshot</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>reservation</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <deadline>2016-12-15T14:00:00.000Z</deadline>
  <resource>instance</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>route-table</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>network-acl</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>
</DescribeAggregateIdFormatResponse>
See Also

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

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

Describes one or more of the Availability Zones that are available to you. The results include zones only for the region you're currently using. If there is an event impacting an Availability Zone, you can use this request to view the state and any provided message for that Availability Zone.

For more information, see Regions and Availability 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

• message - Information about the Availability Zone.
• region-name - The name of the region for the Availability Zone (for example, us-east-1).
• state - The state of the Availability Zone (available | information | impaired | unavailable).
• zone-name - The name of the Availability Zone (for example, us-east-1a).

Type: Array of Filter (p. 887) objects

Required: No

ZoneName.N

The names of one or more Availability Zones.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

availabilityZoneInfo

Information about one or more Availability Zones.

Type: Array of AvailabilityZone (p. 828) objects

requestId

The ID of the request.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

This example request describes the Availability Zones that are available to you. The response includes Availability Zones only for the current region.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeAvailabilityZones
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPE</requestId>
  <availabilityZoneInfo>
    <item>
      <zoneName>us-east-1a</zoneName>
      <zoneState>available</zoneState>
      <regionName>us-east-1</regionName>
      <messageSet/>
    </item>
    <item>
      <zoneName>us-east-1b</zoneName>
      <zoneState>available</zoneState>
      <regionName>us-east-1</regionName>
      <messageSet/>
    </item>
    <item>
      <zoneName>us-east-1c</zoneName>
      <zoneState>available</zoneState>
      <regionName>us-east-1</regionName>
      <messageSet/>
    </item>
    <item>
      <zoneName>us-east-1d</zoneName>
      <zoneState>available</zoneState>
      <regionName>us-east-1</regionName>
      <messageSet/>
    </item>
  </availabilityZoneInfo>
</DescribeAvailabilityZonesResponse>

See Also

For more 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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeBundleTasks

Describes one or more of your bundling 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](p. 1267).

**BundleId.N**

One or more 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**

One or more 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](p. 887) objects

Required: No

**Response Elements**

The following elements are returned by the service.
bundleInstanceTasksSet

Information about one or more bundle tasks.

Type: Array of BundleTask (p. 833) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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

<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
See Also

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

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

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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 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 (p. 887) objects
Required: No

Instanceld.N

One or more instance IDs. Must be instances linked to a VPC through ClassicLink.

Type: Array of strings
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 larger than 1000, only 1000 results are returned. You cannot specify this parameter and the instance IDs parameter in the same request.

Constraint: If the value is greater than 1000, we return only 1000 items.

Type: Integer
Response Elements

The following elements are returned by the service.

instancesSet

Information about one or more linked EC2-Classic instances.

Type: Array of ClassicLinkInstance (p. 842) 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 Errors (p. 1302).

Examples

Example

This example lists all of your linked EC2-Classic instances.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeClassicLinkInstances

Sample Response

<DescribeClassicLinkInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instancesSet>
    <item>
      <instanceId>i-1234567890abcdef0</instanceId>
      <vpcId>vpc-1a2b3c4d</vpcId>
    </item>
  </instancesSet>
</DescribeClassicLinkInstancesResponse>
Example

This example lists all linked EC2-Classic instances, and filters the response to include only instances that are linked to VPC vpc-1a2b3c4d.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeClassicLinkInstances
&Filter.1.Name=vpc-id
&Filter.1.Value.1=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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeConversionTasks

Describes one or more of 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 (p. 1267).

ConversionTaskId.N

One or more 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 (p. 848) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

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>
      <conversionTask>
        <conversionTaskId>import-i-fh95npoc</conversionTaskId>
        <expirationTime>2010-12-22T12:01Z</expirationTime>
        <importVolume>
          <bytesConverted>1000</bytesConverted>
          <availabilityZone>us-east-1a</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=5snej01TtL0uR7KExtEXAMPLE%3D
            </importManifestUrl>
          </image>
          <volume>
            <size>8</size>
            <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeCustomerGateways

Describes one or more of your VPN customer gateways.

For more information about VPN customer gateways, see AWS Managed VPN Connections 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 (p. 1267).

**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’s Internet-routable 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 (p. 887) 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 (p. 856) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example 1

This example request describes the specified customer gateway.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeCustomerGateways
&CustomerGatewayId.1=cgw-b4dc3961
&AUTHPARAMS

Sample Response

  <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

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
See Also

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

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

Describes one or more of your DHCP options sets.

For more information, see DHCP Options Sets 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 (p. 1267).

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
- One or more filters.
  • dhcp-options-id - The ID of a set of DHCP options.
  • key - The key for one of the options (for example, domain-name).
  • value - The value for one of the options.
  • 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 (p. 887) objects
  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 (p. 864) objects
**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

**Examples**

**Example 1**

This example describes the specified DHCP options set.

**Sample Request**

```xml
code
https://ec2.amazonaws.com/?Action=DescribeDhcpOptions
&DhcpOptionsId.1=dopt-7a8b9c2d
&AUTHPARAMS
```

**Sample Response**

```xml
code
<DescribeDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <dhcpOptionsSet>
    <item>
      <dhcpOptionsId>dopt-7a8b9c2d</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>
          </valueSet>
        </item>
        <item>
          <key>domain-name-servers</key>
          <valueSet>
            <item>
              <value>10.2.5.2</value>
            </item>
          </valueSet>
        </item>
      </dhcpConfigurationSet>
      <tagSet/>
    </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
&Filter.2.Name=value
&Filter.2.Value.1=*example*
```

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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

One or more egress-only internet gateway 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 1000. If MaxResults is given a value larger than 1000, only 1000 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.

egressOnlyInternetGatewaySet

Information about the egress-only internet gateways.

Type: Array of EgressOnlyInternetGateway (p. 874) objects

nextToken

The token to use 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 Errors (p. 1302).

Example

This example describes all of your egress-only internet gateways.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeEgressOnlyInternetGateways
&AUTHPARAMS

Sample Response

<DescribeEgressOnlyInternetGatewaysResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>ec441b4c-357f-4483-b4a7-example</requestId>
  <attachmentSet>
    <item>
      <state>attached</state>
      <vpcId>vpc-0c62a468</vpcId>
    </item>
  </attachmentSet>
  <egressOnlyInternetGatewaySet>
    <item>
      <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeElasticGpus

Describes the Elastic GPUs associated with your instances. For more information about Elastic GPUs, see Amazon EC2 Elastic GPUs.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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**

One or more Elastic GPU IDs.

- Type: Array of strings
- Required: No

**Filter.N**

One or more filters.

- `availability-zone` - The Availability Zone in which the Elastic GPU resides.
- `elastic-gpu-health` - The status of the Elastic GPU (`OK` | `IMPAIRED`).
- `elastic-gpu-state` - The state of the Elastic GPU (`ATTACHED`).
- `elastic-gpu-type` - The type of Elastic GPU; for example, `eg1.medium`.
- `instance-id` - The ID of the instance to which the Elastic GPU is associated.

- Type: Array of Filter (p. 887) 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 GPUs.

Type: Array of ElasticGpus (p. 877) 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 Errors (p. 1302).

Example

This example describes all of the Elastic GPUs associated with your instances.

**Sample Request**

```plaintext
https://ec2.amazonaws.com/?Action=DescribeElasticGpus
&AUTHPARAMS
```

**Sample Response**

```xml
 <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeExportTasks

Describes one or more of your export tasks.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

ExportTaskId.N

One or more export task IDs.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

exportTaskSet

Information about the export tasks.

Type: Array of ExportTask (p. 883) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

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>59dbff9-35bd-4eac-99ed-be587EXAMPLE</requestId>
</DescribeExportTasksResponse>
<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>

See Also

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

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

Describes the events for the specified EC2 Fleet during the specified 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_

**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 results to return in a single call. Specify a value between 1 and 1000. The default value is 1000. 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_

**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 (p. 907) 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 results, this value is not present.

Type: Timestamp

nextToken

The token for the next set of results.

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 Errors (p. 1302).

See Also

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

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

Describes the running instances for the specified EC2 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 instance type.

Type: Array of Filter (p. 887) objects
Required: No

FleetId

The ID of the EC2 Fleet.

Type: String
Required: Yes

MaxResults

The maximum number of results to return in a single call. Specify a value between 1 and 1000. The default value is 1000. 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

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 (p. 822) objects

fleetId
The ID of the EC2 Fleet.
Type: String

nextToken
The token for the next set 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 Errors (p. 1302).

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

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

Describes one or more of your EC2 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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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.

- **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 (request | maintain).

Type: Array of Filter (p. 887) objects

Required: No

**FleetId.N**

The ID of the EC2 Fleets.

Type: Array of strings

Required: No

**MaxResults**

The maximum number of results to return in a single call. Specify a value between 1 and 1000. The default value is 1000. 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
Response Elements

The following elements are returned by the service.

**fleetSet**

Information about the EC2 Fleets.

Type: Array of FleetData (p. 888) objects

**nextToken**

The token for the next set 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 Errors (p. 1302).

See Also

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

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

Describes one or more flow logs. To view the information in your flow logs (the log streams for the network interfaces), you must use the CloudWatch Logs console or the CloudWatch Logs API.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.
- deliver-log-status - The status of the logs delivery (SUCCESS | FAILED).
- log-destination-type - The type of destination to which the flow log publishes data. Possible destination types include cloud-watch-logs and S3.
- 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).

Type: Array of Filter (p. 887) objects
Required: No

FlowLogId.N

One or more flow log 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 1000. If MaxResults is given a value larger than 1000, only 1000 results are returned. You cannot specify this parameter and the flow log IDs parameter in the same request.

Type: Integer
Required: No

NextToken

The token to retrieve the next page of results.

Type: String
Response Elements

The following elements are returned by the service.

**flowLogSet**

Information about the flow logs.

Type: Array of FlowLog (p. 899) 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 Errors (p. 1302).

Example

Example

This example describes all of your flow logs.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeFlowLogs

Sample Response

```xml
  <requestId>3cb46f23-099e-4bf0-891c-EXAMPLE</requestId>
  <flowLogSet>
    <item>
      <resourceId>vpc-1a2b3c4d</resourceId>
      <flowLogStatus>ACTIVE</flowLogStatus>
      <creationTime>2015-05-19T08:48:59Z</creationTime>
      <trafficType>ALL</trafficType>
      <flowLogId>fl-ab12cd341t</flowLogId>
      <logDestinationType>s3</logDestinationType>
      <logDestination>arn:aws:s3:::my-log-bucket/my-logs/</logDestination>
    </item>
    <item>
      <resourceId>vpc-1122bbcc</resourceId>
    </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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

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 (p. 903) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).
Example

This example describes the load permissions for the specified AFI.

Sample Request

```plaintext
https://ec2.amazonaws.com/?Action=DescribeFpgaImageAttribute
&FpgaImageId=afi-0d123e21abcc85abc
&Attribute=loadPermission
&AUTHPARAMS
```

Sample Response

```xml
<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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeFpgaImages

Describes one or more available Amazon FPGA Images (AFIs). 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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 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 (p. 887) objects
Required: No

**FpgaImageId.N**

One or more AFI IDs.
Type: Array of strings
Required: No

**MaxResults**

The maximum number of results to return in a single call.
Type: Integer
Response Elements

The following elements are returned by the service.

fpgalImageSet

Information about one or more FPGA images.

Type: Array of FpgaImage (p. 901) 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 Errors (p. 1302).

Example

Example

This example describes AFIs that are owned by account 123456789012.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeFpgaImages&Filter.1.Name=owner-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
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
DescribeHostReservationOfferings

Describes the Dedicated Host reservations that are available to purchase.

The results describe all the Dedicated Host reservation offerings, including offerings that may 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 Overview 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 (p. 1267).

Filter.N

One or more filters.

- instance-family - The instance family of the offering (for example, m4).
- payment-option - The payment option (NoUpfront | PartialUpfront | AllUpfront).

Type: Array of Filter (p. 887) 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.

Type: Integer

Required: No

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 (365x24x60x60) times one of the supported durations (1 or 3). For example, specify 31536000 for one year.

Type: Integer

Required: No

NextToken

The token to use to retrieve the next page of results.

Type: String
Required: No

**OfferingId**

The ID of the reservation offering.

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

**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 Errors.

Examples

Example 1

This example describes the all the Dedicated Host Reservation offerings.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeHostReservationOfferings

Sample Response

```xml
<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>
  </item>
</offeringSet>
</DescribeHostReservationOfferingsResult>
```
Example 2

This example describes the all 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-7890903788203856fg</offeringId>
      <hourlyPrice>0.557</hourlyPrice>
    </item>
    <item>
      <duration>94608000</duration>
      <upfrontPrice>18892.000</upfrontPrice>
      <paymentOption>AllUpfront</paymentOption>
      <instanceFamily>c4</instanceFamily>
      <offeringId>hro-1092903788203856fg</offeringId>
      <hourlyPrice>0.000</hourlyPrice>
    </item>
  </offeringSet>
</DescribeHostReservationOfferingsResult>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
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 (p. 1267).

**Filter.N**

One or more 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).

Type: Array of Filter (p. 887) objects

Required: No

**HostReservationIdSet.N**

One or more 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 (p. 914) 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.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

This example describes all the Dedicated Host reservations in your account.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeHostReservations

Sample Response

```xml
<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
See Also

- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeHosts

Describes one or more of 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 (p. 1267).

Filter.N

One or more 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 (p. 887) 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 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 (p. 908) 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 Errors (p. 1302).

Examples

Example

This example describes the Dedicated Hosts in your account.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeHosts

Sample Response

<DescribeHostsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"><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><instances/><autoPlacement>off</autoPlacement><hostId>h-05abcdd96ee9ca123</hostId><allocationTime>2018-01-23T12:33:31.692Z</allocationTime></item></hostSet></DescribeHostsResponse>
Example

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>
      <hostId>h-0abcd59504722123</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
- AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
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 (p. 1267).

AssociationId.N

One or more IAM instance profile associations.

Type: Array of strings

Required: No

Filter.N

One or more filters.

- instance-id - The ID of the instance.
- state - The state of the association (associating | associated | disassociating | disassociated).

Type: Array of Filter (p. 887) 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.

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.

iamInstanceProfileAssociationSet

Information about one or more IAM instance profile associations.

Type: Array of iamInstanceProfileAssociation (p. 918) 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 Errors (p. 1302).

Example

This example describes all of your IAM instance profile associations.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeIamInstanceProfileAssociations

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
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
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 (p. 1267).

PrincipalArn

The ARN of the principal, which can be an IAM role, IAM user, or the root user.

Type: String

Required: Yes

Resource


Type: String

Required: No

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 (p. 921) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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>
      <deadline>2016-12-15T12:00:00Z</deadline>
      <resource>network-interface-attachment</resource>
    </item>
    <item>
      <useLongIds>true</useLongIds>
      <deadline>2016-12-15T12:00:00Z</deadline>
      <resource>network-interface</resource>
    </item>
    <item>
      <useLongIds>true</useLongIds>
      <deadline>2016-12-15T12:00:00Z</deadline>
      <resource>elastic-ip-allocation</resource>
    </item>
    <item>
      <useLongIds>true</useLongIds>
      <deadline>2016-12-15T12:00:00Z</deadline>
      <resource>elastic-ip-association</resource>
    </item>
  </statusSet>
</DescribeIdentityIdFormatResponse>
```
<item>
  <useLongIds>true</useLongIds>
  <resource>vpc</resource>
</item>
<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>
<item>
  <useLongIds>false</useLongIds>
  <resource>security-group</resource>
</item>
<item>
  <useLongIds>true</useLongIds>
  <resource>flow-log</resource>
</item>
<item>
  <useLongIds>true</useLongIds>
  <resource>customer-gateway</resource>
</item>
<item>
  <useLongIds>true</useLongIds>
  <resource>vpc-endpoint</resource>
</item>
<item>
  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 659) 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 (p. 1267).

Resource


Type: String

Required: No

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 (p. 921) objects
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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>
    <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>
  </statusSet>
</DescribeIdFormatResponse>
<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>
</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

Attribute

The AMI attribute.

**Note:** Depending on your account privileges, the `blockDeviceMapping` attribute may return a `Client.AuthFailure` error. If this happens, use DescribeImages (p. 367) to get information about the block device mapping for the AMI.

Type: String

Valid Values: `description` | `kernel` | `ramdisk` | `launchPermission` | `productCodes` | `blockDeviceMapping` | `sriovNetSupport`

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

One or more block device mapping entries.

Type: Array of `BlockDeviceMapping` (p. 832) objects

description

A description for the AMI.

Type: `AttributeValue` (p. 827) object

ImageId

The ID of the AMI.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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
```
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</requestId>
  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeImages

Describes one or more of the images (AMIs, AKIs, and ARIs) available to you. Images available to you include public images, private images that you own, and private images owned by other AWS accounts but for which you have explicit launch permissions.

**Note**
Deregistered images are included in the returned results for an unspecified interval after deregistration.

**Request Parameters**

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

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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).

*Type:* Array of strings

*Required:* No

**Filter.N**

One or more filters.

- **architecture** - The image architecture (i386 | x86_64).
- **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 EBS volume.
- **block-device-mapping.volume-size** - The volume size of the EBS volume, in GiB.
- **block-device-mapping.volume-type** - The volume type of the EBS volume (gp2 | io1 | st1 | sc1 | standard).
- **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).
Response Elements

The following elements are returned by the service.

imagesSet

Information about one or more images.
Type: Array of **Image (p. 922)** objects

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see [Common Client Errors (p. 1302)].

**Examples**

**Example 1**

This example describes the specified AMI.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=DescribeImages
&ImageId.1=ami-be3adfd7
&AUTHPARAMS
```

**Sample Response**

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imagesSet>
    <item>
      <imageId>ami-1a2b3c4d</imageId>
      <imageLocation>amazon/getting-started</imageLocation>
      <imageState>available</imageState>
      <imageOwnerId>123456789012</imageOwnerId>
      <isPublic>true</isPublic>
      <architecture>i386</architecture>
      <imageType>machine</imageType>
      <kernelId>aki-1a2b3c4d</kernelId>
      <ramdiskId>ari-1a2b3c4d</ramdiskId>
      <imageOwnerAlias>amazon</imageOwnerAlias>
      <name>getting-started</name>
      <description>Image Description</description>
      <rootDeviceType>ebs</rootDeviceType>
      <rootDeviceName>/dev/sda</rootDeviceName>
      <blockDeviceMapping>
        <item>
          <deviceName>/dev/sda1</deviceName>
          <ebs>
            <snapshotId>snap-1234567890abcdef0</snapshotId>
            <volumeSize>15</volumeSize>
          </ebs>
        </item>
      </blockDeviceMapping>
      <virtualizationType>paravirtual</virtualizationType>
      <tagSet/>
      <hypervisor>xen</hypervisor>
    </item>
  </imagesSet>
</DescribeImagesResponse>
```

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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

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
<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>
        <ebs>
          <snapshotId>snap-1234567890abcdef0</snapshotId>
          <volumeSize>8</volumeSize>
          <deleteOnTermination>true</deleteOnTermination>
        </ebs>
      </item>
    </blockDeviceMapping>
    <virtualizationType>paravirtual</virtualizationType>
    <hypervisor>xen</hypervisor>
  </item>
 ...
</imagesSet>

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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, deleted.

Type: Array of Filter (p. 887) objects
Required: No

**ImportTaskId.N**

A list of import image 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.

**importImageTaskSet**

A list of zero or more import image tasks that are currently active or were completed or canceled in the previous 7 days.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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

One or more filters.

Type: Array of Filter (p. 887) 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 (p. 936) 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 Errors (p. 1302).

See Also

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

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

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

**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`

  **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` (p. 944) objects

**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 (p. 826) object
ebsOptimized
  Indicates whether the instance is optimized for Amazon EBS I/O.
  Type: AttributeBooleanValue (p. 826) object
enaSupport
  Indicates whether enhanced networking with ENA is enabled.
  Type: AttributeBooleanValue (p. 826) object
groupSet
  The security groups associated with the instance.
  Type: Array of GroupIdentifier (p. 905) objects
instanceId
  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 (p. 827) object
instanceType
  The instance type.
  Type: AttributeValue (p. 827) object
kernel
  The kernel ID.
  Type: AttributeValue (p. 827) object
productCodes
  A list of product codes.
  Type: Array of ProductCode (p. 1064) objects
ramdisk
  The RAM disk ID.
  Type: AttributeValue (p. 827) object
requestId
  The ID of the request.
  Type: String
rootDeviceName
  The device name of the root device volume (for example, /dev/sda1).
  Type: AttributeValue (p. 827) object
sourceDestCheck

Indicates whether source/destination checking is enabled. A value of true means that checking is enabled, and false means that checking is disabled. This value must be false for a NAT instance to perform NAT.

Type: AttributeBooleanValue (p. 826) object

sriovNetSupport

Indicates whether enhanced networking with the Intel 82599 Virtual Function interface is enabled.

Type: AttributeValue (p. 827) object

userData

The user data.

Type: AttributeValue (p. 827) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example 1

This example lists the instance type of the specified instance.

Sample Request

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
Sample Response

```xml
  <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

```xml
  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeInstanceCreditSpecifications

Describes the credit option for CPU usage of one or more of your T2 instances. The credit options are standard and unlimited.

If you do not specify an instance ID, Amazon EC2 returns only the T2 instances with the unlimited credit option. 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 T2 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 T2 Instances 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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-id - The ID of the instance.

Type: Array of Filter (p. 887) objects
Required: No

InstanceId.N

One or more 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 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. You cannot specify this parameter and the instance IDs parameter in the same call.
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 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 Errors](#).

Example

**Example**

This request describes the current credit option for CPU usage of the specified instance.

**Sample Request**

```plaintext
https://ec2.amazonaws.com/?Action=DescribeInstanceCreditSpecifications&InstanceId.1=i-1234567890abcdef0
&AUTHPARAMS
```

**Sample Response**

```xml
<DescribeInstanceCreditSpecificationsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>1b234b5c-d6ef-7gh8-90i1-j2345678901</requestId>
  <instanceCreditSpecificationSet>
    
  </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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeInstances

Describes one or more of your instances.

If you specify one or more instance IDs, Amazon EC2 returns information for those instances. If you do not specify instance IDs, Amazon EC2 returns information for all relevant instances. 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 returned results.

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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

- affinity - The affinity setting for an instance running on a Dedicated Host (default | host).
- architecture - The instance architecture (i386 | x86_64).
- 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, 2010-09-15T17:15:20.000Z.
- 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.
- client-token - The idempotency token you provided when you launched the instance.
- dns-name - The public DNS name of the instance.
- group-id - The ID of the security group for the instance. EC2-Classic only.
- group-name - The name of the security group for the instance. EC2-Classic only.
- 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).
Amazon Elastic Compute Cloud API Reference

Request Parameters

- **iam-instance-profile.arn** - The instance profile associated with the instance. Specified as an ARN.
- **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 or a Scheduled Instance (spot | scheduled).
- **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.
- **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.
- **monitoring-state** - Indicates whether detailed monitoring is enabled (disabled | enabled).
- **network-interface.addresses.private-ip-address** - The private IPv4 address associated with the network interface.
- **network-interface.addresses.primary** - Specifies whether the IPv4 address of the network interface is the primary private IPv4 address.
- **network-interface.addresses.association.public-ip** - The ID of the association of an Elastic IP address (IPv4) with a network interface.
- **network-interface.addresses.association.ip-owner-id** - The owner ID of the private IPv4 address associated with the network interface.
- **network-interface.association.public-ip** - The address of the Elastic IP address (IPv4) bound to the network interface.
- **network-interface.association.ip-owner-id** - The owner of the Elastic IP address (IPv4) 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.attachment.attachment-id** - The ID of the interface attachment.
- **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.device-index** - The device index to which the network interface is attached.
- **network-interface.attachment.status** - The status of the attachment (attaching | attached | detaching | detached).
- **network-interface.attachment.attach-time** - The time that the network interface was attached to an instance.
• network-interface.attachment.delete-on-termination - Specifies whether the attachment is deleted when an instance is terminated.

• network-interface.availability-zone - The Availability Zone for the network interface.

• 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.ipv6-addresses.ipv6-address - The IPv6 address associated with 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.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.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.vpc-id - The ID of the VPC for the network interface.

• owner-id - The AWS account ID of the instance owner.

• placement-group-name - The name of the placement group for the instance.

• platform - The platform. Use windows if you have Windows instances; otherwise, leave blank.

• private-dns-name - The private IPv4 DNS name of the instance.

• 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`).
• **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 (p. 887) objects

Required: No

**Instanceld.N**

One or more instance IDs.

Default: Describes all your instances.

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 5 and 1000. You cannot specify this parameter and the instance 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.

**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
reservationSet

Zero or more reservations.

Type: Array of Reservation (p. 1080) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example 1

This example describes all instances owned by your AWS account. The example response shows information for one instance in a VPC.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeInstances

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>
          <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>
        </item>
      </instancesSet>
    </item>
  </reservationSet>
</DescribeInstancesResponse>
<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>
  </item>
</networkInterfaceSet>
Example 2

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

```
https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=instance-type
&Filter.1.Value.1=m1.small
&Filter.1.Value.2=m1.large
&Filter.2.Name=block-device-mapping.status
&Filter.2.Value.1=attached
&Filter.3.Name=block-device-mapping.delete-on-termination
&Filter.3.Value.1=true
&AUTHPARAMS
```

Example 3

This example describes all instances that are running in a VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=vpc-id
&Filter.1.Value.1=*`

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Example 4

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
```

Example

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
```

See Also

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

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

Describes the status of one or more 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 and Troubleshooting Instances with Failed Status Checks in the *Amazon Elastic Compute Cloud 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 in the *Amazon Elastic Compute Cloud User Guide*.

- **Instance state** - You can manage your instances from the moment you launch them through their termination. For more information, see Instance Lifecycle 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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 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.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).
- 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).
Response Elements

The following elements are returned by the service.

**instanceStatusSet**

One or more instance status descriptions.

Type: Array of `InstanceStatus (p. 966)` 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.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example 1

This example returns instance status descriptions for all running instances.

Sample Request

<table>
<thead>
<tr>
<th>Request URI</th>
<th>Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="https://ec2.amazonaws.com/">https://ec2.amazonaws.com/</a>?</td>
<td>Action=DescribeInstanceStatus</td>
</tr>
</tbody>
</table>

Example 2

This example returns instance status descriptions for the specified instances.

Sample Request

<table>
<thead>
<tr>
<th>Request URI</th>
<th>Parameters</th>
</tr>
</thead>
</table>
| https://ec2.amazonaws.com/? | Action=DescribeInstanceStatus 
| &InstanceId.1=i-1234567890abcdef0 
| &InstanceId.2=i-0598c7d356eba48d7 |

Example 3

This example returns instance status descriptions for all instances specified by supported DescribeInstanceStatus filters.

Sample Request

<table>
<thead>
<tr>
<th>Request URI</th>
<th>Parameters</th>
</tr>
</thead>
</table>
| https://ec2.amazonaws.com/? | Action=DescribeInstanceStatus 
| &Filter.1.Name=system-status.reachability 
| &Filter.1.Value.failed |

Sample Response

```
<DescribeInstanceStatusResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>3be1508e-c444-4fe-89cc-0b1223c4f0fEXAMPLE</requestId>
  <instanceStatusSet>
   ...
  </instanceStatusSet>
</DescribeInstanceStatusResponse>
```
<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>
    <instanceStatus>
        <status>impaired</status>
        <details>
            <item>
                <name>reachability</name>
                <status>failed</status>
                <impairedSince>YYYY-MM-DDTHH:MM:SS.000Z</impairedSince>
            </item>
        </details>
    </instanceStatus>
    <eventsSet>
        <item>
            <code>instance-retirement</code>
            <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>
        <item>
            <code>instance-reboot</code>
            <description>The instance is scheduled for a reboot</description>
            <notBefore>YYYY-MM-DDTHH:MM:SS+0000</notBefore>
        </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>
        </item>
    </eventsSet>
</item>
<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>
<status>ok</status>
<details>
<item>
<name>reachability</name>
<status>passed</status>
</item>
</details>
</systemStatus>
</instanceStatus>
</item>
<item>
<instanceId>i-0598c7d356eba48d8</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>
<item>
<instanceId>i-0598c7d356eba48d8</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>
</instanceStatusSet>
</DescribeInstanceStatusResponse>

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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.

- **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.
- **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 (p. 887) objects

Required: No

**InternetGatewayId.N**

One or more internet gateway IDs.

Default: Describes all your internet gateways.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

**internetGatewaySet**

Information about one or more internet gateways.

Type: Array of InternetGateway (p. 971) objects
requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

This example describes all your internet gateways.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeInternetGateways

Sample Response

```xml
<DescribeInternetGatewaysResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <internetGatewaySet>
    <item>
      <internetGatewayId>igw-eaad4883EXAMPLE</internetGatewayId>
      <attachmentSet>
        <item>
          <vpcId>vpc-11ad4878</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeKeyPairs

Describes one or more of your key pairs.

For more information about key pairs, see 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

- fingerprint - The fingerprint of the key pair.
  - key-name - The name of the key pair.

Type: Array of Filter (p. 887) objects

Required: No

KeyName.N

One or more key pair names.

Default: Describes all your key pairs.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

keySet

Information about one or more key pairs.

Type: Array of KeyPairInfo (p. 978) objects

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example

This example describes the keypair with name my-key-pair.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeKeyPairs
&KeyName.1=my-key-pair
&AUTHPARAMS

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
• AWS SDK for Ruby V2
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 (p. 1267)](https://docs.aws.amazon.com/elasticbeanstalk/latest/api/).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 (p. 887)](https://docs.aws.amazon.com/elasticbeanstalk/latest/api/) 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 5 and 1000.

Type: Integer
Response Elements

The following elements are returned by the service.

**launchTemplates**

Information about the launch templates.

- **Type:** Array of LaunchTemplate (p. 984) 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 Errors (p. 1302).

Example

**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>
    </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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeLaunchTemplateVersions

Describes one or more versions of a specified launch template. You can describe all versions, individual versions, or a range of 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.
- 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.
- ram-disk-id - The RAM disk ID.

Type: Array of Filter (p. 887) objects
Required: No

LaunchTemplateId

The ID of the launch template. You must specify either the launch template ID or launch template name in the request.

Type: String
Required: No

LaunchTemplateName

The name of the launch template. You must specify either the launch template ID or launch template name in the request.

Type: String


Pattern: [a-zA-Z0-9\(\)\.-/_]+

Required: No
Response Elements

The following elements are returned by the service.

launchTemplateVersionSet

Information about the launch template versions.

Type: Array of LaunchTemplateVersion (p. 1018) 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 Errors (p. 1302).

Example

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
```

Sample Response

```
<DescribeLaunchTemplateVersionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"><requestId>65cade1-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>AMIOnlyv1</versionDescription><versionNumber>2</versionNumber></item><item><createTime>2017-10-31T11:55:15.000Z</createTime><createdBy>arn:aws:iam::123456789012:root</createdBy><defaultVersion>false</defaultVersion><launchTemplateData><imageId>ami-aabbccdd</imageId></launchTemplateData><launchTemplateId>lt-0a20c965061f64abc</launchTemplateId><launchTemplateName>MyLaunchTemplate</launchTemplateName><versionDescription>AMIOnlyv2</versionDescription><versionNumber>3</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeMovingAddresses

Describes your Elastic IP addresses that are being moved to the EC2-VPC platform, or that are 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 (p. 887) 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 to use to retrieve 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 (p. 1025) 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 Errors (p. 1302).

Example

This example describes all your moving Elastic IP addresses.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeMovingAddresses
&AUTHPARAMS

Sample Response

  <requestId>127c36e6-6781-469f-89c1-EXAMPLE</requestId>
  <movingAddressStatusSet>
    <item>
      <publicIp>198.18.125.129</publicIp>
      <moveStatus>MovingToVpc</moveStatus>
    </item>
  </movingAddressStatusSet>
</DescribeMovingAddressesResponse>

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
See Also

- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

Filter.N

One or more 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 (p. 887) 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 specified is greater than 1000, we return only 1000 items.

Type: Integer

Required: No

NatGatewayId.N

One or more NAT gateway IDs.

Type: Array of strings

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.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

Example

This example describes all of your NAT gateways.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeNatGateways

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>
      <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeNetworkAcls

Describes one or more of your network ACLs.

For more information, see Network ACLs 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

• 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.egress - Indicates whether the entry applies to egress traffic.
• 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.rule-number - The number of an entry (in other words, rule) in the ACL's set of entries.
• network-acl-id - The ID of 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 (p. 887) objects

Required: No

NetworkAclid.N

One or more network ACL IDs.
Response Elements

The following elements are returned by the service.

**networkAclSet**

Information about one or more network ACLs.

Type: Array of NetworkAcl objects

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

This example describes all your network ACLs.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeNetworkAcls

Sample Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <networkAclSet>
    <item>
      <networkAclId>acl-5566953c</networkAclId>
      <vpcId>vpc-5266953b</vpcId>
      <default>true</default>
      <entrySet>
        <item>
          <ruleNumber>100</ruleNumber>
          <protocol>all</protocol>
          <ruleAction>allow</ruleAction>
          <egress>true</egress>
          <cidrBlock>0.0.0.0/0</cidrBlock>
        </item>
        <item>
          <ruleNumber>32767</ruleNumber>
          <protocol>all</protocol>
          <ruleAction>deny</ruleAction>
        </item>
      </entrySet>
    </item>
  </networkAclSet>
</DescribeNetworkAclsResponse>
```
<item>
  <ruleNumber>100</ruleNumber>
  <protocol>all</protocol>
  <ruleAction>allow</ruleAction>
  <egress>false</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>110</ruleNumber>
  <protocol>6</protocol>
  <ruleAction>allow</ruleAction>
  <egress>true</egress>
  <cidrBlock>0.0.0.0/0</cidrBlock>
  <portRange>
    <from>49152</from>
    <to>65535</to>
  </portRange>
</item>

<item>
  <ruleNumber>120</ruleNumber>
  <protocol>6</protocol>
  <ruleAction>allow</ruleAction>
  <egress>true</egress>
  <ipv6CidrBlock>::/0</ipv6CidrBlock>
  <portRange>
    <from>49152</from>
    <to>65535</to>
  </portRange>
</item>

<item>
  <ruleNumber>32767</ruleNumber>
  <protocol>all</protocol>
  <ruleAction>deny</ruleAction>
  <egress>true</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>110</ruleNumber>
  <protocol>6</protocol>
  <ruleAction>allow</ruleAction>
</item>
<entrySet>
  <item>
    <ruleNumber>120</ruleNumber>
    <protocol>6</protocol>
    <ruleAction>allow</ruleAction>
    <egress>false</egress>
    <cidrBlock>0.0.0.0/0</cidrBlock>
    <portRange>
      <from>443</from>
      <to>443</to>
    </portRange>
  </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>false</egress>
    <ipv6CidrBlock>::/0</ipv6CidrBlock>
  </item>
</entrySet>

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

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 (p. 1039) object
description

The description of the network interface.

Type: AttributeValue (p. 827) object
groupSet

The security groups associated with the network interface.

Type: Array of GroupIdentifier (p. 905) 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: `AttributeValue` (p. 826) object

**Errors**

For information about the errors that are common to all actions, see `Common Client Errors` (p. 1302).

**Example**

This example describes the `sourceDestCheck` attribute of the specified network interface.

**Sample Request**

```plaintext
https://ec2.amazonaws.com/?Action=DescribeNetworkInterfaceAttribute
&NetworkInterfaceId=eni-686ea200
&Attribute=sourceDestCheck
&AUTHPARAMS
```

**Sample Response**

```xml
  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
• AWS SDK for Ruby V2
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 (p. 1267).

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 (p. 887) 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. If this parameter is not specified, up to 50 results are returned by default.

Type: Integer

Required: No

NetworkInterfacePermissionId.N

One or more network interface permission IDs.

Type: Array of strings

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.

networkInterfacePermissions

The network interface permissions.
Type: Array of NetworkInterfacePermission (p. 1043) objects

nextToken

The token to use 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 Errors (p. 1302).

Example

This example describes all of your network interface permissions.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeNetworkInterfacePermissions
&AUTHPARAMS

Sample Response

  <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
See Also

- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeNetworkInterfaces

Describes one or more of 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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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.

- `addresses.private-ip-address` - The private IPv4 addresses associated with the network interface.
- `addresses.primary` - Whether the private IPv4 address is the primary IP address 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.association.owner-id` - The owner ID of the addresses associated with the network interface.
- `association.association-id` - The association ID returned when the network interface was associated with an IPv4 address.
- `association.allocation-id` - The allocation ID returned when you allocated the Elastic IP address (IPv4) for your 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.attachment-id` - The ID of the interface attachment.
- `attachment.attach.time` - The time that the network interface was attached to an instance.
- `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.nat-gateway-id` - The ID of the NAT gateway 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.
Response Elements

The following elements are returned by the service.

**networkInterfaceSet**

Information about one or more network interfaces.

Type: Array of NetworkInterface (p. 1035) objects

**requestId**

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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>
      <tagSet/>
      <privateIpAddressesSet>
        <item>
          <privateIpAddress>10.0.0.146</privateIpAddress>
          <primary>true</primary>
        </item>
        <item>
          <privateIpAddress>10.0.0.146</privateIpAddress>
          <primary>false</primary>
        </item>
      </privateIpAddressesSet>
    </item>
  </networkInterfaceSet>
</DescribeNetworkInterfacesResponse>
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
See Also

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

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

Describes one or more of your placement groups. For more information, see Placement Groups 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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-name - The name of the placement group.
- state - The state of the placement group (pending | available | deleting | deleted).
- strategy - The strategy of the placement group (cluster | spread).

Type: Array of Filter (p. 887) objects
Required: No

GroupName.N

One or more placement group names.
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

One or more placement groups.

Type: Array of PlacementGroup (p. 1055) objects

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example

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-a9ce3EXAMPLE</requestID>
  <placementGroupSet>
    <item>
      <groupName>ABC-spread</groupName>
      <strategy>spread</strategy>
      <state>available</state>
    </item>
  </placementGroupSet>
</DescribePlacementGroupsResponse>

Example

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-a9ce3EXAMPLE</requestID>
  <placementGroupSet>
    <item>
      <groupName>Project-cluster</groupName>
      <strategy>cluster</strategy>
      <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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. A prefix list ID is required for creating an outbound security group rule that allows traffic from a VPC to access an AWS service through a gateway VPC endpoint. Currently, the services that support this action are Amazon S3 and Amazon DynamoDB.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 (p. 887) 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 specified is greater than 1000, we return only 1000 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

**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 when requesting the next set of items. If there are no additional items to return, the string is empty.

Type: String

prefixListSet

All available prefix lists.

Type: Array of PrefixList (p. 1057) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

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:
See Also

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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
- Required: No

**NextToken**

The token to request the next page of results.

- Type: String
- Required: No

**Resource.N**


- Type: Array of strings
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 (p. 1062) objects

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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
```  

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>
        </item>
      </statusSet>
    </item>
  </principalSet>
</DescribePrincipalIdFormatResponse>
```
<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>
<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>elastic-ip-allocation</resource>
  <useLongIds>true</useLongIds>
</item>

<item>
  <resource>elastic-ip-association</resource>
  <useLongIds>true</useLongIds>
</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>

<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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeRegions

Describes one or more regions that are currently available to you.

For a list of the regions supported by Amazon EC2, see Regions and 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

- 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 (p. 887) objects
- Required: No

RegionName.N

The names of one or more regions.

- Type: Array of strings
- Required: No

Response Elements

The following elements are returned by the service.

- regionInfo
  - Information about one or more regions.
  - Type: Array of Region (p. 1072) objects

- requestId
  - The ID of the request.
  - Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).
Examples

Example 1

This example displays information about all regions.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeRegions
&AUTHPARAMS

Example 2

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:

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

Describes one or more of the Reserved Instances that you purchased.

For more information about Reserved Instances, see Reserved Instances 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 (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).
- product-description - The Reserved Instance product platform description. Instances that include (Amazon VPC) in the product platform description will only be displayed to EC2-Classic account holders and are for use with Amazon VPC (Linux/UNIX | Linux/UNIX (Amazon VPC) | SUSE Linux | SUSE Linux (Amazon VPC) | Red Hat Enterprise Linux | Red Hat Enterprise Linux (Amazon VPC) | Windows | Windows (Amazon VPC) | Windows with SQL Server Standard | Windows with SQL Server Standard (Amazon VPC) | Windows with SQL Server Web | Windows with SQL Server Web (Amazon VPC) | Windows with SQL Server Enterprise | Windows with SQL Server Enterprise (Amazon VPC)).
- 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 (p. 887) objects
Required: No

**OfferingClass**

Describes 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 (p. 1084) objects

**Errors**

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

**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>
  <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>
</DescribeReservedInstancesResponse>

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
&Filter.2.Value.1=m1.small
&Filter.3.Name=product-description
&Filter.3.Value.1=Linux%2FUNIX
&AUTHPARAMS

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 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 (p. 1267).

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 (p. 887) 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 (p. 1091) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

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>
    </item>
  </reservedInstancesListingsSet>
</DescribeReservedInstancesListingsResponse>
<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>
  <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>
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  </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>
</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++
See Also

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 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 (p. 1267).

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.
- modification-result.target-configuration.platform - The network platform of the new Reserved Instances (EC2-Classic | EC2-VPC).
- 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 (p. 887) objects

Required: No

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
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 (p. 1093) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

**Example 1**

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


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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 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 (p. 1267).

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.
- product-description - The Reserved Instance product platform description. Instances that include (Amazon VPC) in the product platform description will only be displayed to EC2-Classic account holders and are for use with Amazon VPC. (Linux/UNIX | Linux/UNIX (Amazon VPC) | SUSE Linux | SUSE Linux (Amazon VPC) | Red Hat Enterprise Linux | Red Hat Enterprise Linux (Amazon VPC) | Windows | Windows (Amazon VPC) | Windows with SQL Server Standard | Windows with SQL Server Standard (Amazon VPC) | Windows with SQL Server Web | Windows with SQL Server Web (Amazon VPC) | Windows with SQL Server Enterprise | Windows with SQL Server Enterprise (Amazon VPC))
- reserved-instances-offering-id - The Reserved Instances offering ID.
### Request Parameters

- **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 (p. 887) 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

**Required:** No

#### InstanceType

The instance type that the reservation will cover (for example, m1.small). For more information, see Instance Types in the Amazon Elastic Compute Cloud User Guide.

**Type:** String

**Valid Values:**
- t1.micro  | t2.nano  | t2.micro  | t2.small  | t2.large  
- t3.large  | t3.xlarge | m1.large  | m1.xlarge  | m2.large  
- m2.xlarge  | m3.large  | m3.xlarge  | m4.large  | m4.xlarge  
- m4.xlarge  | m4.10xlarge | m4.16xlarge | m5.large  | m5.xlarge  
- m5.xlarge  | m5.2xlarge | m5.4xlarge | m5.9xlarge | m5d.large  
- m5d.xlarge  | m5d.2xlarge | m5d.4xlarge | m5d.9xlarge | m5d.12xlarge  
- m5d.12xlarge | m5d.24xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge  
- g2.8xlarge  | g3.4xlarge | g3.8xlarge | g3.16xlarge | cg1.4xlarge  
- p2.8xlarge  | p2.16xlarge | p3.2xlarge | p3.8xlarge | p3.16xlarge  
- d2.xlarge  | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge  
- f1.16xlarge  | m5.large  | m5.xlarge  | m5.2xlarge | m5.4xlarge  
- m5.12xlarge | m5.24xlarge | m5d.large  | m5d.xlarge  | m5d.2xlarge  
- m5d.4xlarge  | m5d.12xlarge | m5d.24xlarge | h1.2xlarge  | h1.4xlarge  
- h1.8xlarge  | h1.16xlarge

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<table>
<thead>
<tr>
<th>z1d.large</th>
<th>z1d.xlarge</th>
<th>z1d.2xlarge</th>
<th>z1d.3xlarge</th>
<th>z1d.6xlarge</th>
<th>z1d.12xlarge</th>
</tr>
</thead>
</table>

Required: No

**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

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.
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 (p. 1096) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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

```xml
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
```

Sample Request

```xml
https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&AUTHPARAMS
```

Sample Response

```xml
<DescribeReservedInstancesOfferingsResponse
 <requestId>ce01c904-8f3a-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>
    <item>
     <term>6</term>
    </item>
   </priceSchedules>
  </item>
 </reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
```
<DescribeReservedInstancesOfferingsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
<requestId>2bc7dafa-da5d-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>
  </item>
</reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
Example Describing AWS 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-daf9-4257-bdf9-c0814EXAMPLE</requestId>
  <reservedInstancesOfferingsSet>
    <item>
      <reservedInstancesOfferingId>2bc7dafa-daf9-4257-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>
      <offeringType>No Upfront</offeringType>
      <recurringCharges>
        <item>
          <frequency>Hourly</frequency>
          <amount>0.38</amount>
        </item>
      </recurringCharges>
      <marketplace>true</marketplace>
    </item>
  </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-c5c7-458c-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>
        <marketplace>false</marketplace>
        <offeringClass>standard</offeringClass>
        <scope>Availability Zone</scope>
      </recurringCharges>
      ...
    </item>
    ...
  </reservedInstancesOfferingsSet>
  <nextToken>h/C8YKPQBHEjW8xKs1827/Zzyb0VgsqkJr03TqhFYeE=</nextToken>
</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
&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
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
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 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

- 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.
- 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.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.
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

routeTableSet

Information about one or more route tables.

Type: Array of RouteTable (p. 1106) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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

Sample Response

<DescribeRouteTablesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
<requestId>6f570b0b-9c18-4b07-bdec-73740dcf861a</requestId>
<routeTableSet>
  <item>
    <routeTableId>rtb-13ad487a</routeTableId>
    <vpcId>vpc-11ad4878</vpcId>
    <routeSet>
      <item>
        <destinationCidrBlock>10.0.0.0/22</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>
    <associationSet>
      <item>
        <routeTableAssociationId>rtbassoc-12ad487b</routeTableAssociationId>
        <routeTableId>rtb-13ad487a</routeTableId>
        <main>true</main>
      </item>
    </associationSet>
    <propagatingVgwSet/>
    <tagSet/>
  </item>
  <item>
    <routeTableId>rtb-f9ad4890</routeTableId>
    <vpcId>vpc-11ad4878</vpcId>
    <routeSet>
      <item>
        <destinationCidrBlock>10.0.0.0/22</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>
      <item>
        <destinationCidrBlock>0.0.0.0/0</destinationCidrBlock>
        <gatewayId>igw-eaad4883</gatewayId>
        <state>active</state>
        <origin>CreateRoute</origin>
      </item>
      <item>
        <destinationIpv6CidrBlock>::/0</destinationIpv6CidrBlock>
        <gatewayId>igw-eaad4883</gatewayId>
        <state>active</state>
        <origin>CreateRoute</origin>
      </item>
    </routeSet>
    <associationSet>
      <item>
        <routeTableAssociationId>rtbassoc-faad4893</routeTableAssociationId>
        <routeTableId>rtb-f9ad4890</routeTableId>
        <subnetId>subnet-5504d223</subnetId>
        <main>false</main>
      </item>
    </associationSet>
  </item>
</routeTableSet>
<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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 721) 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 (for example, us-west-2a).
- instance-type - The instance type (for example, c4.large).
- network-platform - The network platform (EC2-Classic or EC2-VPC).
- platform - The platform (Linux/UNIX or Windows).

Type: Array of Filter (p. 887) objects
Required: No

FirstSlotStartTimeRange

The time period for the first schedule to start.

Type: SlotDateTimeRangeRequest (p. 1141) 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.
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 (p. 1114) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

See Also

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

Describes one or more of 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 (for example, us-west-2a).
- instance-type - The instance type (for example, c4.large).
- network-platform - The network platform (EC2-Classic or EC2-VPC).
- platform - The platform (Linux/UNIX or Windows).

Type: Array of Filter (p. 887) 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

One or more Scheduled Instance IDs.

Type: Array of strings
Required: No

SlotStartTimeRange

The time period for the first schedule to start.

Type: SlotStartTimeRangeRequest (p. 1142) 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

**scheduledInstances**

Information about the Scheduled Instances.

Type: Array of `ScheduledInstance (p. 1111)` objects

Errors

For information about the errors that are common to all actions, see `Common Client Errors (p. 1302)`. 

See Also

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

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

[EC2-VPC only] Describes the VPCs on the other side of a VPC peering connection 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the operation, without actually making the request, 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

One or more security group IDs 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 (p. 1135) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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

  <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-aabbcddd</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

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See Also

- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeSecurityGroups

Describes one or more of your security groups.

A security group is for use with instances either in the EC2-Classic platform or in a specific VPC. 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.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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. 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 has been 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 (prefix) of the AWS service 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 or a protocol number).
- 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 has been referenced in an inbound security group rule.
**Request Parameters**

- **ip-permission.ipv6-cidr** - An IPv6 CIDR block for an inbound security group rule.
- **ip-permission.prefix-list-id** - The ID (prefix) of the AWS service from which a security group rule allows inbound access.
- **ip-permission.protocol** - The IP protocol for an inbound security group rule (tcp | udp | icmp or a protocol number).
- **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 (p. 887) objects

Required: No

**GroupIds.N**

One or more security group IDs. Required for security groups in a nondefault VPC.

Default: Describes all your security groups.

Type: Array of strings

Required: No

**GroupName.N**

[EC2-Classic and default VPC only] One or more security group names. You can specify either the security group name or the security group ID. For security groups in a nondefault VPC, use the **group-name** filter to describe security groups by name.

Default: Describes all your security groups.

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 request with the returned **NextToken** value. This value can be between 5 and 1000. If this parameter is not specified, then all results are returned.

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.

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

securityGroupInfo

Information about one or more security groups.

Type: Array of SecurityGroup (p. 1132) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example 1

This example returns information about a security group named WebServers. Note that the GroupName parameter returns information about security groups in EC2-Classic or a default VPC only. If no security groups are found in either platform, an exception is returned, regardless of whether you have a security group with the specified name in a nondefault VPC.

Sample Request

&GroupName.1=WebServers
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <securityGroupInfo>
    <item>
      <ownerId>123456789012</ownerId>
      <groupId>sg-1a2b3c4d</groupId>
      <groupName>WebServers</groupName>
      <groupDescription>Web Servers</groupDescription>
      <vpcId>vpc-614cc409</vpcId>
      <ipPermissions>
        <item>
          <ipProtocol>-1</ipProtocol>
          <groups>
Example 2

[EC2-VPC] This example describes security group sg-1a2b3c4d. 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

&GroupId.1=sg-1a2b3c4d
&AUTHPARAMS

Sample Response

Example 3

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 4

[EC2-VPC] 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

Sample Response

```
  <requestId>1d62eae0-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>
        </item>
      </ipPermissions>
    </item>
  </securityGroupInfo>
</DescribeSecurityGroupsResponse>```
Example 5

[EC2-VPC] 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

https://ec2.amazonaws.com/?Action=DescribeSecurityGroups&GroupId.1=sg-bcc24bcd

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/>
          <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>
    </item>
  </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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

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

- A list of permissions for creating volumes from the snapshot.
  - Type: Array of CreateVolumePermission (p. 852) objects

productCodes

- A list of product codes.
  - Type: Array of ProductCode (p. 1064) 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 Errors (p. 1302).

Example

Example

This example describes permissions for a snapshot with the ID of `snap-1234567890abcdef0`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSnapshotAttribute
&SnapshotId=snap-1234567890abcdef0
&Attribute=createVolumePermission
&AUTHPARAMS
```

Sample Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <snapshotId>snap-1234567890abcdef0</snapshotId>
  <createVolumePermission>
    <item>
      <group>all</group>
    </item>
  </createVolumePermission>
</DescribeSnapshotAttributeResponse>
```

See Also

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

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

Describes one or more of the EBS snapshots available to you. Available snapshots include public snapshots available for any AWS account to launch, private snapshots that you own, and private snapshots owned by another AWS account but for which you've been given 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 modified 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, you can paginate the output to make the list more manageable. The **MaxResults** parameter sets the maximum number of results returned in a single page. If the list of results exceeds your **MaxResults** value, then that number of results is returned along with a **NextToken** value that can be passed to a subsequent **DescribeSnapshots** request to retrieve the remaining results.

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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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.
*description* - A description of the snapshot.

*owner-alias* - Value from an Amazon-maintained list (amazon | aws-marketplace | microsoft) of snapshot owners. Not to be confused with the user-configured AWS account alias, which is set from the IAM console.

*owner-id* - The ID of the AWS account that owns the snapshot.

*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).

*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 (p. 887) objects

Required: No

**MaxResults**

The maximum number of snapshot results returned by `DescribeSnapshots` in paginated output. When this parameter is used, `DescribeSnapshots` 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 `DescribeSnapshots` request with the returned `NextToken` value. This value can be between 5 and 1000; if `MaxResults` is given a value larger than 1000, only 1000 results are returned. If this parameter is not used, then `DescribeSnapshots` returns all results. You cannot specify this parameter and the snapshot IDs parameter in the same request.

Type: Integer

Required: No

**NextToken**

The `NextToken` value returned from a previous paginated `DescribeSnapshots` 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

**Owner.N**

Returns the snapshots owned by the specified owner. Multiple owners can be specified.

Type: Array of strings

Required: No

**RestorableBy.N**

One or more AWS accounts IDs that can create volumes from the snapshot.

Type: Array of strings
Response Elements

The following elements are returned by the service.

nextToken

The `NextToken` value to include in a future `DescribeSnapshots` request. When the results of a `DescribeSnapshots` 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

snapshotSet

Information about the snapshots.

Type: Array of `Snapshot (p. 1143)` objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example

This example describes a snapshot with an ID of `snap-1234567890abcdef0`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSnapshots
&SnapshotId=snap-1234567890abcdef0
&AUTHPARAMS
```

Sample Response

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

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<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

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 content -->

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 (p. 1151) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

Sample Request

https://ec2.amazonaws.com/?Action=DescribeSpotDatafeedSubscription &AUTHFARMS

Sample Response

<DescribeSpotDatafeedSubscriptionResponse 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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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. Specify a value between 1 and 1000. The default value is 1000. 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

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 (p. 822) objects

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

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 Errors (p. 1302).

Example

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
&AUTHPARAMS
```

Sample Response

```
<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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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
Required: No

MaxResults

The maximum number of results to return in a single call. Specify a value between 1 and 1000. The default value is 1000. 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

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 (p. 906) 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 results, this value is not present.

Type: Timestamp

**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

**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 Errors (p. 1302).

Example

**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

<DescribeSpotFleetRequestHistoryResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>30be3aaf-afdd-48c-b622-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>
        <eventDescription>m3.medium, ami-1ecae776, Linux/UNIX (Amazon VPC); old price: 0.0153, new price: 0.0153</eventDescription>
        <eventSubType>price_update</eventSubType>
      </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>
    <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>
  </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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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. Specify a value between 1 and 1000. The default value is 1000. 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

SpotFleetRequestId.N

The IDs of the Spot Fleet requests.

Type: Array of strings
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.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

This example describes all of your Spot Fleet requests.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeSpotFleetRequests

Sample Response

  <requestId>4d68a6cc-6f2e-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>
      </spotFleetRequestConfig>
    </item>
  </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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 383) with a filter to look for instances where the instance lifecycle is spot.

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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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-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 for General Purpose SSD, io1 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 (p. 887) objects

Required: No

SpotInstanceRequestId,N

One or more Spot Instance request IDs.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.
Type: String

**spotInstanceRequestSet**

One or more Spot Instance requests.

Type: Array of **SpotInstanceRequest** (p. 1164) objects

**Errors**

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

**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>
        <imageId>ami-1a2b3c4d</imageId>
        <keyName>my-key-pair</keyName>
        <groupSet>
          <item>
            <groupId>sg-1a2b3c4d</groupId>
            <groupName>websrv</groupName>
          </item>
        </groupSet>
        <instanceType>m3.medium</instanceType>
        <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
&AUTHPARAMS
```

Example for DescribeInstances

Alternatively, you can use DescribeInstances (p. 383) 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
&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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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, this operation returns the prices of the instance types within the time range that you specified and the time when the price changed. The price is valid within the time period that you specified; the response merely indicates the last time that the price changed.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

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

One or more 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 | SUSE Linux | Windows | Linux/UNIX (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, YYYY-MM-DDTHH:MM:SSZ). You can use wildcards (* and ?). Greater than or less than comparison is not supported.

Type: Array of Filter (p. 887) objects

Required: No
InstanceType.N

Filters the results by the specified instance types.

Type: Array of strings

Valid Values: t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large
| t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge |
| m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge |
| m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge |
| m2.4xlarge | cr1.8xlarge | 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.large | r5d.large | r5d.xlarge |
| r5d.2xlarge | r5d.4xlarge | r5d.8xlarge | r5d.12xlarge | r5d.16xlarge |
| r5d.24xlarge | r5d.large | x1.16xlarge | x1.32xlarge | x1e.xlarge |
| x1e.2xlarge | x1e.4xlarge | x1e.8xlarge | x1e.16xlarge | x1e.32xlarge |
| i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.xlarge | i3.2xlarge |
| i3.xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.meta | i3.4xlarge |
| hs1.8xlarge | c1.medium | c1.xlarge | c1.large | c1.xlarge | c1.large |
| c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c3.16xlarge |
| c4.2xlarge | c4.4xlarge | c4.xlarge | c4.8xlarge | c4.16xlarge | c4.32xlarge |
| c5.2xlarge | c5.4xlarge | c5.xlarge | c5.8xlarge | c5.16xlarge | c5.32xlarge |
| c5.18xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge |
| c5d.9xlarge | c5d.18xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge |
| g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | g3.32xlarge | g3.64xlarge |
| g3.128xlarge | g3.256xlarge | g3.512xlarge | g3.1024xlarge | g3.2048xlarge |
| d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | d2.16xlarge | d2.32xlarge |
| d2.64xlarge | d2.128xlarge | d2.256xlarge | d2.512xlarge | d2.1024xlarge |
| d2.2048xlarge | m5.large | m5.xlarge | m5.2xlarge | m5.4xlarge | m5.8xlarge |
| m5.16xlarge | m5.32xlarge | m5.64xlarge | m5.128xlarge | m5.256xlarge |
| m5.512xlarge | m5.1024xlarge | m5.2048xlarge | m5d.large | m5d.xlarge |
| m5d.2xlarge | m5d.4xlarge | m5d.8xlarge | m5d.16xlarge |
| m5d.32xlarge | m5d.64xlarge | m5d.128xlarge | m5d.256xlarge |
| m5d.512xlarge | m5d.1024xlarge | m5d.2048xlarge | z1d.large | z1d.xlarge |
| z1d.2xlarge | z1d.4xlarge | z1d.8xlarge | z1d.16xlarge |
| z1d.32xlarge | z1d.64xlarge | z1d.128xlarge |

Required: No

MaxResults

The maximum number of results to return in a single call. Specify a value between 1 and 1000. The default value is 1000. 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

ProductDescription.N

Filters the results by the specified basic product descriptions.

Type: Array of strings

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 or an empty string when there are no more results to return.

Type: String

**requestId**

The ID of the request.

Type: String

**spotPriceHistorySet**

The historical Spot prices.

Type: Array of SpotPrice (p. 1174) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

**Example**

This example gets 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>
  <spotPriceHistorySet>
```

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
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=2016-11-01*
&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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeStaleSecurityGroups

[EC2-VPC only] Describes the stale security group rules for security groups in a specified VPC. Rules are stale when they reference a deleted security group in a peer VPC, or a security group in a peer VPC for which the VPC peering connection has been 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the operation, without actually making the request, 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. The request returns a token that you can specify in a subsequent call to get the next set of results.

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

VpcId

The ID of the VPC.

Type: String
Required: Yes

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

staleSecurityGroupSet

Information about the stale security groups.

Type: Array of StaleSecurityGroup (p. 1178) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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>
  <staleSecurityGroupSet>
    <item>
      <staleIpPermissionsEgress>
        <item>
          <fromPort>22</fromPort>
          <toPort>22</toPort>
          <groups>
            <item>
              <vpcId>vpc-7a20e51f</vpcId>
              <groupId>sg-ef6fba8b</groupId>
              <vpcPeeringConnectionId>pcx-b04deed9</vpcPeeringConnectionId>
              <peeringStatus>active</peeringStatus>
              <description>Access to pcx-b04deed9</description>
            </item>
          </groups>
          <ipProtocol>tcp</ipProtocol>
        </item>
      </staleIpPermissionsEgress>
      <groupName>Sg-1</groupName>
      <vpcId>vpc-11223344</vpcId>
      <groupId>sg-fe6fba9a</groupId>
      <description>Sg-1 for peering</description>
    </item>
    <item>
      <staleIpPermissions/>
    </item>
  </staleSecurityGroupSet>
</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeSubnets

Describes one or more of your subnets.

For more information, see Your VPC and Subnets 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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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.

- availabilityZone - The Availability Zone for the subnet. You can also use availability-zone as the filter name.
- available-ip-address-count - The number of IPv4 addresses in the subnet that are available.
- cidrBlock - 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 cidr-block as the filter names.
- defaultForAz - Indicates whether this is the default subnet for the Availability Zone. You can also use default-for-az as the filter name.
- 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.
- state - The state of the subnet (pending | available).
- 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 (p. 887) objects

Required: No

**SubnetId.N**

One or more subnet IDs.
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

subnetSet

Information about one or more subnets.

Type: Array of Subnet (p. 1183) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example 1

This example describes the subnets with the IDs subnet-9d4a7b6c and subnet-6e7f829e.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSubnets
&SubnetId.1=subnet-9d4a7b6c
&SubnetId.2=subnet-6e7f829e
&AUTHPARAMS
```

Sample Response

```
<DescribeSubnetsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <subnetSet>
    <item>
      <subnetId>subnet-9d4a7b6c</subnetId>
      <state>available</state>
      <vpcId>vpc-1a2b3c4d</vpcId>
      <cidrBlock>10.0.1.0/24</cidrBlock>
      <ipv6CidrBlockAssociationSet>
        <item>
          <ipv6CidrBlock>2001:db8:1234:1a00::/64</ipv6CidrBlock>
          <associationId>subnet-cidr-assoc-abababab</associationId>
          <ipv6CidrBlockState>
            <state>ASSOCIATED</state>
          </ipv6CidrBlockState>
        </item>
      </ipv6CidrBlockAssociationSet>
    </item>
  </subnetSet>
</DescribeSubnetsResponse>
```
Example 2

This example uses filters to describe any subnet you own that is in the VPC with the ID vpc-1a2b3c4d or vpc-6e7f8a92, and whose state is available.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeSubnets
&Filter.1.Name=vpc-id
&Filter.1.Value.1=vpc-1a2b3c4d
&Filter.1.Value.2=vpc-6e7f8a92
&Filter.2.Name=state
&Filter.2.Value.1=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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeTags

Describes one or more of the tags for your EC2 resources.

For more information about tags, see Tagging Your 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.
- **key** - The tag key.
- **resource-id** - The resource ID.
- **value** - The tag value.

Type: Array of Filter (p. 887) objects
Required: No

MaxResults

The maximum number of results to return in a single call. This value can be between 5 and 1000. To retrieve the remaining results, make another call with the returned 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

tagSet

A list of tags.

Type: Array of TagDescription (p. 1189) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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>  </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

Example
This example describes the tags for all your instances.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeTags
&Filter.1.Name=resource-type
Sample Response

```
<DescribeTagsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <tagSet>
    <item>
      <resourceId>i-0598c7d356eb48d7</resourceId>
      <resourceType>instance</resourceType>
      <key>webserver</key>
      <value/>
    </item>
    <item>
      <resourceId>i-0598c7d356eb48d7</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>Test</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 `?ebserver` 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
&AUTHPARAMS`

Sample Response

```
<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>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
&Filter.1.Value.1=instance
&Filter.2.Name=key
&Filter.2.Value.1=stack
&Filter.3.Name=value
&Filter.3.Value.1=Test
&Filter.3.Value.2=Production
&AUTHPARAMS
```

Sample Response

```
<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

```
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
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
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 (p. 1267).

Attribute

The attribute of the volume. This parameter is required.

Type: String

Valid Values: autoEnableIO | productCodes

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.

autoEnableIO

The state of autoEnableIO attribute.

Type: AttributeBooleanValue (p. 826) object

productCodes

A list of product codes.

Type: Array of ProductCode (p. 1064) objects

requestId

The ID of the request.

Type: String
volumeId

The ID of the volume.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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**

```
  <requestId>5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
  <volumeId>vol-1234567890abcdef0</volumeId>
  <autoEnableIO>
    <value>false</value>
  </autoEnableIO>
</DescribeVolumeAttributeResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeVolumes

Describes the specified EBS volumes.

If you are describing a long list of volumes, you can paginate the output to make the list more manageable. The MaxResults parameter sets the maximum number of results returned in a single page. If the list of results exceeds your MaxResults value, then that number of results is returned along with a NextToken value that can be passed to a subsequent DescribeVolumes request to retrieve the remaining results.

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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

- 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 - The encryption status of the volume.
- size - The size of the volume, in GiB.
- snapshot-id - The snapshot from which the volume was created.
- status - The status 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. This can be gp2 for General Purpose SSD, io1 for Provisioned IOPS SSD, st1 for Throughput Optimized HDD, sc1 for Cold HDD, or standard for Magnetic volumes.

Type: Array of Filter (p. 887) objects

Required: No

MaxResults

The maximum number of volume results returned by DescribeVolumes in paginated output. When this parameter is used, DescribeVolumes 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 DescribeVolumes request with the returned NextToken value. This value can be between 5 and 500; if MaxResults is given a value larger than 500, only 500 results are returned. If this parameter is not used, then DescribeVolumes returns all results. You cannot specify this parameter and the volume IDs parameter in the same request.

Type: Integer

Required: No

NextToken

The NextToken value returned from a previous paginated DescribeVolumes 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

VolumeId.N

One or more volume IDs.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The NextToken value to include in a future DescribeVolumes request. When the results of a DescribeVolumes 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

volumeSet

Information about the volumes.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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>
    </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
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
The document contains a list of See Also references, which includes:

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeVolumesModifications

Reports the current modification status of EBS volumes.

Current-generation EBS volumes support modification of attributes including type, size, and (for io1 volumes) IOPS provisioning while either attached to or detached from an instance. Following an action from the API or the console to modify a volume, the status of the modification may be *modifying*, *optimizing*, *completed*, or *failed*. If a volume has never been modified, then certain elements of the returned *VolumeModification* objects are null.

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 Monitoring 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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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. Supported filters: *volume-id*, *modification-state*, *target-size*, *target-iops*, *target-volume-type*, *original-size*, *original-iops*, *original-volume-type*, *start-time*.

Type: Array of Filter (p. 887) objects

Required: No

**MaxResults**

The maximum number of results (up to a limit of 500) to be returned in a paginated request.

Type: Integer

Required: No

**NextToken**

The *nextToken* value returned by a previous paginated request.

Type: String

Required: No

**VolumeId.N**

One or more volume IDs for which in-progress modifications will be described.

Type: Array of strings

Required: No
Response Elements

The following elements are returned by the service.

nextToken
- Token for pagination, null if there are no more results
  - Type: String

requestId
- The ID of the request.
  - Type: String

volumeModificationSet
- A list of returned VolumeModification (p. 1214) objects.
  - Type: Array of VolumeModification (p. 1214) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Display volume status after modifications to size, type, and IOPS provisioning

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>
      <targetIops>10000</targetIops>
      <originalIops>300</originalIops>
      <modificationState>optimizing</modificationState>
      <targetSize>200</targetSize>
      <targetVolumeType>io1</targetVolumeType>
      <volumeId>vol-0123456789EXAMPLE</volumeId>
      <progress>40</progress>
      <startTime>2017-01-19T23:58:04.922Z</startTime>
      <originalSize>100</originalSize>
      <originalVolumeType>gp2</originalVolumeType>
    </item>
  </volumeModificationSet>
</DescribeVolumesModificationsResponse>
Display 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>35fdf8d3-6ffe-46dc-8f8e-62fe70bc31a2</requestId>
  <volumeModificationSet>
    <item>
      <targetIops>10000</targetIops>
      <originalIops>100</originalIops>
      <modificationState>optimizing</modificationState>
      <targetSize>2000</targetSize>
      <targetVolumeType>io1</targetVolumeType>
      <volumeId>vol-06397e7aeEXAMPLE</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
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
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 may still be taking place on your volume at the time. We recommend that you retry the request. For more information about volume status, see Monitoring the Status of Your Volumes in the Amazon Elastic Compute Cloud User Guide.

**Events:** Reflect the cause of a volume status and may 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 may have inconsistent data.

**Actions:** Reflect the actions you may 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` (p. 612) 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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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.
- `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.
Response Elements

- `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 (p. 887) objects

Required: No

MaxResults

The maximum number of volume results returned by DescribeVolumeStatus in paginated output. When this parameter is used, the request 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 request with the returned `NextToken` value. This value can be between 5 and 1000; if `MaxResults` is given a value larger than 1000, only 1000 results are returned. If this parameter is not used, then DescribeVolumeStatus returns all results. You cannot specify this parameter and the volume IDs parameter in the same request.

Type: Integer

Required: No

NextToken

The `NextToken` value to include in a future DescribeVolumeStatus request. When the results of the 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

Required: No

VolumeId.N

One or more volume IDs.

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 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

`volumeStatusSet`

A list of volumes.

Type: Array of `VolumeStatusItem` (p. 1220) objects

**Errors**

For information about the errors that are common to all actions, see [Common Client Errors (p. 1302)](https://docs.aws.amazon.com/AWSEC2/latest/APIReference/AmznError-CommonErrors.html).

**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**

```xml
  <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>
    <item>
      <volumeId>vol-1234567890abcdef1</volumeId>
      <availabilityZone>us-east-1d</availabilityZone>
      <volumeStatus>
        <status>impaired</status>
        <details>
          <item>
            <title>io-enabled</title>
            <status>failed</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**Attribute**

The VPC attribute.

Type: String

Valid Values: enableDnsSupport | enableDnsHostnames

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 (p. 826) 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 (p. 826) object

**requestId**

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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
&AUTHPARAMS
```

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
&AUTHPARAMS
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeVpcClassicLink

Describes the ClassicLink status of one or more 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

- 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 (p. 887) objects
Required: No

VpcId.N

One or more 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 one or more VPCs.

Type: Array of VpcClassicLink (p. 1226) objects
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

This example lists the ClassicLink status of vpc-88888888.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpcClassicLink
&VpcId.1=vpc-88888888
&AUTHFARMS

Sample Response

  requestId=59dbff89-35bd-4eac-99ed-be587EXAMPLE">
  <vpcSet>
    <item>
      <vpcId>vpc-0441b461</vpcId>
      <classicLinkEnabled>true</classicLinkEnabled>
      <tagSet/>
    </item>
  </vpcSet>
</DescribeVpcClassicLinkResponse>

See Also

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

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

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. For more information, see ClassicLink 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 (p. 1267).

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.

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

VpcsIds.N

One or more VPC IDs.

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.

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 (p. 841) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example

This example describes the ClassicLink DNS support status of all of your VPCs.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpcClassicLinkDnsSupport

Sample Response

  <requestId>14eea823-b88b-472a-9225-5f6a54ab1a5c</requestId>
  <vpcs>
    <item>
      <classicLinkDnsSupported>true</classicLinkDnsSupported>
      <vpcId>vpc-wxy987wz</vpcId>
    </item>
    <item>
      <classicLinkDnsSupported>false</classicLinkDnsSupported>
      <vpcId>vpc-123abc12</vpcId>
    </item>
  </vpcs>
</DescribeVpcClassicLinkDnsSupportResponse>

Example

This example describes the ClassicLink DNS support status of vpc-1a2b3c4d.

Sample Request

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

See Also

For more 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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**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**

One or more filters.

- connection-notification-arn - The ARN of 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 (p. 887) 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.

**connectionNotificationSet**

One or more notifications.

Type: Array of ConnectionNotification (p. 846) 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 Errors (p. 1302).

Example

**Example**

This example describes all of your connection notifications.

**Sample Request**

```xml
https://ec2.amazonaws.com/?Action=DescribeVpcEndpointConnectionNotifications
&AUTHPARAMS
```

**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-123451a02f327123</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeVpcEndpointConnections

Describes 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

- service-id - The ID of the service.
- vpc-endpoint-owner - The AWS account number of the owner of 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 (p. 887) 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 larger than 1000, only 1000 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 one or more VPC endpoint connections.

Type: Array of VpcEndpointConnection (p. 1229) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

Example

This example describes all 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>2017-10-18T12:41:892Z</creationTimestamp>
      <vpcEndpointState>rejected</vpcEndpointState>
      <serviceId>vpce-svc-0435c4480f65e3abc</serviceId>
      <vpcEndpointId>vpce-051a4ba136c8a12d8</vpcEndpointId>
    </item>
    <item>
      <vpcEndpointOwner>123123123123</vpcEndpointOwner>
      <creationTimestamp>2017-10-18T12:25:07.739Z</creationTimestamp>
      <vpcEndpointState>pendingAcceptance</vpcEndpointState>
      <serviceId>vpce-svc-01f406f3e99f8a123</serviceId>
      <vpcEndpointId>vpce-09593ee8e85835659</vpcEndpointId>
  </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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeVpcEndpoints

Describes one or more of 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

• service-name: The name of the service.
• 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. (pending | available | deleting | deleted)

Type: Array of Filter (p. 887) 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 1000, we return only 1000 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

One or more endpoint IDs.

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 (p. 1227) objects

Errors
For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

Example
This example describes all of your endpoints.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpcEndpoints
&AUTHPARAMS

Sample Response

  <requestId>8d3e7656-3328-451d-8c86-7156example</requestId>
  <vpcEndpointSet>
    <item>
      <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>
</item>
</item>
<policyDocument>{
 "Statement": [
  {
 "Action": "*",
 "Effect": "Allow",
 "Principal": "*",
 "Resource": "*"
  }
 ]
}</policyDocument>
</routeTableIdSet/>
<dnsEntrySet>
  <item>
    <hostedZoneId>Z7HUB22UULQXV</hostedZoneId>
    <dnsName>vpc-0f89a33420c1931d7-bluzidnv.elasticloadbalancing.us-east-1.vpce.amazonaws.com</dnsName>
  </item>
  <item>
    <hostedZoneId>Z7HUB22UULQXV</hostedZoneId>
    <dnsName>vpc-0f89a33420c1931d7-bluzidnv-us-east-1b.elasticloadbalancing.us-east-1.vpce.amazonaws.com</dnsName>
  </item>
  <item>
    <hostedZoneId>Z7HUB22UULQXV</hostedZoneId>
    <dnsName>vpc-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-d6fcaa8d</item>
  <item>subnet-7b16de0c</item>
</subnetIdSet>
<networkInterfaceIdSet>
  <item>eni-2ec2b084</item>
  <item>eni-1b4a65cf</item>
</networkInterfaceIdSet>
<vpcEndpointType>Interface</vpcEndpointType>
<vpcId>vpc-1a2b3c4d</vpcId>
<creationTimestamp>2017-09-05T17:55:27.583Z</creationTimestamp>
<state>available</state>
</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++
• AWS SDK for Go
• AWS SDK for Java
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.
- 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).

Type: Array of Filter (p. 887) 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 larger than 1000, only 1000 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 one or more 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 one or more services.

Type: Array of ServiceConfiguration (p. 1136) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

This example describes all of your VPC endpoint service configurations.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpcEndpointServiceConfigurations

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>
          <serviceState>Interface</serviceState>
        </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>
      <serviceName>com.amazonaws.vpce.us-east-1.vpce-svc-0799b7d1c483b0123</serviceName>
      <networkLoadBalancerArnSet>
        <item>arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/net/mynlb/1238753950b25123</item>
      </networkLoadBalancerArnSet>
    </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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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.

- **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 1000; if `MaxResults` is given a value larger than 1000, only 1000 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 one or more allowed principals.

Type: Array of AllowedPrincipal (p. 825) 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 Errors (p. 1302).

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
See Also

- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeVpcEndpointServices

Describes available services to which you can create a VPC 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

• service-name: The name of the service.

Type: Array of Filter (p. 887) 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 1000, we return only 1000 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

One or more 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 (p. 1138) objects

serviceNameSet

A list of supported services.

Type: Array of strings

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

This example describes all available endpoint services.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpcEndpointServices
&AUTHPARAMS

Sample Response

ặp<<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>
    <serviceType>
      <item>
        <serviceType>Gateway</serviceType>
      </item>
    </serviceType>
  </item>
</DescribeVpcEndpointServicesResponse>>
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Example

```xml
<item>
  <serviceType>Interface</serviceType>
</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>
<serviceName>com.amazonaws.us-east-1.elasticloadbalancing</serviceName>
<vpcEndpointPolicySupported>false</vpcEndpointPolicySupported>
</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>
  <item>us-east-1f</item>
</availabilityZoneSet>
<serviceName>com.amazonaws.us-east-1.kinesis-streams</serviceName>
<vpcEndpointPolicySupported>false</vpcEndpointPolicySupported>
</item>

<item>
  <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>
<serviceName>com.amazonaws.us-east-1.s3</serviceName>
<vpcEndpointPolicySupported>true</vpcEndpointPolicySupported>
</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

- accepter-vpc-info.cidr-block - The IPv4 CIDR block of the accepter VPC.
- accepter-vpc-info.owner-id - The AWS account ID of the owner of 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 AWS account ID of the owner of 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 (p. 887) objects

Required: No

VpcPeeringConnectionId.N

One or more VPC peering connection IDs.

Default: Describes all your VPC peering connections.

Type: Array of strings

Required: No
Response Elements

The following elements are returned by the service.

```plaintext
requestId
The ID of the request.
Type: String
```

```plaintext
vpcPeeringConnectionSet
Information about the VPC peering connections.
Type: Array of VpcPeeringConnection (p. 1231) objects
```

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example 1

This example describes all of your VPC peering connections.

Sample Request

```plaintext
https://ec2.amazonaws.com/?Action=DescribeVpcPeeringConnections
&AUTHPARAMS
```

Sample Response

```plaintext
<DescribeVpcPeeringConnectionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/" requestId="7a62c49f-347e-4fc4-9331-6e8eEXAMPLE">
<vpcPeeringConnectionSet>
  <item>
    <vpcPeeringConnectionId>pcx-111aaa22</vpcPeeringConnectionId>
    <requesterVpcInfo>
      <ownerId>777788889999</ownerId>
      <vpcId>vpc-1a2b3c4d</vpcId>
      <cidrBlock>172.31.0.0/16</cidrBlock>
    </requesterVpcInfo>
    <accepterVpcInfo>
      <ownerId>123456789012</ownerId>
      <vpcId>vpc-aa22cc33</vpcId>
      <cidrBlock>10.0.0.0/16</cidrBlock>
      <peeringOptions>
        <allowEgressFromLocalClassicLinkToRemoteVpc>false</allowEgressFromLocalClassicLinkToRemoteVpc>
        <allowEgressFromLocalVpcToRemoteClassicLink>true</allowEgressFromLocalVpcToRemoteClassicLink>
        <allowDnsResolutionFromRemoteVpc>false</allowDnsResolutionFromRemoteVpc>
      </peeringOptions>
    </accepterVpcInfo>
    <status>
      <code>active</code>
      <message>Active</message>
    </status>
  </item>
</vpcPeeringConnectionSet>
</DescribeVpcPeeringConnectionsResponse>
```
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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
• AWS SDK for Ruby V2
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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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.

- **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.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.
- **isDefault** - Indicates whether the VPC is the default 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 (p. 887) objects

Required: No

**VpcId.N**

One or more VPC IDs.

Default: Describes all your VPCs.
Response Elements

The following elements are returned by the service.

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 Errors (p. 1302).

Examples

Example 1

This example describes the specified VPC.

Sample Request

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

Sample Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpcSet>
    <item>
      <vpcId>vpc-1a2b3c4d</vpcId>
      <state>available</state>
      <cidrBlock>192.168.0.0/16</cidrBlock>
      <cidrBlockAssociationSet>
        <item>
          <cidrBlock>192.168.0.0/16</cidrBlock>
          <associationId>vpc-cidr-assoc-5ead5937</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
&Filter.1.Value.1=dopt-7a8b9c2d
&Filter.1.Value.2=dopt-2b2a3d3c
&Filter.2.Name=state
&Filter.2.Value.1=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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeVpnConnections

Describes one or more of your VPN connections.

For more information about VPN connections, see AWS Managed VPN Connections 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

Type: Array of Filter (p. 887) 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 (p. 1237) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example 1

This example describes the specified VPN connection. The response includes the customer gateway 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 Amazon Virtual Private Cloud Network Administrator Guide.

Sample Request

https://ec2.amazonaws.com/?Action=DescribeVpnConnections
&VpnConnectionId.1=vpn-44a8938f
&AUTHPARAMS

Sample Response

<DescribeVpnConnectionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpnConnectionSet>
    <item>
      <vpnConnectionId>vpn-44a8938f</vpnConnectionId>
      <state>available</state>
      <customerGatewayConfiguration>
        ...
      </customerGatewayConfiguration>
      <type>ipsec.1</type>
      <customerGatewayId>cgw-b4dc3961</customerGatewayId>
      <vpnGatewayId>vgw-8db04f81</vpnGatewayId>
      <tagSet>
        <item>
          <key>Name</key>
          <value>MyEGVPN</value>
        </item>
      </tagSet>
      <vgwTelemetry>
      </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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DescribeVpnGateways

Describes one or more of your virtual private gateways.

For more information about virtual private gateways, see AWS Managed VPN Connections 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 (p. 887) 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 (p. 1241) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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
&Filter.1.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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DetachClassicLinkVpc

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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).
Example

This example unlinks instance i-0598c7d356eba48d7 from VPC vpc-8888888.

Sample Request

https://ec2.amazonaws.com/?Action=DetachClassicLinkVpc
&VpcId=vpc-8888888
&InstanceId=i-0598c7d356eba48d7
&AUTHPARAMS

Sample Response

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

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).
Example

Example

The example detaches the specified internet gateway from the specified VPC.

Sample Request

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

Sample Response

<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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

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.

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 Errors (p. 1302).
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

```
  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
**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 Detaching 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 (p. 1267).

**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.

Type: String

Required: No

**VolumeId**

The ID of the volume.
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 Errors (p. 1302).

Example

Example

This example detaches volume vol-1234567890abcdef0.
Sample Request

https://ec2.amazonaws.com/?Action=DetachVolume
&VolumeId=vol-1234567890abcdef0
&AUTHPARAMS

Sample Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMFLB</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).
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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**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 Errors (p. 1302).

Example

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
Sample Response

```xml
  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DisableVpcClassicLink

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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).

Example

This example disables ClassicLink for vpc-8888888.
Sample Request

https://ec2.amazonaws.com/?Action=DisableVpcClassicLink
&VpcId=vpc-8888888
&AUTHPARAMS

Sample Response

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

See Also

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

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

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. For more information, see ClassicLink 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 (p. 1267).

- 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 Errors (p. 1302).

Example

This example disables ClassicLink DNS support for vpc-8888888.

Sample Request

https://ec2.amazonaws.com/?Action=DisableVpcClassicLinkDnsSupport
&VpcId=vpc-8888888

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DisassociateAddress

Disassociates an Elastic IP address from the instance or network interface it's associated with.

An Elastic IP address is for use in either the EC2-Classic platform or in a VPC. For more information, see Elastic IP Addresses in the Amazon Elastic Compute Cloud User Guide.

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 (p. 1267).

**AssociationId**

[EC2-VPC] The association ID. Required for EC2-VPC.

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**


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 Errors (p. 1302).
Examples

Example for EC2-Classic

This example disassociates the specified Elastic IP address from the instance in EC2-Classic to which it is associated.

Sample Request

https://ec2.amazonaws.com/?Action=DisassociateAddress
&PublicIp=192.0.2.1
&AUTHPARAMS

Example for EC2-VPC

This example disassociates the specified Elastic IP address from the instance in a VPC to which it is associated.

Sample Request

https://ec2.amazonaws.com/?Action=DisassociateAddress
&AssociationId=eipassoc-aa7468c3
&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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DisassociateIamInstanceProfile

Disassociates an IAM instance profile from a running or stopped instance.

Use DescribeIamInstanceProfileAssociations (p. 353) 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 (p. 1267).

**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 (p. 918) object

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

**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/">

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```
<requestId>4840f938-6c84-4791-8ae5-example</requestId>
<iarnInstanceProfileAssociation>
  <associationId>iip-assoc-08049da59357d598c</associationId>
  <iarnInstanceProfile>
    <arn>arn:aws:iam::123456789012:instance-profile/AdminProfile</arn>
    <id>AIPAI5IVIHMMFFY2DKV5Y</id>
  </iarnInstanceProfile>
</iarnInstanceProfileAssociation>

See Also

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

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

Disassociates a subnet 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 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 (p. 1267).

**AssociationId**

The association ID representing the current association between the route table and 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

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 Errors (p. 1302).

Example

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-fdad4894
&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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

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 (p. 1186) 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 Errors (p. 1302).

Example

Example

This example disassociates the IPv6 CIDR block from the subnet.

Sample Request

https://ec2.amazonaws.com/?Action=DisassociateSubnetCidrBlock
&AssociationId=subnet-cidr-assoc-3aa54053
Sample Response

```xml
<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>
    <associationId>subnet-cidr-assoc-3aa54053</associationId>
  </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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 574). 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 (p. 1267).

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 (p. 1224) object

ipv6CidrBlockAssociation

Information about the IPv6 CIDR block association.

Type: VpcIpv6CidrBlockAssociation (p. 1230) 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 Errors (p. 1302).

Example

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**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 Errors (p. 1302).

Example

Example

This example enables the specified virtual private gateway to propagate routes automatically to the route table with the ID `rtb-c98a35a0`.

Sample Request

```
https://ec2.amazonaws.com/?Action=EnableVgwRoutePropagation
```
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:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).

Example

This example enables the I/O operations of the volume vol-8888888.
Sample Request

https://ec2.amazonaws.com/?Action=EnableVolumeIO
&amp;VolumeId=vol-8888888
&amp;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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
EnableVpcClassicLink

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. For more information, see ClassicLink 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).

Example

This example enables vpc-8888888 for ClassicLink.
Sample Request

https://ec2.amazonaws.com/?Action=EnableVpcClassicLink
&VpcId=vpc-8888888
&AUTHPARAMS

Sample Response

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

See Also

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

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

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. For more information, see ClassicLink 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 (p. 1267).

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 Errors (p. 1302).

Example

Example

This example enables vpc-8888888 for ClassicLink DNS support.

Sample Request

https://ec2.amazonaws.com/?Action=EnableVpcClassicLinkDnsSupport
&VpcId=vpc-8888888
&AUTHPARAMS
Sample Response

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

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

InstanceId

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

requestId

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 Errors (p. 1302).

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>2010-10-14T01:12:41.000Z</timestamp>
  <output>TGludXggdmVyc2lvbiAyLjYuMTYteGVuVSAoYnVpbGRlckBwYXRjaGJhdC5hbWF6b25zYSkgKgdjj
  Yy82ZXJzaW9uIDQuMC4xIDIwMDUwNzI3IChSZWQgSGF0IDQuMC4xLTUpKSAjMSBTTVAgVGh1IE9jdCAyNiAwODo0MToyNiBTQVNUIDIwMDYKQklPUy1wcm92aWRlZCBwaHlzaW9wZSBhIE9yZSwgYXZhaWxhYmxlICh1c2FibGUpCk43MjdNQiBMT1dNRU0gYXZhaWxhYmxlICh1c2FibGUpCg==</output>
</GetConsoleOutputResponse>

Example 2

This example retrieves the latest console output for the specified instance.

Sample Request

https://ec2.amazonaws.com/?Action=GetConsoleOutput
See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).

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>997987/8kgj49ikjhexkwe0008084EXAMPLE</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 715) 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 (p. 1267).

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 (p. 1068) 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 Errors (p. 1302).

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

<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
- AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
GetLaunchTemplateData

Retrieves the configuration data of the specified instance. You can use this data to create a launch template.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

Type: ResponseLaunchTemplateData (p. 1100) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

Example

This example gets the data for instance i-123456abcdefc123ab.
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>
    <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>
    </placement>
  </launchTemplateData>
</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 Elastic Compute Cloud 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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

This example returns the encrypted version of the administrator password for the specified instance.

Sample Request

```plaintext
https://ec2.amazonaws.com/?Action=GetPasswordData
&InstanceId=i-1234567890abcdef0
&AUTHPARAMS
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 18) 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 (p. 1194) 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 (p. 1081) object

reservedInstanceValueSet

The configuration of your Convertible Reserved Instances.

Type: Array of ReservedInstanceReservationValue (p. 1083) objects

targetConfigurationValueRollup

The cost associated with the Reserved Instance.

Type: ReservationValue (p. 1081) object

targetConfigurationValueSet

The values of the target Convertible Reserved Instances.

Type: Array of TargetReservationValue (p. 1197) 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 Errors (p. 1302).

Example

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-98e0-e6c002EXAMPLE</requestId>
  <outputReservedInstancesWillExpireAt>2019-05-17T12:32:53Z</outputReservedInstancesWillExpireAt>
  <reservedInstanceValueSet>
    <item>
      <reservedInstancesId>649fd0c8-7760-46b8-8f84-a6400EXAMPLE</reservedInstancesId>
      <reservationValue>
        <remainingTotalValue>98.048402</remainingTotalValue>
        <hourlyPrice>0.018000</hourlyPrice>
        <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>
  </targetConfigurationValueSet>
  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ImportImage

Import single or multi-volume disk images or EBS snapshots into an Amazon Machine Image (AMI). 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 (p. 1267).

**Architecture**

The architecture of the virtual machine.

Valid values: i386 | x86_64

Type: String

Required: No

**ClientData**

The client-specific data.

Type: ClientData (p. 845) 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 (p. 926) 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
**Hypervisor**

The target hypervisor platform.

Valid values: xen

Type: String

Required: No

**LicenseType**

The license type to be used for the Amazon Machine Image (AMI) after importing.

*Note:* You may only use BYOL if you have existing licenses with rights to use these licenses in a third party cloud like AWS. For more information, see Prerequisites in the VM Import/Export User Guide.

Valid values: AWS | BYOL

Type: String

Required: No

**Platform**

The operating system of the virtual machine.

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

---

**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

**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

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 (p. 1146) objects

status
A brief status of the task.
Type: String

statusMessage
A detailed status message of the import task.
Type: String

Errors
For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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

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

Creates an import instance task using metadata from the specified disk image. ImportInstance only supports single-volume VMs. To import multi-volume VMs, use ImportImage (p. 634). For more information, see Importing a Virtual Machine Using the Amazon EC2 CLI.

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 (p. 1267).

Description

A description for the instance being imported.

Type: String
Required: No

DiskImage.N

The disk image.

Type: Array of DiskImage (p. 865) 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 (p. 930) 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.
conversionTask

Information about the conversion task.

Type: ConversionTask (p. 848) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

This example creates an import instance task that migrates a Windows Server 2008 SP2 (32-bit) VM into the AWS 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
&DiskImage.1.Volume.Size=12
&Platform=Windows

&AUTHPARAMS
```

Sample Response

```
<ImportInstanceResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
<conversionTask>
  <conversionTaskId>import-i-ffvk9js</conversionTaskId>
  <expirationTime>2010-12-22T12:01Z</expirationTime>
  <importInstance>
    <volumes>
      <item>
        <bytesConverted>0</bytesConverted>
        <availabilityZone>us-east-1a</availabilityZone>
        <image>
          <format>VMDK</format>
          <size>1179593728</size>
          <importManifestUrl>
            https://s3.amazonaws.com/myawsbucket/a3a5e1b6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmanifest.xml?
          </importManifestUrl>
        </image>
      </item>
    </volumes>
  </importInstance>
</conversionTask>

<description/>
```

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<volume>
  <size>12</size>
  <id>vol-1234567890abcdef0</id>
</volume>

See Also

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

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

Imports the public key from an RSA key pair that you created with a third-party tool. Compare this with CreateKeyPair (p. 133), 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 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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

Response Elements

The following elements are returned by the service.

keyFingerprint

The MD5 public key fingerprint as specified in section 4 of RFC 4716.

Type: String

keyName

The key pair name you provided.

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 Errors (p. 1302).

Example

This example imports the public key named my-key-pair.

Sample Request

```
https://ec2.amazonaws.com/?Action=ImportKeyPair
&KeyName=my-key-pair
&PublicKeyMaterial=MIICiTCCAfICCQD6m7oRw0uX0jANBgkqhkiG9w0BAQUFADCBiDELMAkGA1UEBhMC
VMxGzwJBAgMECAAQICAZQIBAQIEaQIMIIE0cIBAAKEAQBzwgZ8wDQYJKoZIhvcNAQEBBQAD

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
• AWS SDK for Ruby V2
ImportSnapshot

Imports a disk into an EBS 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 (p. 1267).

ClientData

The client-specific data.

Type: ClientData (p. 845) 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 (p. 1148) 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

RoleName

The name of the role to use when not using the default role, 'vmimport'.

Type: String

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 (p. 1149) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

See Also

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

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

Creates an import volume task using metadata from the specified disk image. For more information, see Importing Disks to Amazon EBS.

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 (p. 1267).

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 (p. 867) object

Required: Yes

Volume

The volume size.

Type: VolumeDetail (p. 1213) object

Required: Yes

Response Elements

The following elements are returned by the service.

conversionTask

Information about the conversion task.
Type: `ConversionTask (p. 848)` object

**requestId**

The ID of the request.

Type: String

### Errors

For information about the errors that are common to all actions, see [Common Client Errors (p. 1302)](#).

### Example

#### Example

This example creates an import volume task that migrates a Windows Server 2008 SP2 (32-bit) volume into the AWS `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=5snej01T1TtL0uR7kEXTEXAMPLE%3D
&VolumeSize=8
&AUTHPARAMS>
```

#### Sample Response

```
    <conversionTask>
        <conversionTaskId>import-i-fh95npoc</conversionTaskId>
        <expirationTime>2010-12-22T12:01Z</expirationTime>
        <importVolume>
            <bytesConverted>0</bytesConverted>
            <availabilityZone>us-east-1c</availabilityZone>
            <description/>
            <image>
                <format>VMDK</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=5snej01T1TtL0uR7KEXTEXAMPLE%3D
                </importManifestUrl>
                <checksum>ccb1b0536a4a70e86016b85229b5c6b10b14a4eb</checksum>
            </image>
            <volume>
                <id>vol-1234567890abcdef0</id>
            </volume>
        </importVolume>
        <state>active</state>
    </conversionTask>
</ImportVolumeResponse>
```

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

Modifies the specified EC2 Fleet.

While the EC2 Fleet is being modified, it is in the modifying 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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.

Type: String
Valid Values: no-termination | termination
Required: No

FleetId

The ID of the EC2 Fleet.

Type: String
Required: Yes

TargetCapacitySpecification

The size of the EC2 Fleet.

Type: TargetCapacitySpecificationRequest (p. 1192) object
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

Type: Boolean

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

**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 (p. 1022) object

Required: No

**Name**

A name for the AFI.

Type: String

Required: No

**OperationType**

The operation type.
Response Elements

The following elements are returned by the service.

**fpgaImageAttribute**

Information about the attribute.

Type: [FpgaImageAttribute](p. 903) object

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Client Errors](p. 1302).

Example

**Example**

This example adds load permissions for account ID 123456789012.
Sample Request

https://ec2.amazonaws.com/?Action=ModifyFpgaImageAttribute
&FpgaImageId=afi-0d123e21abcc85abc
&Attribute=loadPermission
&LoadPermission.Add.1.UserId=123456789012
&AUTHPARAMS

Sample Response

<ModifyFpgaImageAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
   <requestId>7583799-edf9-4183-ad01-6cb1example</requestId>
   <fpgaImageAttribute>
      <fpgaImageId>afi-0d123e21abcc85abc</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

**AutoPlacement**

Specify whether to enable or disable auto-placement.

Type: String

Valid Values: on | off

Required: Yes

**HostId.N**

The IDs of the Dedicated Hosts 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

**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 (p. 1200) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).
Example

This example enables the auto-placement setting on a Dedicated Host.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyHosts
&AutoPlacement=on
&HostId=h-00548908djdsdfs

Sample Response

  <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
  <unsuccessful/>
  <successful>
    <item>h-00548908djdsdfs</item>
  </successful>
</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
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

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


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
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 Errors (p. 1302).

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

```text
https://ec2.amazonaws.com/?Action=ModifyIdentityFormat
&Resource=instance
&UseLongIds=true
&PrincipalArn=arn:aws:iam::123456789012:role/EC2Role
&AUTHPARAMS
```

Sample Response

```xml
<ModifyIdentityIdFormatResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>92c1af09-cb4c-410e-8a96-EXAMPLE</requestId>
  <return>true</return>
</ModifyIdentityIdFormatResponse>
```

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
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 (p. 1267).

Resource

The type of resource:

- 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.

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 Errors (p. 1302).

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ModifyImageAttribute

Modifies the specified attribute of the specified AMI. You can specify only one attribute at a time. You can use the Attribute parameter to specify the attribute or one of the following parameters: Description, LaunchPermission, or ProductCode.

AWS Marketplace product codes cannot be modified. 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 (p. 1267).

Attribute

The name of the attribute to modify. The valid values are description, launchPermission, and productCodes.

Type: String

Required: No

Description

A new description for the AMI.

Type: AttributeValue (p. 827) 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

ImageId

The ID of the AMI.

Type: String

Required: Yes

LaunchPermission

A new launch permission for the AMI.

Type: LaunchPermissionModifications (p. 980) object

Required: No

OperationType

The operation type. This parameter can be used only when the Attribute parameter is launchPermission.
**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 Errors (p. 1302).
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
&LaunchPermission.Add.1.Group=all
&AUTHPARAMS

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
&ProductCode.1=774F4FF8
&AUTHPARAMS
Example 5

This example changes the description of the AMI to **New Description**.

Sample Request

```plaintext
https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
&Description.Value=New Description
&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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 in a VPC 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 Modifying Attributes of a Stopped 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 (p. 1267).

**Attribute**

The name of the attribute.

- **Type:** String

- **Valid Values:** `instanceType` | `kernel` | `ramdisk` | `userData` | `disableApiTermination` | `instanceInitiatedShutdownBehavior` | `rootDeviceName` | `blockDeviceMapping` | `productCodes` | `sourceDestCheck` | `groupSet` | `ebsOptimized` | `sriovNetSupport` | `enaSupport`

- **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 Updating the Block Device Mapping when Launching an Instance in the *Amazon Elastic Compute Cloud User Guide*.

- **Type:** Array of `InstanceBlockDeviceMappingSpecification` objects

- **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

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**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: `AttributeValue (p. 827)` object

**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 (p. 826)` object

**GroupId.N**

[EC2-VPC] Changes the security groups of the instance. You must specify at least one security group, even if it’s just the default security group for the VPC. You must specify the security group ID, not the security group name.

Type: Array of strings

**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 (p. 827)` object

**InstanceType**

Changes the instance type to the specified value. For more information, see [Instance Types](#). If the instance type is not valid, the error returned is `InvalidInstanceAttributeValue`.

Type: `AttributeValue (p. 827)` 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 (p. 827)` 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 (p. 827)` object

Required: No

**SourceDestCheck**

Specifies whether source/destination checking is enabled. A value of `true` means that checking is enabled, and `false` means that checking is disabled. This value must be `false` for a NAT instance to perform NAT.

Type: `AttributeBooleanValue (p. 826)` 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 (p. 827)` 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 (p. 831)` 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.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example 1

This example changes the instance type 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

Sample Response

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

Example 2

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

Sample Response

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

Example 3

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

Sample Response

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

See Also

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

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

Modifies the credit option for CPU usage on a running or stopped T2 instance. The credit options are standard and unlimited.

For more information, see T2 Instances 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 (p. 1267).

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 (p. 949) 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 (p. 1187) objects

unsuccessfulInstanceCreditSpecificationSet

Information about the instances whose credit option for CPU usage was not modified.

Type: Array of UnsuccessfulInstanceCreditSpecificationItem (p. 1198) objects
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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
&InstanceCreditSpecification.1.InstanceId=i-1234567890abcdef0
&InstanceCreditSpecification.1.CpuCredits=unlimited
&AUTHPARAMS

Sample Response

   xmlns_a2="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>0841e15c-e017-47b0-bd25-4b0f92b53b57</requestId>
   <unsuccessfulInstanceCreditSpecificationSet/>
   <successfulInstanceCreditSpecificationSet>
      <item>
         <instanceId>i-1234567890abcdef0</instanceId>
      </item>
   </successfulInstanceCreditSpecificationSet>
</ModifyInstanceCreditSpecificationResponse>

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 from host to dedicated, or from dedicated to host.
- 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, or placement group 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 (p. 1267).

**Affinity**

The affinity setting for the instance.

Type: String

Valid Values: default | host

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 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

**InstanceId**

The ID of the instance that you are modifying.

Type: String

Required: Yes
Tenancy

The tenancy for the instance.

Type: String

Valid Values: 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 Errors (p. 1302).

Examples

Example 1

This example modifies the affinity of instance i-0b33i09 so that it always has affinity with host h-00548908djdsfgs.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyInstancePlacement
&Affinity=host
&HostId=h-00548908djdsfgs
&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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

ClientToken

Unique, case-sensitive identifier you provide to ensure 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

LaunchTemplateId

The ID of the launch template. You must specify either the launch template ID or launch template name in the request.

Type: String

Required: No

LaunchTemplateName

The name of the launch template. You must specify either the launch template ID or launch template name in the request.

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 (p. 984) object

**requestId**

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

**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++
See Also

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ModifyNetworkInterfaceAttribute

Modifies the specified 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 (p. 1267).

Attachment

Information about the interface attachment. If modifying the 'delete on termination' attribute, you must specify the ID of the interface attachment.

Type: NetworkInterfaceAttachmentChanges (p. 1041) object

Required: No

Description

A description for the network interface.

Type: AttributeValue (p. 827) 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

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

Indicates whether source/destination checking is enabled. A value of true means checking is enabled, and false means checking is disabled. This value must be false for a NAT instance to perform NAT. For more information, see NAT Instances in the Amazon Virtual Private Cloud User Guide.

Type: AttributeBooleanValue (p. 826) object
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 Errors (p. 1302).

Example

This example sets source/destination checking to false for the specified network interface.

Sample Request

```plaintext
https://ec2.amazonaws.com/?Action=ModifyNetworkInterfaceAttribute
&NetworkInterfaceId=eni-ffda3197
&SourceDestCheck.Value=false
&AUTHPARAMS
```

Sample Response

```xml
  <requestId>657a4623-5620-4232-b03b-427e852d71cf</requestId>
  <return>true</return>
</ModifyNetworkInterfaceAttributeResponse>
```

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
See Also

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ModifyReservedInstances

Modifies the Availability Zone, instance count, instance type, or network platform (EC2-Classic or EC2-VPC) of your Reserved Instances. 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 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 (p. 1267).

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 (p. 1088) 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 Errors (p. 1302).
Example

Example

Sample Request

```text
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
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ModifySnapshotAttribute

Modifies 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 API call. If you need to both add and remove account IDs for a snapshot, you must use multiple API calls.

Encrypted snapshots and snapshots with AWS Marketplace product codes cannot be made public. Snapshots encrypted with your default CMK cannot be shared with other accounts.

For more information about modifying snapshot permissions, see Sharing 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 (p. 1267).

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 (p. 853) 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
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 Errors (p. 1302).

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

https://ec2.amazonaws.com/?Action=ModifySnapshotAttribute
&SnapshotId=snap-1234567890abcdef0
&CreateVolumePermission.Add.1.UserId=111122223333
&CreateVolumePermission.Add.1.Group=all
&amp

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

```
https://ec2.amazonaws.com/?Action=ModifySnapshotAttribute
&SnapshotId=snap-1234567890abcdef0
&CreateVolumePermission.Remove.1.UserId=111122223333
&CreateVolumePermission.Add.1.Group=all

AUTHPARAMS
```

Sample Response

```
  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ModifySpotFleetRequest

Modifies the specified Spot Fleet request.

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 pool with the lowest price. If the allocation strategy is diversified, the Spot Fleet distributes the instances across the Spot pools.

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 diversified, the Spot Fleet terminates instances across the Spot 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 (p. 1267).

ExcessCapacityTerminationPolicy

Indicates whether running Spot Instances should be terminated if the target capacity of the Spot Fleet request is decreased below the current size of the Spot Fleet.

Type: String

Valid Values: noTermination | default

Required: No

SpotFleetRequestId

The ID of the Spot Fleet request.

Type: String

Required: Yes

TargetCapacity

The size of the fleet.

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

See Also

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

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

Modifies a subnet attribute. You can only modify 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 (p. 1267).

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: AttributeBooleanValue (p. 826) object

Required: No

MapPublicIpOnLaunch

Specify true to indicate that network interfaces created in the specified subnet should be assigned a public IPv4 address. This includes a network interface that's created when launching an instance into the subnet (the instance therefore receives a public IPv4 address).

Type: AttributeBooleanValue (p. 826) object

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 Errors (p. 1302).
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>
  <return>true</return>
</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 may be able to apply these changes without stopping the instance or detaching the volume from it. For more information about modifying an EBS volume running Linux, see Modifying the Size, IOPS, or Type of an EBS Volume on Linux. For more information about modifying an EBS volume running Windows, see Modifying the Size, IOPS, or Type of an EBS Volume on Windows.

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 information about extending a Linux file system, see Extending a Linux File System. For information about extending a Windows file system, see Extending 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 the DescribeVolumesModifications API. For information about tracking status changes using either method, see Monitoring Volume Modifications.

With previous-generation instance types, resizing an EBS volume may require detaching and reattaching the volume or stopping and restarting the instance. For more information, see Modifying the Size, IOPS, or Type of an EBS Volume on Linux and Modifying the Size, IOPS, or Type of an EBS Volume on Windows.

If you reach the maximum volume modification rate per volume limit, you will need to wait at least six hours before applying further modifications to the affected EBS volume.

Request Parameters

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

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 is only valid for Provisioned IOPS SSD (io1) volumes. For more information, see Provisioned IOPS SSD (io1) Volumes.

- Default: If no IOPS value is specified, the existing value is retained.
- Type: Integer
- Required: No

**Size**

The target size of the volume, in GiB. The target volume size must be greater than or equal to than the existing size of the volume. For information about available EBS volume sizes, see Amazon EBS Volume Types.
Default: If no size is specified, the existing size is retained.
Type: Integer
Required: No

**VolumeId**

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

**VolumeType**

The target EBS volume type of the volume.
Default: If no type is specified, the existing type is retained.
Type: String
Valid Values: standard | io1 | gp2 | sc1 | st1
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 (p. 1214) object

**Errors**

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

**Example**

**Modify size, type, and IOPS provisioning of a volume**

**Sample Request**

```
https://ec2.amazonaws.com/?Action=ModifyVolume
&VolumeId=vol-1234567890EXAMPLE
&VolumeType=io1
&Iops=10000
&Size=200
&Version=2016-11-15
```
Sample Response

```xml
  <requestId>5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
  <volumeModification>
    <targetIops>10000</targetIops>
    <originalIops>300</originalIops>
    <modificationState>modifying</modificationState>
    <targetSize>200</targetSize>
    <targetVolumeType>io1</targetVolumeType>
    <volumeId>vol-1234567890EXAMPLE</volumeId>
    <progress>0</progress>
    <startTime>2017-01-19T23:58:04.922Z</startTime>
    <originalSize>100</originalSize>
    <originalVolumeType>gp2</originalVolumeType>
  </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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

AutoEnableIO

Indicates whether the volume should be auto-enabled for I/O operations.

Type: AttributeBooleanValue (p. 826) 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 Errors (p. 1302).

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

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 (p. 826) 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 (p. 826) 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 Errors (p. 1302).

Example

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

Sample Response

  <requestId>d742de94-5f3e-4c3d-b6d4-440ceexample</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ModifyVpcEndpoint

Modifies attributes of a specified VPC endpoint. The attributes that you can modify depend on the type of VPC endpoint (interface or gateway). For more information, see VPC Endpoints 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 (p. 1267).

AddRouteTableId.N

(Gateway endpoint) One or more route tables IDs to associate with the endpoint.

Type: Array of strings

Required: No

AddSecurityGroupId.N

(Interface endpoint) One or more security group IDs to associate with the network interface.

Type: Array of strings

Required: No

AddSubnetId.N

(Interface endpoint) One or more subnet IDs in which to serve the 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

PolicyDocument

(Gateway endpoint) A policy document to attach to the endpoint. The policy must be in valid JSON format.

Type: String

Required: No

PrivateDnsEnabled

(Interface endpoint) Indicate whether a private hosted zone is associated with the VPC.

Type: Boolean

Required: No
RemoveRouteTableId.N

(Gateway endpoint) One or more route table IDs to disassociate from the endpoint.

Type: Array of strings
Required: No

RemoveSecurityGroupId.N

(Interface endpoint) One or more security group IDs to disassociate from the network interface.

Type: Array of strings
Required: No

RemoveSubnetId.N

(Interface endpoint) One or more subnets IDs in 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

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 Errors (p. 1302).
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

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-d6fcaa8d to the endpoint.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyVpcEndpoint&VpcEndpointId=vpce-0fe5b17a0707d6fa5&AddSubnetId.1=subnet-d6fcaa8db

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

ConnectionEvents.N

One or more 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 Errors (p. 1302).

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

SOMEAUTHPARAMS
```

Sample Response

```
  <requestId>08d80840-f750-42db-a6f8-2cd32example</requestId>
  <return>true</return>
</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ModifyVpcEndpointServiceConfiguration

Modifies the attributes of your VPC endpoint service configuration. You can change the Network 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.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

**AcceptanceRequired**

Indicate whether requests to create an endpoint to your service must be accepted.

Type: Boolean

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

**DryRun**

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

Type: Boolean

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

**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 Errors (p. 1302).

Example

This example modifies service configuration vpce-svc-03d5ebb7d9579a2b3 to specify that acceptance is required for interface VPC endpoint connection requests to the service.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyVpcEndpointServiceConfiguration
&ServiceId=vpce-svc-03d5ebb7d9579a2b3
&AcceptanceRequired=true
&AUTHPARAMS

Sample Response

<?xml version="1.0" encoding="UTF-8" ?>
<ModifyVpcEndpointServiceConfigurationResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    <requestId>08d808040-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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ModifyVpcEndpointServicePermissions

Modifies the permissions for your VPC endpoint service. You can add or remove permissions for service consumers (IAM users, IAM roles, and AWS accounts) 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 (p. 1267).

**AddAllowedPrincipals.N**

The Amazon Resource Names (ARN) of one or more 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 one or more 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.

**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 Errors (p. 1302).

**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**

```
<ModifyVpcEndpointServicePermissionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"
    <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ModifyVpcPeeringConnectionOptions

Modifies the VPC peering connection options on one side of a VPC peering connection. You can do the following:

- Enable/disable communication over the peering connection between an EC2-Classic instance that's linked to your VPC (using ClassicLink) and instances in the peer VPC.
- Enable/disable communication over the peering connection between instances in your VPC and an EC2-Classic instance that's linked to the peer VPC.
- Enable/disable the ability to resolve public DNS hostnames to private IP addresses when queried from instances in the peer VPC.

If the peered VPCs are in different accounts, each owner must initiate a separate request to modify the peering connection options, depending on whether their VPC was the requester or accepter for the VPC peering connection. If the peered VPCs are in the same account, you can modify the requester and accepter options in the same request. To confirm which VPC is the accepter and requester for a VPC peering connection, use the DescribeVpcPeeringConnections (p. 570) 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 (p. 1267).

AccepterPeeringConnectionOptions

The VPC peering connection options for the accepter VPC.

Type: PeeringConnectionOptionsRequest (p. 1052) object

Required: No

DryRun

Checks whether you have the required permissions for the operation, without actually making the request, 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 (p. 1052) 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 (p. 1051) object

requesterPeeringConnectionOptions

Information about the VPC peering connection options for the requester VPC.

Type: PeeringConnectionOptions (p. 1051) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example

In this example, you have an EC2-Classic instance linked to your VPC. You want to enable communication over the VPC peering connection to allow the linked EC2-Classic instance to communicate with instances in the peer VPC. You were the requester of the VPC peering connection, therefore you modify the requester VPC peering connection options.

Sample Request

https://ec2.amazonaws.com/?Action=ModifyVpcPeeringConnectionOptions
&VpcPeeringConnectionId=pcx-1a2b3c4d
&RequesterPeeringConnectionOptions.AllowEgressFromLocalClassicLinkToRemoteVpc=true
&AUTHPARAMS

Sample Response

<ModifyVpcPeeringConnectionOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>8d977c82-8aba-4cd1-81ca-example</requestId>
  <requesterPeeringConnectionOptions>
    <allowEgressFromLocalClassicLinkToRemoteVpc>true</allowEgressFromLocalClassicLinkToRemoteVpc>
  </requesterPeeringConnectionOptions>
</ModifyVpcPeeringConnectionOptionsResponse>

Example

In this example, you want to enable communication from instances in your local VPC to any linked EC2-Classic 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
Sample Response

```xml
<ModifyVpcPeeringConnectionOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>f5131846-7920-4359-b565-example</requestId>
  <accepterPeeringConnectionOptions>
    <allowEgressFromLocalVpcToRemoteClassicLink>true</allowEgressFromLocalVpcToRemoteClassicLink>
  </accepterPeeringConnectionOptions>
</ModifyVpcPeeringConnectionOptionsResponse>
```

**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**

```plaintext
https://ec2.amazonaws.com/?Action=ModifyVpcPeeringConnectionOptions
&VpcPeeringConnectionId=pcx-1a2b3c4d
&AccepterPeeringConnectionOptions.AllowDnsResolutionFromRemoteVpc=true
&AUTHPARAMS
```

**Sample Response**

```xml
<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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 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 (p. 1267).

`DryRun`

Checks whether you have the required permissions for the operation, without actually making the request, 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

`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 Errors (p. 1302).

Example

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
MonitorInstances

Enables detailed monitoring for a running instance. Otherwise, basic monitoring is enabled. For more information, see Monitoring Your Instances and Volumes in the Amazon Elastic Compute Cloud User Guide.

To disable detailed monitoring, see UnmonitorInstances (p. 806).

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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

One or more instance IDs.

Type: Array of strings
Required: Yes

Response Elements

The following elements are returned by the service.

instancesSet

The monitoring information.

Type: Array of InstanceMonitoring (p. 954) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

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>S9bdf89-35bd-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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
MoveAddressToVpc

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 (p. 771) 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).
Example

This example moves Elastic IP address 54.123.4.56 to the EC2-VPC platform.

Sample Request

https://ec2.amazonaws.com/?Action=MoveAddressToVpc
&publicIp=54.123.4.56
&AUTHPARAMS

Sample Response

<MoveAddressToVpcResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>f7de5e98-491a-4c19-a92d-908d6EXAMPLE</requestId>
  <allocationId>eipalloc-1cfe1879</allocationId>
  <status>InVpc</status>
</MoveAddressToVpcResponse>

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

ClientToken

Unique, case-sensitive identifier you provide to ensure idempotency of the request. For more information, see How to Ensure Idempotency in the Amazon Elastic Compute Cloud User Guide.

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

Response Elements

The following elements are returned by the service.
clientToken

Unique, case-sensitive identifier you provide to ensure idempotency of the request. For more information, see How to Ensure Idempotency in the Amazon Elastic Compute Cloud User Guide.

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 (p. 1068) 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 Errors (p. 1302).

Example

Example

This example uses the same configuration information from GetHostReservationPurchasePreview (p. 623) 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

```xml
<PurchaseHostReservationResult xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>d4904fd9-84c3-b40d-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>
</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 457) 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 (p. 446).

For more information, see Reserved Instances and Reserved Instance Marketplace 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 (p. 1082) object
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.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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</requestId>
  <reservedInstancesId>e5a2ff3b-7d14-494f-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</requestId>
  <reservedInstancesId>e5a2ff3b-7d14-494f-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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
PurchaseScheduledInstances

Purchases one or more 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 (p. 471) to check for available schedules and obtain a purchase token. After you purchase a Scheduled Instance, you must call RunScheduledInstances (p. 791) 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 (p. 1267).

**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**

One or more purchase requests.

Type: Array of PurchaseRequest (p. 1070) 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 (p. 1111) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

See Also

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

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

Requests a reboot of one or more 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 four minutes, Amazon EC2 performs a hard reboot.

For more information about troubleshooting, see Getting Console Output and Rebooting Instances 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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

One or more 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 Errors (p. 1302).
Example

This example reboots two instances.

Sample Request

```
https://ec2.amazonaws.com/?Action=RebootInstances
&InstanceId.1=i-1234567890abcdef0
&InstanceId.2=i-0598c7d356e6ba48d7
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 Creating Your Own AMIs in the Amazon Elastic Compute Cloud User Guide.

**Note**

For Amazon EBS-backed instances, CreateImage (p. 125) creates and registers the AMI in a single request, so you don't have to register the AMI yourself.

You can also use RegisterImage to create an Amazon EBS-backed Linux AMI from a snapshot of a root device volume. You specify the snapshot using the block device mapping. For more information, see Launching a Linux Instance from a Backup in the Amazon Elastic Compute Cloud User Guide.

You can't register an image where a secondary (non-root) snapshot has AWS Marketplace product codes.

Some Linux distributions, such as Red Hat Enterprise Linux (RHEL) and SUSE Linux Enterprise Server (SLES), use the EC2 billing product code associated with an AMI to verify the subscription status for package updates. Creating an AMI from an EBS snapshot does not maintain this billing code, and instances launched from such an AMI are not able to connect to package update infrastructure. If you purchase a Reserved Instance offering for one of these Linux distributions and launch instances using an AMI that does not contain the required billing code, your Reserved Instance is not applied to these instances.

To create an AMI for operating systems that require a billing code, see CreateImage (p. 125).

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.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

**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

*Required:* No

**BillingProduct.N**

The billing product codes. Your account must be authorized to specify billing product codes. Otherwise, you can use the AWS Marketplace to bill for the use of an AMI.

*Type:* Array of strings

*Required:* No

**BlockDeviceMapping.N**

One or more block device mapping entries.
Type: Array of BlockDeviceMapping (p. 832) objects
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.
Type: String
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
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 Errors (p. 1302).

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
&BlockDeviceMapping.1.Ebs.SnapshotId=snap-1234567890abcdef0
&Name=MyImage
&AUTHPARAMS

Sample Response

  <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

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

See Also

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

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

Rejects one or more 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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 one or more 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 endpoints that were not rejected, if applicable.

- Type: Array of UnsuccessfulItem (p. 1200) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).
Example

The example rejects the request for VPC endpoint `vpce-0c1308d7312217cd7` to connect to your service `vpce-svc-03d5ebb7d9579a2b3`.

Sample Request

```
https://ec2.amazonaws.com/?Action=RejectVpcEndpointConnections
&ServiceId=vpce-svc-03d5ebb7d9579a2b3
&VpcEndpointId.1=vpce-0c1308d7312217cd7
&AUTHPARAMS
```

Sample Response

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

See Also

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

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

Rejects a VPC peering connection request. The VPC peering connection must be in the pending-acceptance state. Use the DescribeVpcPeeringConnections (p. 570) 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 (p. 279).

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).

Example

Example

This example rejects the specified VPC peering connection request.
**Sample Request**

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

**Sample Response**

```xml
  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ReleaseAddress

Releases the specified Elastic IP address.

[EC2-Classic, 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 (p. 600).

[Nondefault VPC] You must use DisassociateAddress (p. 600) 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.

[EC2-VPC] After you release an Elastic IP address for use in a VPC, you might be able to recover it. For more information, see AllocateAddress (p. 24).

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

AllocationId

[EC2-VPC] The allocation ID. Required for EC2-VPC.

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


Type: String

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 Errors (p. 1302).

**Examples**

**Example for EC2-Classic**

This example releases the specified Elastic IP address for EC2-Classic.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=ReleaseAddress
&PublicIp=192.0.2.1
&AUTHPARAMS
```

**Example for EC2-VPC**

This example releases the specified Elastic IP address for EC2-VPC.

**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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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, ModifyHosts. 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 (p. 349) response.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

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 (p. 1200) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Examples

Example

This releases a Dedicated Host successfully.
Sample Request

https://ec2.amazonaws.com/?Action=ReleaseHosts
&HostId=h-00548908djdsdfs
&AUTHPARAMS

Sample Response

  <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
  <unsuccessful/>
  <successful>
    <item>h-00548908djdsdfs</item>
  </successful>
</ReleaseHostsResponse>

Example

This request is unsuccessful.

Sample Request

https://ec2.amazonaws.com/?Action=ReleaseHosts
&HostId=h-00548908djdsdfs
&AUTHPARAMS

Sample Response

  <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
  <unsuccessful>
    <item>
      <error>
        <message>Dedicated host 'h-00548908djdsdfs' cannot be released as it is occupied</message>
        <code>Client.InvalidHost.Occupied</code>
      </error>
      <resourceId>h-00548908djdsdfs</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
See Also

- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 353) 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 (p. 1267).

AssociationId

The ID of the existing IAM instance profile association.

Type: String

Required: Yes

IamInstanceProfile

The IAM instance profile.

Type: IamInstanceProfileSpecification (p. 919) object

Required: Yes

Response Elements

The following elements are returned by the service.

iamInstanceProfileAssociation

Information about the IAM instance profile association.

Type: iamInstanceProfileAssociation (p. 918) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

Example

This example replaces the IAM instance profile represented by the association iip-assoc-060bae234ac2e7fa 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

<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>AIPAI5IVIHMFFYY2DKV5Y</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 Virtual Private Cloud User Guide.

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 (p. 1267).

**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 Errors (p. 1302).
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

```xml
https://ec2.amazonaws.com/?Action=ReplaceNetworkAclAssociation
&AssociationId=aclassoc-e5b95c8c
&NetworkAclId=acl-5fb85d36
&AUTHPARAMS
```

Sample Response

```xml
  <requestId>59dbff89-35bd-49ed-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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ReplaceNetworkAclEntry

Replaces an entry (rule) in a network ACL. For more information, see Network ACLs 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 (p. 1267).

**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 the ICMP (1) protocol, or protocol 58 (ICMPv6) with an IPv6 CIDR block.

Type: IcmpTypeCode (p. 920) 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 TCP (6) or UDP (17) for the protocol.

Type: `PortRange (p. 1056)` object

Required: No

**Protocol**

The IP protocol. You can specify `all` or `-1` to mean all protocols. If you specify `all`, `-1`, or a protocol number other than `tcp`, `udp`, or `icmp`, traffic on all ports is allowed, regardless of any ports or ICMP types or codes you that 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 Errors (p. 1302).
Example

This example replaces the egress entry numbered 110 in the network ACL with ID acl-2cb85d45. 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=tcp
&RuleAction=deny
&Egress=true
&CidrBlock=0.0.0.0/0
&PortRange.From=139
&PortRange.To=139

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ReplaceRoute

Replaces an existing route within a route table in a VPC. You must provide only one of the following: internet gateway or virtual private gateway, NAT instance, NAT gateway, VPC peering connection, network interface, or egress-only internet gateway.

For more information, see Route Tables 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 (p. 1267).

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

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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
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 Errors (p. 1302).

Example

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-1d0376e.
Sample Request

https://ec2.amazonaws.com/?Action=ReplaceRoute
&RouteTableId=rtb-e4ad488d
&DestinationCidrBlock=10.0.0.0/8
&GatewayId=vgw-1d00376e
&AUTHPARAMS

Sample Response

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

See Also

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

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

Changes the route table associated with a given subnet in a VPC. After the operation completes, the subnet uses the routes in the new route table it's associated with. For more information about route tables, see Route Tables in the Amazon Virtual Private Cloud User Guide.

You can also use ReplaceRouteTableAssociation to change which table is the main route table in the VPC. You just specify the main route table's association ID and the route table to be 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 (p. 1267).

- **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.

- **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 Errors (p. 1302).
Example

Example

This example starts with a route table associated with a subnet, and a corresponding association ID `rtbassoc-f8ad4891`. You want to associate a different route table (table `rtb-f9ad4890`) to the subnet. The result is a new association ID representing the new association.

Sample Request

```
https://ec2.amazonaws.com/?Action=ReplaceRouteTableAssociation
&AssociationId=rtbassoc-f8ad4891
&RouteTableId=rtb-f9ad4890
&AUTHPARAMS
```

Sample Response

```
<ReplaceRouteTableAssociationResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <newAssociationId>rtbassoc-faad4893</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 391), use ReportInstanceStatus (p. 751) 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 (p. 391).

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

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

One or more instances.

Type: Array of strings

Required: Yes

ReasonCode.N

One or more 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 Errors](p. 1302).

---

**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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 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 Instances. You cannot tag other resource types in a Spot Fleet request because only the \texttt{instance} resource type is supported.

For more information, see Spot Fleet Requests 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 (p. 1267).

DryRun

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

Type: Boolean

Required: No

SpotFleetRequestConfig

The configuration for the Spot Fleet request.

Type: \texttt{SpotFleetRequestConfigData (p. 1159)} 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.
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

This example creates a Spot Fleet request with two launch specifications.

Sample Request

```xml
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

```xml
  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
RequestsSpotInstances

Creates a Spot Instance request.

For more information, see Spot Instance Requests 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 (p. 1267).

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

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).

The duration period starts as soon as your Spot Instance receives its instance ID. At the end of the duration period, Amazon EC2 marks the Spot Instance for termination and provides a Spot Instance termination notice, which gives the instance a two-minute warning before it terminates.

You can't specify an Availability Zone group or a launch group if you specify a duration.

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 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 UnauthorizedOperation.

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

Required: No

**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 (p. 1077) object

Required: No

**SpotPrice**

The maximum price per hour that you are willing to pay for a Spot Instance. The default is the On-Demand price.

Type: String

Required: No

**Type**

The Spot Instance request type.

Default: one-time

Type: String

Valid Values: one-time | persistent
Response Elements

The following elements are returned by the service.

**requestId**

The ID of the request.

Type: String

**spotInstanceRequestSet**

One or more Spot Instance requests.

Type: Array of SpotInstanceRequest (p. 1164) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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. If your account supports EC2-VPC only, Amazon EC2 launches the instances in the default subnet of the selected Availability Zone. If your account supports EC2-Classic, Amazon EC2 launches the instances in EC2-Classic in the selected Availability Zone.

Sample Request

https://ec2.amazonaws.com/?Action=RequestSpotInstances
Example 2

The following example includes an Availability Zone. If your account supports EC2-VPC only, Amazon EC2 launches the instances in the default subnet of the specified Availability Zone. If your account supports EC2-Classic, Amazon EC2 launches the instances in EC2-Classic in 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. You can specify security groups for EC2-Classic either by ID or by name. You must specify security groups for EC2-VPC by ID.

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
See Also

- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

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 Errors (p. 1302).
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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ResetImageAttribute

Resets an attribute of an AMI to its default value.

**Note**
The productCodes attribute can't be reset.

**Request Parameters**

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 1267).

**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 Errors (p. 1302).
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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
**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 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 (p. 1267).

**Attribute**

The attribute to reset.

- **Important**
  You can only reset the following attributes: kernel | ramdisk | sourceDestCheck. To change an instance attribute, use ModifyInstanceAttribute (p. 665).

  Type: String

  Valid Values: instanceType | kernel | ramdisk | userData | disableApiTermination | instanceInitiatedShutdownBehavior | rootDeviceName | blockDeviceMapping | productCodes | sourceDestCheck | groupSet | ebsOptimized | sriovNetSupport | enaSupport

  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 Errors (p. 1302).

Example

This example resets the sourceDestCheck attribute.

Sample Request

```xml
https://ec2.amazonaws.com/?Action=ResetInstanceAttribute
&InstanceId=i-1234567890abcdef0
&Attribute=sourceDestCheck
&AUTHPARAMS
```

Sample Response

```xml
  <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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 (p. 1267).

 **DryRun**

 Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).
Example

This example resets the `sourceDestCheck` attribute for the specified network interface.

Sample Request

```
https://ec2.amazonaws.com/?Action=ResetNetworkInterfaceAttribute
&NetworkInterfaceId=eni-ffda3197
&Attribute=sourceDestCheck
&AUTHPARAMS
```

Sample Response

```
 <requestId>5187642e-3f16-44a3-b05f-24c3848b5162</requestId>
 <return>true</return>
</ResetNetworkInterfaceAttributeResponse>
```

See Also

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

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

Resets permission settings for the specified snapshot.

For more information about modifying snapshot permissions, see Sharing 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 (p. 1267).

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 Errors (p. 1302).
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

```plaintext
https://ec2.amazonaws.com/?Action=ResetSnapshotAttribute
&SnapshotId=snap-1234567890abcdef0
&Attribute=createVolumePermission
&AUTHPARAMS
```

Sample Response

```xml
  <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:

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

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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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 Errors (p. 1302).
Example

This example restores Elastic IP address 54.123.45.67 to the EC2-Classic platform.

Sample Request

https://ec2.amazonaws.com/?Action=RestoreAddressToClassic
&publicIp=54.123.45.67
&AUTHPARAMS

Sample Response

<RestoreAddressToClassicResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>f7de5e98-491a-4c19-a92d-908d6EXAMPLE</requestId>
  <publicIp>54.123.45.67</publicIp>
  <status>MoveInProgress</status>
</RestoreAddressToClassicResponse>

See Also

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

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

[EC2-VPC only] Removes one or more egress rules from a security group for EC2-VPC. This action doesn’t apply to security groups for use in EC2-Classic. To remove a rule, the values that you specify (for example, ports) must match the existing rule’s values exactly.

Each rule consists of the protocol and the IPv4 or IPv6 CIDR range or source security group. 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 have to specify the description to revoke the rule.

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 (p. 1267).

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

One or more 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 (p. 973) 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

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

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 Errors (p. 1302).

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

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
```

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
```

See Also

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

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

Removes one or more ingress rules from a security group. To remove a rule, the values that you specify (for example, ports) must match the existing rule's values exactly.

**Note**

[EC2-Classic security groups only] If the values you specify do not match the existing rule's values, no error is returned. Use DescribeSecurityGroups (p. 479) to verify that the rule has been removed.

Each rule consists of the protocol and the CIDR range or source security group. 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 have to specify the description to revoke the rule.

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 (p. 1267).

- **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**
  
  The start of port range for the TCP and UDP protocols, or an ICMP type number. For the ICMP type number, use -1 to specify all ICMP types.
  
  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**
  
  [EC2-Classic, default VPC] The name of the security group. You must specify either the security group ID or the security group name in the request.
Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String
Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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>
  <return>true</return>
</RevokeSecurityGroupIngressResponse>
```

Example 2

[EC2-VPC] 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
&AUTHPARAMS
```

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**

```plaintext
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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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:

- [EC2-VPC] 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.
- [EC2-Classic] If don’t specify an Availability Zone, we choose one for you.
- Some instance types must be launched into a VPC. If you do not have a default VPC, or if you do not specify a subnet ID, the request fails. For more information, see Instance Types Available Only in a VPC.
- [EC2-VPC] 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 (p. 781), 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 (p. 383). You can tag instances and EBS volumes during launch, after launch, or both. For more information, see CreateTags (p. 186) 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 in the Amazon Elastic Compute Cloud User Guide.

For troubleshooting, see What To Do If An Instance Immediately Terminates, and Troubleshooting Connecting to Your 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 (p. 1267).

AdditionalInfo

Reserved.

Type: String

Required: No

BlockDeviceMapping.N

One or more 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 (p. 832) objects
Amazon Elastic Compute Cloud API Reference
Request Parameters

**ClientToken**

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

Constraints: Maximum 64 ASCII characters

Type: String

**CpuOptions**

The CPU options for the instance. For more information, see [Optimizing CPU Options](#) in the Amazon Elastic Compute Cloud User Guide.

Type: `CpuOptionsRequest (p. 851)` object

**CreditSpecification**

The credit option for CPU usage of the instance. Valid values are `standard` and `unlimited`. To change this attribute after launch, use [ModifyInstanceCreditSpecification (p. 670)](#). For more information, see [T2 Instances](#) in the Amazon Elastic Compute Cloud User Guide.

Default: `standard`

Type: `CreditSpecificationRequest (p. 855)` object

**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 (p. 665)](#). Alternatively, if you set `InstanceInitiatedShutdownBehavior` to `terminate`, you can terminate the instance by running the shutdown command from the instance.

Default: `false`

Type: Boolean

**DryRun**

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

Type: Boolean

**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.

Type: Array of ElasticGpuSpecification (p. 879) objects  
Required: No

**IamInstanceProfile**

The IAM instance profile.

Type: IamInstanceProfileSpecification (p. 919) object  
Required: No

**ImageId**

The ID of the AMI, which you can get by calling DescribeImages (p. 367). An AMI 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 (p. 953) object  
Required: No

**InstanceType**

The instance type. For more information, see Instance Types in the Amazon Elastic Compute Cloud User Guide.

Default: m1.small  
Type: String  
Valid Values: t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | m2.5xlarge | m2.6xlarge | m2.8xlarge | cr1.8xlarge | 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.large | r5d.large | r5d.xlarge | r5d.2xlarge | r5d.4xlarge | r5d.8xlarge | r5d.12xlarge | r5d.16xlarge
## Request Parameters

| r5d.24xlarge | r5d.metal | x1.16xlarge | x1.32xlarge | x1e.xlarge | x1e.2xlarge | x1e.4xlarge | x1e.8xlarge | x1e.16xlarge | x1e.32xlarge |
| i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge | i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.metal | hi1.4xlarge | hs1.8xlarge | 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 | c5.18xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.18xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge | g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | cg1.4xlarge | p2.xlarge | p2.8xlarge | p2.16xlarge | p2.2xlarge | p2.3xlarge | p3.8xlarge | p3.16xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.16xlarge | m1.large | m1.xlarge | m5.large | m5.xlarge | m5.2xlarge | m5.4xlarge | m5.8xlarge | m5.12xlarge | m5.24xlarge | m5d.large | m5d.xlarge | m5d.2xlarge | m5d.4xlarge | m5d.8xlarge | m5d.12xlarge | m5d.24xlarge | h1.2xlarge | h1.4xlarge | h1.8xlarge | h1.16xlarge | z1d.large | z1d.xlarge | z1d.2xlarge | z1d.3xlarge | z1d.6xlarge | z1d.12xlarge

### Ipv6Address.N

[EC2-VPC] Specify one or more 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.

Type: Array of Instancelpv6Address (p. 951) objects

Required: No

### Ipv6AddressCount

[EC2-VPC] A 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.

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 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 (p. 133) or ImportKeyPair (p. 641).

**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
Request Parameters

Required: No

**LaunchTemplate**

The launch template to use to launch the instances. Any parameters that you specify in `RunInstances (p. 781)` 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 (p. 1011)` 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://aws.amazon.com/ec2/faqs/)

Type: Integer

Required: Yes

**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://aws.amazon.com/ec2/faqs/)

Type: Integer

Required: Yes

**Monitoring**

The monitoring for the instance.

Type: `RunInstancesMonitoringEnabled (p. 1109)` object

Required: No

**NetworkInterface.N**

One or more network interfaces.

Type: Array of `InstanceNetworkInterfaceSpecification (p. 960)` objects

Required: No

**Placement**

The placement for the instance.

Type: `Placement (p. 1053)` object

Required: No

**PrivateIpAddress**

[EC2-VPC] 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.

Type: String
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 [PV-GRUB](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/UserGuide) in the *Amazon Elastic Compute Cloud User Guide*.

Type: String
Required: No

**SecurityGroup.N**

[EC2-Classic, default VPC] One or more security group names. For a nondefault VPC, you must use security group IDs instead.

Default: Amazon EC2 uses the default security group.

Type: Array of strings
Required: No

**SecurityGroupld.N**

One or more security group IDs. You can create a security group using [CreateSecurityGroup](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/APIReference/G_01_60_CreateSecurityGroup.html) (p. 173).

Default: Amazon EC2 uses the default security group.

Type: Array of strings
Required: No

**SubnetId**

[EC2-VPC] The ID of the subnet to launch the instance into.

Type: String
Required: No

**TagSpecification.N**

The tags to apply to the resources during launch. You can only tag instances and volumes on launch. The specified tags are applied to all instances or volumes that are created during launch. To tag a resource after it has been created, see [CreateTags](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/APIReference/G_01_60_CreateTags.html) (p. 186).

Type: Array of [TagSpecification](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/APIReference/G_01_60_TagSpecification.html) objects
Required: No

**UserData**

The user data to make available to the instance. For more information, see [Running Commands on Your Linux Instance at Launch](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/UG/RunInstances.html#RunInstances-Linux) (Linux) and [Adding User Data](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/UG/RunInstances.html#RunInstances-Windows) (Windows). 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.
Response Elements

The following elements are returned by the service.

**groupSet**

[EC2-Classic only] One or more security groups.

Type: Array of [GroupIdentifier (p. 905)] objects

**instancesSet**

One or more instances.

Type: Array of [Instance (p. 938)] 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 Errors (p. 1302)].

Examples

**Example 1**

This example launches three instances using the AMI with the ID ami-60a54009.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-60a54009
```
Example 2

This example launches an `m1.small` instance into a 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=m1.small
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&Placement.AvailabilityZone=us-east-1d
&AUTHPARAMS
```

Example 3

This example launches an `m1.large` instance into a 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=m1.large
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&NetworkInterface.1.DeviceIndex=0
&NetworkInterface.1.PrivateIpAddress=10.0.2.106
&NetworkInterface.1.PrivateIpAddress=10.0.2.107
&NetworkInterface.1.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-2a1fec43
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&SubnetId=subnet-dea63cb7
```

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Example 5

This request launches an instance into a nondefault 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
&MaxCount=1
&MinCount=1
&NetworkInterface.1.DeviceIndex=0
&NetworkInterface.1.AssociatePublicIpAddress=true
&NetworkInterface.1.SubnetId=subnet-1a2b3c4d
&AUTHPARAMS

Example 6

This request launches an m1.large 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 will be encrypted under a customer-managed CMK.

Sample Request

https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-1a2b3c4d
&InstanceType=m1.large
&BlockDeviceMapping.1.DeviceName=/dev/sdc
&BlockDeviceMapping.1.VirtualName=ephemeral0
&BlockDeviceMapping.2.DeviceName=/dev/sdd
&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-1:3a009400881653%3Akey
%2Fp48a521f-3aff-4b34-a159-376ac5d37812
&BlockDeviceMapping.3.Ebs.Optimized=false
&MaxCount=1
&MinCount=1
&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
Example 8

This request launches a t2.micro instance with the credit option for CPU usage set to unlimited.

Sample Request

https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-31814f58
&Count=1
&InstanceType=t2.micro
&KeyName=my-key-pair
&CreditSpecification.CpuCredits=unlimited
&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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
RunScheduledInstances

Launches the specified Scheduled Instances.

Before you can launch a Scheduled Instance, you must purchase it and obtain an identifier using PurchaseScheduledInstances (p. 721).

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 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 (p. 1267).

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 (p. 1124) 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 Errors (p. 1302).

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
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 Windows instance, Amazon EC2 charges you for a full instance hour. If you stop and restart your Windows instance, a new instance hour begins and Amazon EC2 charges you for another full instance hour even if you are still within the same 60-minute period when it was stopped. Every time you start your Linux 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.

For more information, see Stopping Instances 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 (p. 1267).

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

One or more instance IDs.

Type: Array of strings

Required: Yes

Response Elements

The following elements are returned by the service.

instancesSet

Information about one or more started instances.
Type: Array of `InstanceStateChange (p. 965)` objects

**requestId**

The ID of the request.

Type: String

**Errors**

For information about the errors that are common to all actions, see `Common Client Errors (p. 1302)`.

**Example**

**Example**

This example starts the specified instance.

**Sample Request**

```
https://ec2.amazonaws.com/?Action=StartInstances
&InstanceId.1=i-1234567890abcdef0
&AUTHPARAMS
```

**Sample Response**

```
<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
- AWS SDK for JavaScript
- AWS SDK for PHP V3

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See Also

- AWS SDK for Python
- AWS SDK for Ruby V2
StopInstances

Stops an Amazon EBS-backed instance.

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 Windows instance, Amazon EC2 charges you for a full instance hour. If you stop and restart your Windows instance, a new instance hour begins and Amazon EC2 charges you for another full instance hour even if you are still within the same 60-minute period when it was stopped. Every time you start your Linux instance, Amazon EC2 charges a one-minute minimum for instance usage, and thereafter charges per second for instance usage.

You can't start or stop Spot Instances, and you can't stop instance store-backed instances.

When you stop an instance, we shut it down. You can restart your instance at any time. 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.

Stopping an instance is different to rebooting or terminating 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, the root device and any other devices attached during the instance launch are automatically deleted. For more information about the differences between rebooting, stopping, and terminating instances, see Instance Lifecycle in the Amazon Elastic Compute Cloud 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 Troubleshooting Stopping Your 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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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

**InstanceId.N**

One or more instance IDs.

Type: Array of strings
Required: Yes

Response Elements

The following elements are returned by the service.

instancesSet

Information about one or more stopped instances.

Type: Array of InstanceStateChange (p. 965) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

This example stops the specified instance.

Sample Request

https://ec2.amazonaws.com/?Action=StopInstances&InstanceId.1=i-1234567890abcdef0&AUTHPARAMS

Sample Response

<pre>
<StopInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
 <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
 <instancesSet>
  <item>
   <instanceId>i-1234567890abcdef0</instanceId>
   <currentState>
    <code>64</code>
    <name>stopping</name>
   </currentState>
   <previousState>
    <code>16</code>
    <name>running</name>
   </previousState>
  </item>
 </instancesSet>
</StopInstancesResponse>
</pre>

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
**TerminateInstances**

Shuts down one or more 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.

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 Elastic Compute Cloud User Guide.

For more information about troubleshooting, see Troubleshooting Terminating Your 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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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**

One or more instance IDs.

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 one or more terminated instances.

Type: Array of `InstanceStateChange` (p. 965) objects
requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
• AWS SDK for Ruby V2
UnassignIpv6Addresses

Unassigns one or more IPv6 addresses 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 (p. 1267).

Ipv6Addresses.N

The IPv6 addresses to unassign from the network interface.

Type: Array of strings

Required: Yes

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

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

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

### Sample Response

```xml
  <requestId>94d446d7-fc8e-4918-94f9-example</requestId>
  <networkInterfaceId>eni-197d9972</networkInterfaceId>
  <unassignedIpv6Addresses>
    <item>2001:db8:1234:1a00::123</item>
    <item>2001:db8:1234:1a00::456</item>
  </unassignedIpv6Addresses>
</UnassignIpv6AddressesResponse>
```

### See Also

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

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

Unassigns one or more secondary private IP addresses 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 (p. 1267).

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: 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 Errors (p. 1302).

Example

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-4eac-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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
UnmonitorInstances

Disables detailed monitoring for a running instance. For more information, see Monitoring Your Instances and 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 (p. 1267).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, 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

One or more instance IDs.
Type: Array of strings
Required: Yes

Response Elements

The following elements are returned by the service.

instancesSet

The monitoring information.
Type: Array of InstanceMonitoring (p. 954) objects

requestId

The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 1302).

Example

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

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:

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

[EC2-VPC only] 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 specify the description as part of the IP permissions structure. 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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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 in the request.

Type: String

Required: No

**IpPermissions.N**

The IP permissions for the security group rule.

Type: Array of IpPermission (p. 973) 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 Errors (p. 1302).

**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
```

### Sample Response

```
     <requestId>1480cf25-4fbc-4168-aa9c-365exmpale</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
**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 specify the description as part of the IP permissions structure. 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 (p. 1267).

**DryRun**

Checks whether you have the required permissions for the action, without actually making the request, 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**

[EC2-Classic, default VPC] The name of the security group. You must specify either the security group ID or the security group name in the request.

Type: String

Required: No

**IpPermissions.N**

The IP permissions for the security group rule.

Type: Array of IpPermission (p. 973) 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 Errors (p. 1302)](#).

**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**

```url
&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
&AUTHPARAMS
```

**Sample Response**

```xml
  <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**

```url
&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
&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
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
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:

- AccountAttribute (p. 820)
- AccountAttributeValue (p. 821)
- ActiveInstance (p. 822)
- Address (p. 823)
- AllowedPrincipal (p. 825)
- AttributeBooleanValue (p. 826)
- AttributeValue (p. 827)
- AvailabilityZone (p. 828)
- AvailabilityZoneMessage (p. 829)
- AvailableCapacity (p. 830)
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- CancelledSpotInstanceRequest (p. 836)
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- CidrBlock (p. 840)
- ClassicLinkDnsSupport (p. 841)
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- ClientData (p. 845)
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• VpcPeeringConnectionVpcInfo (p. 1235)
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• VpnConnectionOptions (p. 1239)
• VpnConnectionOptionsSpecification (p. 1240)
• VpnGateway (p. 1241)
• VpnStaticRoute (p. 1243)
• VpnTunnelOptionsSpecification (p. 1244)
AccountAttribute

Describes an account attribute.

Contents

attributeName

The name of the account attribute.

Type: String

Required: No

attributeValueSet

One or more values for the account attribute.

Type: Array of AccountAttributeValue (p. 821) 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
Address

Describes an Elastic IP address.

Contents

allocationId

The ID representing the allocation of the address for use with EC2-VPC.
Type: String
Required: No

associationId

The ID representing the association of the address with an instance in a VPC.
Type: String
Required: No

domain

Indicates whether this Elastic IP address is for use with instances in EC2-Classic (standard) or instances in a VPC (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

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

tagSet

Any tags assigned to the Elastic IP address.

Type: Array of Tag (p. 1188) 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
- AWS SDK for Ruby V2
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

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
AvailabilityZone

Describes an Availability Zone.

Contents

messageSet

Any messages about the Availability Zone.

Type: Array of AvailabilityZoneMessage (p. 829) objects

Required: No

regionName

The name of the region.

Type: String

Required: No

zoneName

The name of the Availability Zone.

Type: String

Required: No

zoneState

The state of the Availability Zone.

Type: String

Valid Values: available | information | impaired | unavailable

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
AvailabilityZoneMessage

Describes a message about an Availability Zone.

Contents

message

The message about the Availability 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
- AWS SDK for Ruby V2
AvailableCapacity

The capacity information for instances launched onto the Dedicated Host.

Contents

availableInstanceCapacity

The total number of instances supported by the Dedicated Host.

Type: Array of InstanceCapacity (p. 946) objects

Required: No

availableVCpus

The number of vCPUs available 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
- AWS SDK for Ruby V2
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.

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 (p. 870) object

Required: No

**NoDevice** (request), **noDevice** (response)

Suppresses the specified device included in the block device mapping of the AMI.

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
- AWS SDK for Ruby V2
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 (p. 835) 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 (p. 1181) 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
- AWS SDK for Ruby V2
BundleTaskError

Describes an error for `BundleInstance` (p. 73).

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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
CancelSpotFleetRequestsError

Describes a Spot Fleet error.

**Contents**

**code**

The error code.

Type: String

Valid Values: fleetRequestIdDoesNotExist | fleetRequestIdMalformed | fleetRequestNotInCancellableState | unexpectedError

Required: Yes

**message**

The description for the error code.

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
- AWS SDK for Ruby V2
CancelSpotFleetRequestsErrorItem

Describes a Spot Fleet request that was not successfully canceled.

Contents

error

The error.

Type: CancelSpotFleetRequestsError (p. 837) object

Required: Yes

spotFleetRequestId

The ID of the Spot Fleet request.

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
- AWS SDK for Ruby V2
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: Yes

previousSpotFleetRequestState

The previous state of the Spot Fleet request.

Type: String

Valid Values: submitted | active | cancelled | failed | cancelled_running | cancelled_terminating | modifying

Required: Yes

spotFleetRequestId

The ID of the Spot Fleet request.

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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
ClassicLinkDnsSupport

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
- AWS SDK for Ruby V2
ClassicLinkInstance

Describes a linked EC2-Classic instance.

Contents

groupSet

A list of security groups.

Type: Array of GroupIdentifier (p. 905) objects

Required: No

instanceId

The ID of the instance.

Type: String

Required: No

tagSet

Any tags assigned to the instance.

Type: Array of Tag (p. 1188) 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
- AWS SDK for Ruby V2
ClassicLoadBalancer

Describes a Classic Load Balancer.

Contents

Name (request), name (response)

The name of the load balancer.

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
- AWS SDK for Ruby V2
ClassicLoadBalancersConfig

Describes the Classic Load Balancers to attach to a Spot Fleet. Spot Fleet registers the running Spot Instances with these Classic Load Balancers.

Contents

ClassicLoadBalancers (request), classicLoadBalancers (response)

One or more Classic Load Balancers.

Type: Array of ClassicLoadBalancer (p. 843) objects

Array Members: Minimum number of 1 item. Maximum number of 5 items.

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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
# ConnectionNotification

Describes a connection notification for a VPC endpoint or VPC endpoint service.

## Contents

- **connectionEvents**
  - The events for the notification. Valid values are Accept, Connect, Delete, and Reject.
  - Type: Array of strings
  - Required: No

- **connectionNotificationArn**
  - The ARN of the SNS topic for the notification.
  - Type: String
  - Required: No

- **connectionNotificationId**
  - The ID of the notification.
  - Type: String
  - Required: No

- **connectionNotificationState**
  - The state of the notification.
  - Type: String
  - Valid Values: Enabled | Disabled
  - Required: No

- **connectionNotificationType**
  - The type of notification.
  - Type: String
  - Valid Values: Topic
  - Required: No

- **serviceId**
  - The ID of the endpoint service.
  - Type: String
  - Required: No

- **vpcEndpointId**
  - The ID of the VPC endpoint.
  - 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
- AWS SDK for Ruby V2
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 (p. 933) object

Required: No

*importVolume*

If the task is for importing a volume, this contains information about the import volume task.

Type: ImportVolumeTaskDetails (p. 937) 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 (p. 1188) 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
- AWS SDK for Ruby V2
CpuOptions

The CPU options for the instance.

Contents

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
- AWS SDK for Ruby V2
CpuOptionsRequest

The CPU options for the instance. Both the core count and threads per core must be specified in the request.

Contents

CoreCount

The number of CPU cores for the instance.

Type: Integer

Required: No

ThreadsPerCore

The number of threads per CPU core. To disable Intel Hyper-Threading Technology 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
- AWS SDK for Ruby V2
CreateVolumePermission

Describes the user or group to be added or removed from the permissions for a volume.

Contents

**Group** (request), **group** (response)

The specific group that is to be added or removed from a volume's list of create volume permissions.

Type: String

Valid Values: all

Required: No

**UserId** (request), **userId** (response)

The specific AWS account ID that is to be added or removed from a volume's list of create volume permissions.

Type: String

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
CreateVolumePermissionModifications

Describes modifications to the permissions for a volume.

Contents

Add

Adds a specific AWS account ID or group to a volume's list of create volume permissions.

Type: Array of CreateVolumePermission (p. 852) objects

Required: No

Remove

Removes a specific AWS account ID or group from a volume's list of create volume permissions.

Type: Array of CreateVolumePermission (p. 852) 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
- AWS SDK for Ruby V2
CreditSpecification

Describes the credit option for CPU usage of a T2 instance.

Contents

cpuCredits

The credit option for CPU usage of a T2 instance. Valid values are standard and 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
- AWS SDK for Ruby V2
CreditSpecificationRequest

The credit option for CPU usage of a T2 instance.

Contents

CpuCredits

The credit option for CPU usage of a T2 instance. Valid values are standard and 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
- AWS SDK for Ruby V2
CustomerGateway

Describes a customer gateway.

Contents

bgpAsn

The customer gateway's Border Gateway Protocol (BGP) Autonomous System Number (ASN).

Type: String

Required: No

customerGatewayId

The ID of the customer gateway.

Type: String

Required: No

ipAddress

The Internet-routable IP address of the customer gateway'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 (p. 1188) 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
• AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
DeleteFleetErrorItem

Describes an EC2 Fleet that was not successfully deleted.

Contents

error

The error.

Type: DeleteFleetError (p. 858) 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
DhcpConfiguration

Describes a DHCP configuration option.

Contents

**key**

The name of a DHCP option.

Type: String

Required: No

**valueSet**

One or more values for the DHCP option.

Type: Array of `AttributeValue (p. 827)` 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
- AWS SDK for Ruby V2
DhcpOptions

Describes a set of DHCP options.

**Contents**

**dhcpConfigurationSet**

One or more 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

**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++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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 (p. 867) object

Required: No

Volume

Information about the volume.

Type: VolumeDetail (p. 1213) 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
- AWS SDK for Ruby V2
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
• AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
EbsBlockDevice

Describes a block device for an EBS volume.

Contents

DeleteOnTermination (request), deleteOnTermination (response)

Indicates whether the EBS volume is deleted on instance termination.

Type: Boolean
Required: No

Encrypted (request), encrypted (response)

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. This is because only blank volumes can be encrypted on creation.

Type: Boolean
Required: No

Iops (request), iops (response)

The number of I/O operations per second (IOPS) that the volume supports. For io1, this represents the number of IOPS that are provisioned for the volume. For gp2, this represents the baseline performance of the volume and the rate at which the volume accumulates I/O credits for bursting. For more information about General Purpose SSD baseline performance, I/O credits, and bursting, see Amazon EBS Volume Types in the Amazon Elastic Compute Cloud User Guide.

Constraint: Range is 100-20000 IOPS for io1 volumes and 100-10000 IOPS for gp2 volumes.

Condition: This parameter is required for requests to create io1 volumes; it is not used in requests to create gp2, st1, sc1, or standard volumes.

Type: Integer
Required: No

KmsKeyId (request), KmsKeyId (response)

Identifier (key ID, key alias, ID ARN, or alias ARN) for a user-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

SnapshotId (request), snapshotId (response)

The ID of the snapshot.

Type: String
Required: No

VolumeSize (request), volumeSize (response)

The size of the volume, in GiB.
Constraints: 1-16384 for General Purpose SSD (gp2), 4-16384 for Provisioned IOPS SSD (io1), 500-16384 for Throughput Optimized HDD (st1), 500-16384 for Cold HDD (sc1), and 1-1024 for Magnetic (standard) volumes. If you specify a snapshot, the volume size must be equal to or larger than the snapshot size.

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** (request), **volumeType** (response)

The volume type: gp2, io1, st1, sc1, or standard.

Default: standard

Type: String

Valid Values: standard | io1 | gp2 | sc1 | st1

Required: No

**See Also**

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
EgressOnlyInternetGateway

Describes an egress-only internet gateway.

Contents

attachmentSet

Information about the attachment of the egress-only internet gateway.

Type: Array of InternetGatewayAttachment (p. 972) objects

Required: No

egressOnlyInternetGatewayId

The ID of the egress-only internet 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
- AWS SDK for Ruby V2
ElasticGpuAssociation

Describes the association between an instance and an Elastic GPU.

Contents

elasticGpuAssociationId

The ID of the association.

Type: String

Required: No

elasticGpuAssociationState

The state of the association between the instance and the Elastic GPU.

Type: String

Required: No

elasticGpuAssociationTime

The time the Elastic GPU was associated with the instance.

Type: String

Required: No

elasticGpuId

The ID of the Elastic GPU.

Type: String

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
ElasticGpuHealth

Describes the status of an Elastic GPU.

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
- AWS SDK for Ruby V2
ElasticGpus

Describes an Elastic GPU.

Contents

availabilityZone

The Availability Zone in which the Elastic GPU resides.

Type: String

Required: No

elasticGpuHealth

The status of the Elastic GPU.

Type: ElasticGpuHealth (p. 876) object

Required: No

elasticGpuId

The ID of the Elastic GPU.

Type: String

Required: No

elasticGpuType

The type of Elastic GPU.

Type: String

Required: No

instanceld

The ID of the instance to which the Elastic GPU is attached.

Type: String

Required: No

See Also

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

- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java
• AWS SDK for Ruby V2
ElasticGpuSpecification

A specification for an Elastic GPU.

Contents

Type

The type of Elastic GPU.

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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
EventInformation

Describes a Spot Fleet event.

Contents

eventDescription

The description of the event.

Type: String

Required: No

eventSubType

The event.

The following are the error events:
- iamFleetRoleInvalid - The Spot Fleet did not have the required permissions either to launch or terminate an instance.
- launchSpecTemporarilyBlacklisted - The configuration is not valid and several attempts to launch instances have failed. For more information, see the description of the event.
- spotFleetRequestConfigurationInvalid - The configuration is not valid. 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.

The following are the fleetRequestChange events:
- active - The Spot Fleet has been validated and Amazon EC2 is attempting to maintain the target number of running Spot Instances.
- cancelled - The Spot Fleet is canceled and has no running Spot Instances. The Spot Fleet will be deleted two days after its instances were terminated.
- cancelled_running - The Spot Fleet is canceled and does not launch additional Spot Instances. Existing Spot Instances continue to run until they are interrupted or terminated.
- cancelled_terminating - The Spot Fleet is canceled and its Spot Instances are terminating.
- expired - The Spot Fleet request has expired. A subsequent event indicates that the instances were terminated, if the request was created with TerminateInstancesWithExpiration set.
- modify_in_progress - A request to modify the Spot Fleet request was accepted and is in progress.
- modify_successful - The Spot Fleet request was modified.
- price_update - The price for a launch configuration was adjusted because it was too high. This change is permanent.
- submitted - The Spot Fleet request is being evaluated and Amazon EC2 is preparing to launch the target number of Spot Instances.

The following are the instanceChange events:
- launched - A request was fulfilled and a new instance was launched.
- terminated - An instance was terminated by the user.

The following are the Information events:
- launchSpecUnusable - The price in a launch specification is not valid because it is below the Spot price or the Spot price is above the On-Demand price.
• fleetProgressHalted - The price in every launch specification is not valid. A launch specification might become valid if the Spot price changes.
  
  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
• AWS SDK for Ruby V2
ExportTask

Describes an instance export 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 (p. 885) object
Required: No

instanceExport

Information about the instance to export.
Type: InstanceExportDetails (p. 950) object
Required: No

state

The state of the export task.
Type: String
Valid Values: active | cancelling | cancelled | completed
Required: No

statusMessage

The status message related to the export task.
Type: String
Required: No

See Also

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

- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java
• AWS SDK for Ruby V2
ExportToS3Task

Describes the format and location for an instance 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 S3 bucket for the destination image. The destination bucket must exist and grant WRITE and READ_ACP permissions to the AWS account vm-import-export@amazon.com.

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
- AWS SDK for Ruby V2
ExportToS3TaskSpecification

Describes an instance 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 S3 bucket for the destination image. The destination bucket must exist and grant WRITE and READ_ACP permissions to the AWS account vm-import-export@amazon.com.

Type: String
Required: No

S3Prefix

The image is written to a single object in the 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
- AWS SDK for Ruby V2
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. The filters supported by a describe operation are documented with the describe operation. For example:

- DescribeAvailabilityZones (p. 301)
- DescribeImages (p. 367)
- DescribeInstances (p. 383)
- DescribeKeyPairs (p. 400)
- DescribeSecurityGroups (p. 479)
- DescribeSnapshots (p. 489)
- DescribeSubnets (p. 517)
- DescribeTags (p. 520)
- DescribeVolumes (p. 529)
- DescribeVpcs (p. 574)

Contents

Name

The name of the filter. Filter names are case-sensitive.

Type: String

Required: No

Values

One or more filter values. Filter values are case-sensitive.

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
- AWS SDK for Ruby V2
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 you provide to ensure the idempotency of the request. For more information, see Ensuring Idempotency.

Constraints: Maximum 64 ASCII characters

Type: String

Required: No

createdTime

The creation date and time of the EC2 Fleet.

Type: Timestamp

Required: No

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.

Type: String

Valid Values: no-termination | termination

Required: No

fleetId

The ID of the EC2 Fleet.

Type: String

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 (p. 891) objects

Required: No

**onDemandOptions**

The allocation strategy of On-Demand Instances in an EC2 Fleet.

Type: OnDemandOptions (p. 1048) object

Required: No

**replaceUnhealthyInstances**

Indicates whether EC2 Fleet should replace unhealthy instances.

Type: Boolean

Required: No

**spotOptions**

The configuration of Spot Instances in an EC2 Fleet.

Type: SpotOptions (p. 1171) object

Required: No

**tagSet**

The tags for an EC2 Fleet resource.

Type: Array of Tag (p. 1188) 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 (p. 1191) object


**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 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

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
- AWS SDK for Ruby V2
FleetLaunchTemplateConfig

Describes a launch template and overrides.

Contents

launchTemplateSpecification

The launch template.

Type: FleetLaunchTemplateSpecification (p. 897) object

Required: No

overrides

Any parameters that you specify override the same parameters in the launch template.

Type: Array of FleetLaunchTemplateOverrides (p. 893) 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
- AWS SDK for Ruby V2
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 (p. 898) object

Required: No

Overrides

Any parameters that you specify override the same parameters in the launch template.

Type: Array of FleetLaunchTemplateOverridesRequest (p. 895) objects

Array Members: Maximum number of 50 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
- AWS SDK for Ruby V2
FleetLaunchTemplateOverrides

Describes overrides for a launch template.

Contents

availabilityZone

The Availability Zone in which to launch the instances.

Type: String

Required: No

instanceType

The instance type.

Type: String

Valid Values: t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | r3.large | r3.2xlarge | r3.4xlarge | r3.8xlarge | r4.large | r4.4xlarge | r4.8xlarge | r4.16xlarge | r5.large | r5.xlarge | r5.2xlarge | r5.4xlarge | r5.8xlarge | r5.12xlarge | r5.16xlarge | r5.24xlarge | r5.metal | r5d.large | r5d.xlarge | r5d.2xlarge | r5d.4xlarge | r5d.8xlarge | r5d.12xlarge | r5d.16xlarge | r5d.24xlarge | r5d.metal | x1.16xlarge | x1.32xlarge | x1e.xlarge | x1e.2xlarge | x1e.4xlarge | x1e.8xlarge | x1e.16xlarge | x1e.32xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge | i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.metal | hi1.4xlarge | hi1.8xlarge | hi1.16xlarge | hs1.8xlarge | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c3.16xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.8xlarge | c5.10xlarge | c5.16xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.8xlarge | c5d.10xlarge | c5d.12xlarge | c5d.16xlarge | c5d.32xlarge | c5d.64xlarge | c5d.128xlarge | g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | cg1.4xlarge | cg1.8xlarge | cg1.16xlarge | p2.8xlarge | p2.16xlarge | p2.32xlarge | p3.8xlarge | p3.16xlarge | p3.2xlarge | p3.4xlarge | p3.8xlarge | p3.16xlarge | p4.xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.4xlarge | f1.8xlarge | f2.4xlarge | m1.large | m1.xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | m2.8xlarge | m3.2xlarge | m3.4xlarge | m3.8xlarge | m4.2xlarge | m4.4xlarge | m4.8xlarge | m5.large | m5.xlarge | m5.10xlarge | m5.2xlarge | m5.4xlarge | m5.8xlarge | m5.16xlarge | m5.32xlarge | m5.64xlarge | m5.128xlarge | m5d.large | m5d.xlarge | m5d.2xlarge | m5d.4xlarge | m5d.8xlarge | m5d.10xlarge | m5d.12xlarge | m5d.16xlarge | m5d.32xlarge | m5d.64xlarge | m5d.128xlarge | h1.2xlarge | h1.4xlarge | h1.8xlarge | h2.4xlarge | h2.8xlarge | h4.4xlarge | h4.8xlarge | h8.xlarge | h16.xlarge | z1d.large | z1d.xlarge | z1d.2xlarge | z1d.3xlarge | z1d.4xlarge | z1d.8xlarge | z1d.16xlarge | z1d.32xlarge | z1d.64xlarge | z1d.128xlarge

Required: No

maxPrice

The maximum price per unit hour that you are willing to pay for a Spot Instance.

Type: String

Required: No

priority

The priority for the launch template override. If AllocationStrategy is set to prioritized, EC2 Fleet uses priority to determine which launch template override to use first in fulfilling On-Demand
capacity. The highest priority is launched 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.

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
- AWS SDK for Ruby V2
FleetLaunchTemplateOverridesRequest

Describes overrides for a launch template.

Contents

AvailabilityZone

The Availability Zone in which to launch the instances.

Type: String

Required: No

InstanceType

The instance type.

Type: String

Valid Values: t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large |
| t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge |
| m3.medium | m3.large | m3.xlarge | m4.large | m4.xlarge | m4.2xlarge |
| m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge |
| m2.4xlarge | cr1.8xlarge | r3.large | 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 | r5d.large | r5d.xlarge |
| r5d.2xlarge | r5d.4xlarge | r5d.8xlarge | r5d.12xlarge | r5d.16xlarge |
| r5d.24xlarge | r5d.metal | x1.16xlarge | x1.32xlarge | x1e.xlarge |
| x1e.2xlarge | x1e.4xlarge | x1e.8xlarge | x1e.16xlarge | x1e.32xlarge |
| i2.large | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge |
| i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.metal | hi1.4xlarge |
| hs1.8xlarge | 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 |
| c5.18xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge |
| c5d.9xlarge | c5d.18xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge |
| g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | cg1.4xlarge | p2.xlarge |
| p2.8xlarge | p2.16xlarge | p3.2xlarge | p3.8xlarge | p3.16xlarge |
| d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.16xlarge |
| m5.large | m5.xlarge | m5.2xlarge | m5.4xlarge | m5.12xlarge | m5.24xlarge |
| m5d.large | m5d.xlarge | m5d.2xlarge | m5d.4xlarge | m5d.12xlarge |
| m5d.24xlarge | h1.2xlarge | h1.4xlarge | h1.8xlarge | h1.16xlarge |
| z1d.large | z1d.xlarge | z1d.2xlarge | z1d.3xlarge | z1d.6xlarge |
| z1d.12xlarge |

Required: No

MaxPrice

The maximum price per unit hour that you are willing to pay for a Spot Instance.

Type: String

Required: No

Priority

The priority for the launch template override. If AllocationStrategy is set to prioritized, EC2 Fleet uses priority to determine which launch template override to use first in fulfilling On-Demand
capacity. The highest priority is launched 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.

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
- AWS SDK for Ruby V2
FleetLaunchTemplateSpecification

Describes a launch template.

Contents

LaunchTemplateName (request), launchTemplateName (response)

The ID of the launch template. You must specify either a template ID or a template name.

Type: String

Required: No

Version (request), version (response)

The name of the launch template. You must specify either a template name or a template ID.

Type: String


Pattern: [a-zA-Z0-9\(\)\\/.\-_]+

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
FleetLaunchTemplateSpecificationRequest

The launch template to use. You must specify either the launch template ID or launch template name in the request.

Contents

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

Version

The version number 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
- AWS SDK for Ruby V2
FlowLog

Describes a flow log.

Contents

creationTime

The date and time the flow log was created.

Type: Timestamp
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 that posts logs to CloudWatch Logs.

Type: String
Required: No

deliverLogsStatus

The status of the logs delivery (SUCCESS | FAILED).

Type: String
Required: No

flowLogId

The flow log ID.

Type: String
Required: No

flowLogStatus

The status of the flow log (ACTIVE).

Type: String
Required: No

logDestination

Specifies the destination to which the flow log data is published. Flow log data can be published to an CloudWatch Logs log group or an Amazon S3 bucket. If the flow log publishes to CloudWatch Logs, this element indicates the Amazon Resource Name (ARN) of the CloudWatch Logs log group to
which the data is published. If the flow log publishes to Amazon S3, this element indicates the ARN of the Amazon S3 bucket to which the data is published.

Type: String
Required: No

**logDestinationType**

Specifies the type of destination to which the flow log data is published. Flow log data can be published to CloudWatch Logs or Amazon S3.

Type: String

Valid Values: cloud-watch-logs | s3
Required: No

**logGroupName**

The name of the flow log group.

Type: String
Required: No

**resourceId**

The ID of the resource on which the flow log was created.

Type: String
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
- AWS SDK for Ruby V2
FpgaImage

Describes an Amazon FPGA image (AFI).

Contents

createTime

The date and time the AFI was created.

Type: Timestamp

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

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 AWS account ID of the AFI owner.

Type: String

Required: No

pciId

Information about the PCI bus.
Type: `PciId (p. 1050)` object

Required: No

**productCodes**

The product codes for the AFI.

Type: Array of `ProductCode (p. 1064)` 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 (p. 904)` object

Required: No

**tags**

Any tags assigned to the AFI.

Type: Array of `Tag (p. 1188)` 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
- AWS SDK for Ruby V2
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

One or more load permissions.
Type: Array of LoadPermission (p. 1021) objects
Required: No

name

The name of the AFI.
Type: String
Required: No

productCodes

One or more product codes.
Type: Array of ProductCode (p. 1064) 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
- AWS SDK for Ruby V2
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++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
HistoryRecord

Describes an event in the history of the Spot Fleet request.

Contents

eventInformation

Information about the event.

Type: EventInformation (p. 881) object

Required: Yes

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

Required: Yes

timestamp

The date and time of the event, in UTC format (for example, \textit{YYYY-MM-DDTHH:MM:SSZ}).

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
- AWS SDK for Ruby V2
HistoryRecordEntry

Describes an event in the history of an EC2 Fleet.

Contents

**eventInformation**

Information about the event.

Type: EventInformation (p. 881) 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
- AWS SDK for Ruby V2
**Host**

Describes the properties of the Dedicated Host.

**Contents**

**allocationTime**

The time that the Dedicated Host was allocated.

*Type:* Timestamp

*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

**availableCapacity**

The number of new instances that can be launched onto the Dedicated Host.

*Type:* `AvailableCapacity (p. 830)` object

*Required:* No

**clientToken**

Unique, case-sensitive identifier that you provide to ensure idempotency of the request. For more information, see How to Ensure Idempotency in the Amazon Elastic Compute Cloud User Guide.

*Type:* String

*Required:* No

**hostId**

The ID of the Dedicated Host.

*Type:* String

*Required:* No

**hostProperties**

The hardware specifications of the Dedicated Host.

*Type:* `HostProperties (p. 913)` object

*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 (p. 910) objects

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

Required: No

**tagSet**

Any tags assigned to the Dedicated Host.

Type: Array of Tag (p. 1188) 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
- AWS SDK for Ruby V2
HostInstance

Describes an instance running on a Dedicated Host.

Contents

instanceId

the IDs of instances that are running on the Dedicated Host.

Type: String
Required: No

instanceType

The instance type size (for example, m3.medium) of the running 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
HostProperties

Describes properties of a Dedicated Host.

Contents

cores

The number of cores on the Dedicated Host.

Type: Integer

Required: No

instanceType

The instance type size that the Dedicated Host supports (for example, m3.medium).

Type: String

Required: No

sockets

The number of sockets on the Dedicated Host.

Type: Integer

Required: No

totalVCpus

The 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
- AWS SDK for Ruby V2
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

date

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
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

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
• AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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 (p. 917) 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
Image

Describes an image.

Contents

architecture

The architecture of the image.
Type: String
Valid Values: i386 | x86_64
Required: No

blockDeviceMapping

Any block device mapping entries.
Type: Array of BlockDeviceMapping (p. 832) objects
Required: No

creationDate

The date and time the image was created.
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.
Type: String
Valid Values: ovm | xen
Required: No

imageId

The ID of the AMI.
Type: String
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 AWS account ID of the image owner.
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
Required: No

imageType
The type of image.
Type: String
Valid Values: machine | kernel | ramdisk
Required: No

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.
platform

The value is `windows` for Windows AMIs; otherwise blank.

Type: String

Valid Values: `windows`

productCodes

Any product codes associated with the AMI.

Type: Array of `ProductCode (p. 1064)` objects

ramdiskId

The RAM disk associated with the image, if any. Only applicable for machine images.

Type: String

rootDeviceName

The device name of the root device volume (for example, `/dev/sda1`).

Type: String

rootDeviceType

The type of root device used by the AMI. The AMI can use an EBS volume or an instance store volume.

Valid Values: `ebs` | `instance-store`

sriovNetSupport

Specifies whether enhanced networking with the Intel 82599 Virtual Function interface is enabled.

Type: String

stateReason

The reason for the state change.

Type: `StateReason (p. 1180)` object

tagSet

Any tags assigned to the image.
Type: Array of `Tag (p. 1188)` objects

Required: No

**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
- AWS SDK for Ruby V2
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: VHD | VMDK | OVA

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

Required: No

UserBucket

The S3 bucket for the disk image.

Type: UserBucket (p. 1202) 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
- AWS SDK for Ruby V2
ImportImageTask

Describes an import image task.

Contents

architecture

The architecture of the virtual machine.

Valid values: i386 | x86_64

Type: String

Required: No

description

A description of the import task.

Type: String

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

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](p. 1146) 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

### See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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
  Required: No

GroupIds

  One or more security group IDs.
  Type: Array of strings
  Required: No

GroupNames

  One or more 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
  Required: No

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: t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge
### Contents

| m2.4xlarge | cr1.8xlarge | 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 | r5d.large | r5d.xlarge |
| r5d.2xlarge | r5d.4xlarge | r5d.8xlarge | r5d.12xlarge | r5d.16xlarge |
| r5d.24xlarge | r5d.metal | x1.16xlarge | x1.32xlarge | x1e.xlarge |
| x1e.2xlarge | x1e.4xlarge | x1e.8xlarge | x1e.16xlarge | x1e.32xlarge |
| i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge |
| i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.metal | hi1.4xlarge |
| hs1.8xlarge | 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 |
| c5.18xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge |
| c5d.9xlarge | c5d.18xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge |
| g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | cg1.4xlarge | p2.xlarge |
| p2.8xlarge | p2.16xlarge | p3.2xlarge | p3.8xlarge | p3.16xlarge |
| d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.16xlarge |
| m5.large | m5.xlarge | m5.2xlarge | m5.4xlarge | m5.12xlarge | m5.24xlarge |
| m5d.large | m5d.xlarge | m5d.2xlarge | m5d.4xlarge | m5d.12xlarge |
| m5d.24xlarge | h1.2xlarge | h1.4xlarge | h1.8xlarge | h1.16xlarge |
| z1d.large | z1d.xlarge | z1d.2xlarge | z1d.3xlarge | z1d.6xlarge |
| z1d.12xlarge |

**Required**: No

### Monitoring

Indicates whether monitoring is enabled.

**Type**: Boolean

**Required**: No

### Placement

The placement information for the instance.

**Type**: Placement (p. 1053) 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 (p. 1204) 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
- AWS SDK for Ruby V2
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
One or more volumes.
Type: Array of ImportInstanceVolumeDetailItem (p. 934) 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
- AWS SDK for Ruby V2
ImportInstanceVolumeDetailItem

Describes an import volume task.

**Contents**

**availabilityZone**

The Availability Zone where the resulting instance will reside.

Type: String

Required: Yes

**bytesConverted**

The number of bytes converted so far.

Type: Long

Required: Yes

**description**

A description of the task.

Type: String

Required: No

**image**

The image.

Type: `DiskImageDescription` (p. 866) object

Required: Yes

**status**

The status of the import of this particular disk image.

Type: String

Required: Yes

**statusMessage**

The status information or errors related to the disk image.

Type: String

Required: No

**volume**

The volume.

Type: `DiskImageVolumeDescription` (p. 868) object

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
- AWS SDK for Ruby V2
**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` (p. 1149) 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
- AWS SDK for Ruby V2
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 (p. 866) object

Required: No

volume

The volume.

Type: DiskImageVolumeDescription (p. 868) 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
- AWS SDK for Ruby V2
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

Required: No

**blockDeviceMapping**

Any block device mapping entries for the instance.

Type: Array of InstanceBlockDeviceMapping (p. 944) objects

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 (p. 850) object

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. For EC2-VPC, 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 (p. 875) objects
Required: No
enaSupport
Specifies whether enhanced networking with ENA is enabled.
Type: Boolean
Required: No
groupSet
One or more security groups for the instance.
Type: Array of GroupIdentifier (p. 905) objects
Required: No
hypervisor
The hypervisor type of the instance.
Type: String
Valid Values: ovn | xen
Required: No
iamInstanceProfile
The IAM instance profile associated with the instance, if applicable.
Type: iamInstanceProfile (p. 917) 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
### instanceState

The current state of the instance.

**Type:** `InstanceState (p. 964)` object

**Required:** No

### instanceType

The instance type.

**Type:** String

**Valid Values:**
- t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large
- t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge
- m3.medium | m3.large | m3.xlarge | m4.large | m4.xlarge
- m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge
- m2.4xlarge | cr1.8xlarge | 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 | r5d.large | r5d.xlarge
- r5d.2xlarge | r5d.4xlarge | r5d.8xlarge | r5d.12xlarge | r5d.16xlarge
- r5d.24xlarge | r5d.metal | x1.16xlarge | x1.32xlarge | x1e.xlarge
- x1e.2xlarge | x1e.4xlarge | x1e.8xlarge | x1e.16xlarge | x1e.32xlarge
- i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge
- i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.metal | hi1.4xlarge
- hs1.8xlarge | 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
- c5.18xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge
- c5d.18xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge | g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | cg1.4xlarge | p2.xlarge
- p2.8xlarge | p2.16xlarge | p3.2xlarge | p3.4xlarge | p3.8xlarge | p3.16xlarge
- d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.16xlarge
- m5.large | m5.xlarge | m5.2xlarge | m5.4xlarge | m5.12xlarge | m5.24xlarge
- m5d.large | m5d.xlarge | m5d.2xlarge | m5d.4xlarge | m5d.12xlarge | m5d.24xlarge
- m5d.2xlarge | h1.2xlarge | h1.4xlarge | h1.8xlarge | h1.16xlarge | z1d.large | z1d.xlarge | z1d.2xlarge | z1d.3xlarge | z1d.6xlarge | z1d.12xlarge

**Required:** No

### ipAddress

The public IPv4 address assigned to the instance, if applicable.

**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

**monitoring**

The monitoring for the instance.
Type: Monitoring (p. 1024) object
Required: No

**networkInterfaceSet**

[EC2-VPC] One or more network interfaces for the instance.
Type: Array of InstanceNetworkInterface (p. 955) objects
Required: No

**placement**

The location where the instance launched, if applicable.
Type: Placement (p. 1053) object
Required: No

**platform**

The value is Windows for Windows instances; otherwise blank.
Type: String
Valid Values: Windows
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.

[EC2-VPC] 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

**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 (p. 1064)` 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**

Specifies whether to enable an instance launched in a VPC to perform NAT. This controls whether source/destination checking is enabled on the instance. 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 NAT. For more information, see NAT Instances in the Amazon Virtual Private Cloud User Guide.

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 (p. 1180) object
Required: No

**subnetId**

[EC2-VPC] 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 (p. 1188) objects
Required: No

**virtualizationType**

The virtualization type of the instance.

Type: String

Valid Values: hvm | paravirtual
Required: No

**vpcId**

[EC2-VPC] 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
- AWS SDK for Ruby V2
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 (p. 872) 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
- AWS SDK for Ruby V2
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 (p. 873) 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
- AWS SDK for Ruby V2
InstanceCapacity

Information about the instance type that the Dedicated Host supports.

Contents

availableCapacity

The number of instances that can still be launched onto the Dedicated Host.

Type: Integer
Required: No

instanceType

The instance type size supported by the Dedicated Host.

Type: String
Required: No

totalCapacity

The total number of instances that can be launched 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
InstanceCreditSpecification

Describes the credit option for CPU usage of a T2 instance.

Contents

cpuCredits

The credit option for CPU usage of the instance. Valid values are standard and 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
- AWS SDK for Ruby V2
InstanceCreditSpecificationRequest

Describes the credit option for CPU usage of a T2 instance.

Contents

CpuCredits

The credit option for CPU usage of the instance. Valid values are standard and 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
InstanceIpv6Address

Describes an IPv6 address.

Contents

Ipv6Address (request), ipv6Address (response)

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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
InstanceMarketOptionsRequest

Describes the market (purchasing) option for the instances.

Contents

MarketType

The market type.

Type: String

Valid Values: spot

Required: No

SpotOptions

The options for Spot Instances.

Type: SpotMarketOptions (p. 1169) 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
- AWS SDK for Ruby V2
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 (p. 1024) 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
- AWS SDK for Ruby V2
InstanceNetworkInterface

Describes a network interface.

Contents

association

The association information for an Elastic IPv4 associated with the network interface.

Type: InstanceNetworkInterfaceAssociation (p. 958) object

Required: No

attachment

The network interface attachment.

Type: InstanceNetworkInterfaceAttachment (p. 959) object

Required: No

description

The description.

Type: String

Required: No

groupSet

One or more security groups.

Type: Array of GroupIdentifier (p. 905) objects

Required: No

ipv6AddressesSet

One or more IPv6 addresses associated with the network interface.

Type: Array of InstanceIpv6Address (p. 951) objects

Required: No

macAddress

The MAC address.

Type: String

Required: No

networkInterfaceId

The ID of the network interface.

Type: String

Required: No

ownerId

The ID of the AWS account that created the network interface.
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

One or more private IPv4 addresses associated with the network interface.

Type: Array of InstancePrivatelpAddress (p. 963) objects
Required: No

destCheck

Indicates whether to validate network traffic to or from this network interface.

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:
See Also

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
**InstanceNetworkInterfaceAssociation**

Describes association information for an Elastic IP address (IPv4).

**Contents**

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
- AWS SDK for Ruby V2
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

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
- AWS SDK for Ruby V2
InstanceNetworkInterfaceSpecification

Describes a network interface.

Contents

**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`.

Type: Boolean

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), deviceIndex* *(response)*

The index of the device on the instance for the network interface attachment. If you are specifying a network interface in a `RunInstances (p. 781)` request, you must provide the device index.

Type: Integer

Required: No

**I Pv6AddressCount** *(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

**I Pv6Addresses** *(request), ipv6AddressesSet* *(response)*

One or more 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 (p. 951)` objects
See Also

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

- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java
• AWS SDK for Ruby V2
InstancePrivateIpAddress

Describes a private IPv4 address.

Contents

association

The association information for an Elastic IP address for the network interface.

Type: InstanceNetworkInterfaceAssociation (p. 958) 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
- AWS SDK for Ruby V2
InstanceState

Describes the current state of an instance.

Contents

code

The low byte represents the state. The high byte is used for internal purposes and should be ignored.

- 0: pending
- 16: running
- 32: shutting-down
- 48: terminated
- 64: stopping
- 80: stopped

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
- AWS SDK for Ruby V2
InstanceStateChange

Describes an instance state change.

Contents

currentState

The current state of the instance.

Type: InstanceState (p. 964) object

Required: No

instanceId

The ID of the instance.

Type: String

Required: No

previousState

The previous state of the instance.

Type: InstanceState (p. 964) 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
- AWS SDK for Ruby V2
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 (p. 969) objects

Required: No

instanceId

The ID of the instance.

Type: String

Required: No

instanceState

The intended state of the instance. DescribeInstanceStatus (p. 391) requires that an instance be in the running state.

Type: InstanceState (p. 964) object

Required: No

instanceStatus

Reports impaired functionality that stems from issues internal to the instance, such as impaired reachability.

Type: InstanceStatusSummary (p. 970) object

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 (p. 970) 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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

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

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
InstanceStatusSummary

Describes the status of an instance.

Contents

details

The system instance health or application instance health.

Type: Array of InstanceStatusDetails (p. 968) 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
- AWS SDK for Ruby V2
InternetGateway

Describes an internet gateway.

Contents

attachmentSet

Any VPCs attached to the internet gateway.

Type: Array of InternetGatewayAttachment (p. 972) objects

Required: No

internetGatewayId

The ID of the internet gateway.

Type: String

Required: No

tagSet

Any tags assigned to the internet gateway.

Type: Array of Tag (p. 1188) 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
IpPermission

Describes a set of permissions for a security group rule.

Contents

FromPort (request), fromPort (response)

The start of port range for the TCP and UDP protocols, or an ICMP/ICMPv6 type number. A value of -1 indicates all ICMP/ICMPv6 types. If you specify all ICMP/ICMPv6 types, you must specify all codes.

Type: Integer

Required: No

UserIdGroupPairs (request), groups (response)

One or more security group and AWS account ID pairs.

Type: Array of UserIdGroupPair (p. 1205) objects

Required: No

IpProtocol (request), ipProtocol (response)

The IP protocol name (tcp, udp, icmp) or number (see Protocol Numbers).

[EC2-VPC only] Use -1 to specify all protocols. When authorizing security group rules, specifying -1 or a protocol number other than tcp, udp, icmp, or 58 (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 58 (ICMPv6), you can optionally specify a port range; if you don’t, traffic for all types and codes is allowed when authorizing rules.

Type: String

Required: No

IpRanges (request), ipRanges (response)

One or more IPv4 ranges.

Type: Array of IpRange (p. 975) objects

Required: No

Ipv6Ranges (request), ipv6Ranges (response)

[EC2-VPC only] One or more IPv6 ranges.

Type: Array of Ipv6Range (p. 977) objects

Required: No

PrefixListIds (request), prefixListIds (response)

(EC2-VPC only; valid for AuthorizeSecurityGroupEgress (p. 63), RevokeSecurityGroupEgress (p. 773) and DescribeSecurityGroups (p. 479) only) One or more prefix list IDs for an AWS service. In an AuthorizeSecurityGroupEgress (p. 63) request, this is the AWS service that you want to access through a VPC endpoint from instances associated with the security group.

Type: Array of PrefixListId (p. 1058) objects

Required: No
ToPort (request), toPort (response)

The end of port range for the TCP and UDP protocols, or an ICMP/ICMPv6 code. A value of -1 indicates all ICMP/ICMPv6 codes for the specified ICMP type. If you specify all ICMP/ICMPv6 types, you must specify all 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
Ipv6Range

[EC2-VPC only] 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
- AWS SDK for Ruby V2
KeyPairInfo

Describes a key pair.

Contents

keyFingerprint

If you used CreateKeyPair (p. 133) to create the key pair, this is the SHA-1 digest of the DER encoded private key. If you used ImportKeyPair (p. 641) to provide AWS the public key, this is the MD5 public key fingerprint as specified in section 4 of RFC4716.

Type: String
Required: No

keyName

The name of the key pair.

Type: String
Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
LaunchPermission

Describes a launch permission.

Contents

Group (request), group (response)

The name of the group.

Type: String

Valid Values: all

Required: No

UserId (request), userId (response)

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
- AWS SDK for Ruby V2
LaunchPermissionModifications

Describes a launch permission modification.

Contents

Add

The AWS account ID to add to the list of launch permissions for the AMI.

Type: Array of LaunchPermission (p. 979) objects

Required: No

Remove

The AWS account ID to remove from the list of launch permissions for the AMI.

Type: Array of LaunchPermission (p. 979) 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
- AWS SDK for Ruby V2
LaunchSpecification

Describes the launch specification for an instance.

**Contents**

**addressingType**

Deprecated.

Type: String

Required: No

**blockDeviceMapping**

One or more block device mapping entries.

Type: Array of `BlockDeviceMapping (p. 832)` 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**

One or more security groups. When requesting instances in a VPC, you must specify the IDs of the security groups. When requesting instances in EC2-Classic, you can specify the names or the IDs of the security groups.

Type: Array of `GroupIdentifier (p. 905)` objects

Required: No

**iamInstanceProfile**

The IAM instance profile.

Type: `iamInstanceProfileSpecification (p. 919)` object

Required: No

**imageId**

The ID of the AMI.

Type: String

Required: No

**instanceType**

The instance type.
Type: String

Valid Values: t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large |
| t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge |
| m3.medium | m3.large | m3.xlarge | m4.large | m4.xlarge | m4.2xlarge |
| m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge |
| m2.4xlarge | cr1.8xlarge | 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 | r5d.large | r5d.xlarge |
| r5d.2xlarge | r5d.4xlarge | r5d.8xlarge | r5d.12xlarge | r5d.16xlarge |
| r5d.24xlarge | r5d.metal | x1.16xlarge | x1.32xlarge | x1e.xlarge |
| x1e.2xlarge | x1e.4xlarge | x1e.8xlarge | x1e.16xlarge | x1e.32xlarge |
| i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge |
| i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.meta | i3.4xlarge |
| hi1.8xlarge | 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 |
| c5.18xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge |
| c5d.18xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge | g2.8xlarge | g3.4xlarge |
| g3.8xlarge | g3.16xlarge | cg1.4xlarge | p2.xlarge | p2.8xlarge | p2.16xlarge |
| p2.32xlarge | p3.8xlarge | p3.16xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge |
| d2.8xlarge | f1.2xlarge | f1.16xlarge | m5.large | m5.xlarge | m5.2xlarge |
| m5.4xlarge | m5.12xlarge | m5.24xlarge | m5d.large | m5d.xlarge | m5d.2xlarge |
| m5d.4xlarge | m5d.12xlarge | m5d.24xlarge | h1.2xlarge | h1.4xlarge | h1.8xlarge |
| h1.16xlarge | z1d.large | z1d.xlarge | z1d.2xlarge | z1d.3xlarge | z1d.6xlarge |
| z1d.12xlarge |

Required: No

**kernelId**

The ID of the kernel.

Type: String

Required: No

**keyName**

The name of the key pair.

Type: String

Required: No

**monitoring**

Describes the monitoring of an instance.

Type: `RunInstancesMonitoringEnabled` (p. 1109) object

Required: No

**networkInterfaceSet**

One or more 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` (p. 960) objects

Required: No
**placement**

The placement information for the instance.

Type: SpotPlacement (p. 1173) object

Required: No

**ramdiskId**

The ID of the RAM disk.

Type: String

Required: No

**subnetId**

The ID of the subnet in which to launch the instance.

Type: String

Required: No

**userData**

The Base64-encoded 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
- AWS SDK for Ruby V2
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 (p. 1188) 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
- AWS SDK for Ruby V2
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 (p. 991) object

Required: No

noDevice

Suppresses the specified device included in the block device mapping of the AMI.

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
- AWS SDK for Ruby V2
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 (p. 993) object

Required: No

**NoDevice**

Suppresses the specified device included in the block device mapping of the AMI.

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
- AWS SDK for Ruby V2
LaunchTemplateConfig

Describes a launch template and overrides.

Contents

LaunchTemplateSpecification (request), launchTemplateSpecification (response)

The launch template.

Type: FleetLaunchTemplateSpecification (p. 897) object

Required: No

Overrides (request), overrides (response)

Any parameters that you specify override the same parameters in the launch template.

Type: Array of LaunchTemplateOverrides (p. 1003) 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
- AWS SDK for Ruby V2
LaunchTemplateCpuOptions

The CPU options for the instance.

Contents

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
- AWS SDK for Ruby V2
LaunchTemplateCpuOptionsRequest

The CPU options for the instance. Both the core count and threads per core must be specified in the request.

Contents

CoreCount

The number of CPU cores for the instance.

Type: Integer

Required: No

ThreadsPerCore

The number of threads per CPU core. To disable Intel Hyper-Threading Technology 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
- AWS SDK for Ruby V2
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

volumeSize

The size of the volume, in GiB.

Type: Integer

Required: No

volumeType

The volume type.

Type: String

Valid Values: standard | io1 | gp2 | sc1 | st1

Required: No
See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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) that the volume supports. For io1, this represents the number of IOPS that are provisioned for the volume. For gp2, this represents the baseline performance of the volume and the rate at which the volume accumulates I/O credits for bursting. For more information about General Purpose SSD baseline performance, I/O credits, and bursting, see Amazon EBS Volume Types in the Amazon Elastic Compute Cloud User Guide.

Condition: This parameter is required for requests to create io1 volumes; it is not used in requests to create gp2, st1, sc1, or standard volumes.

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

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.

Type: String

Valid Values: `standard` | `io1` | `gp2` | `sc1` | `st1`

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
LaunchTemplateIamInstanceProfileSpecification

Describes 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
LaunchTemplateInstanceMarketOptions

The market (purchasing) option for the instances.

Contents

marketType

  The market type.

  Type: String

  Valid Values: spot

  Required: No

spotOptions

  The options for Spot Instances.

  Type: LaunchTemplateSpotMarketOptions (p. 1012) 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
- AWS SDK for Ruby V2
LaunchTemplateInstanceMarketOptionsRequest

The market (purchasing) option for the instances.

Contents

MarketType

The market type.

Type: String

Valid Values: spot

Required: No

SpotOptions

The options for Spot Instances.

Type: LaunchTemplateSpotMarketOptionsRequest (p. 1014) 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
- AWS SDK for Ruby V2
LaunchTemplateInstanceNetworkInterfaceSpecification

Describes a network interface.

Contents

**associatePublicIpAddress**

Indicates whether to associate a public IPv4 address with eth0 for a new network interface.

Type: Boolean

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

**groupSet**

The IDs of one or more security groups.

Type: Array of strings

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 (p. 951) objects

Required: No

**networkInterfaceId**

The ID of the network interface.
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 (p. 1063) 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
- AWS SDK for Ruby V2
LaunchTemplateInstanceNetworkInterfaceSpecificationRequest

The parameters for a network interface.

**Contents**

**AssociatePublicIpAddress**

Associates a public IPv4 address with eth0 for a new network interface.

*Type:* Boolean

*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

**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 InstanceIpv6AddressRequest (p. 952) objects

*Required:* No

**NetworkInterfaceId**

The ID of the network interface.

*Type:* String

*Required:* No
### PrivatelpAddress

The primary private IPv4 address of the network interface.

Type: String

Required: No

### PrivatelpAddresses

One or more private IPv4 addresses.

Type: Array of PrivatelpAddressSpecification (p. 1063) objects

Required: No

### SecondaryPrivatelpAddressCount

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
- AWS SDK for Ruby V2
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

InstanceType (request), instanceType (response)

The instance type.

Type: String

Valid Values: t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | r3.large | 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 | r5.4xlarge | r5.8xlarge | r5d.xlarge | r5d.2xlarge | r5d.4xlarge | r5d.8xlarge | r5d.12xlarge | r5d.16xlarge | r5d.24xlarge | r5d.xlarge | r5d.2xlarge | r5d.4xlarge | r5d.8xlarge | r5d.12xlarge | r5d.16xlarge | x1.16xlarge | x1.32xlarge | x1e.2xlarge | x1e.4xlarge | x1e.8xlarge | x1e.16xlarge | x1e.32xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge | i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.32xlarge | i3.xlarge | i3.16xlarge | i3.32xlarge | c1.medium | c1.xlarge | c1.2xlarge | c1.32xlarge | c1.64xlarge | c1.xlarge | c1.2xlarge | c1.32xlarge | c1.64xlarge | c1.xlarge | c1.2xlarge | c1.32xlarge | m1.large | m1.xlarge | m1.2xlarge | m1.32xlarge | m1.4xlarge | m1.6xlarge | m1.xlarge | m1.2xlarge | m1.32xlarge | m1.4xlarge | m1.6xlarge | m1.xlarge | m1.2xlarge | m1.32xlarge | m1.4xlarge | m1.6xlarge | m1.xlarge | m1.2xlarge | m1.32xlarge | v2.xlarge | v2.2xlarge | v2.32xlarge | v2.64xlarge | v2.xlarge | v2.2xlarge | v2.32xlarge | v2.64xlarge | v2.xlarge | v2.2xlarge | v2.32xlarge | v2.64xlarge | v2.xlarge | v2.2xlarge | v2.32xlarge | v2.64xlarge | v2.xlarge | v2.2xlarge | v2.32xlarge | v2.64xlarge | v2.xlarge | v2.2xlarge | v2.32xlarge | v2.64xlarge | v2.xlarge | v2.2xlarge | v2.32xlarge | v2.64xlarge | v2.xlarge | v2.2xlarge | v2.32xlarge | v2.64xlarge | v2.xlarge | v2.2xlarge | v2.32xlarge | v2.64xlarge | v2.xlarge | v2.2xlarge | v2.32xlarge | v2.64xlarge | v2.xlarge | v2.2xlarge | v2.32xlarge | v2.64xlarge | v2.xlarge | v2.2xlarge | v2.32xlarge | v2.64xlarge | v2.xlarge | v2.2xlarge | v2.32xlarge | v2.64xlarge | v2.xlarge | v2.2xlarge | v2.32xlarge | v2.64xlarge | v2.xlarge | v2.2xlarge | v2.32xlarge | v2.64xlarge | v2.xlarge | v2.2xlarge | v2.32xlarge | v2.64xlarge | v2.xlarge | v2.2xlarge | v2.32xlarge | v2.64xlarge

Priority (request), priority (response)

The priority for the launch template override. If OnDemandAllocationStrategy is set to prioritized, Spot Fleet uses priority to determine which launch template override to use first in fulfilling On-Demand capacity. The highest priority is launched 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.

Type: Double
Required: No

**SpotPrice** (request), **spotPrice** (response)

The maximum price per unit hour that you are willing to pay for a Spot Instance.

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
- AWS SDK for Ruby V2
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

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

spreadDomain
Reserved for future use.
Type: String
Required: No

tenancy
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.
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++
See Also

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
LaunchTemplatePlacementRequest

The placement for the 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

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

SpreadDomain

Reserved for future use.

Type: String

Required: No

Tenancy

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.

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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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.

Type: String

Required: No

LaunchTemplateName

The name of the launch template.

Type: String

Required: No

Version

The version number of the launch template.

Default: The default version for 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
- AWS SDK for Ruby V2
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.

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
• AWS SDK for Ruby V2
LaunchTemplateSpotMarketOptionsRequest

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. 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.

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. 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
See Also

- AWS SDK for Java
- AWS SDK for Ruby V2
LaunchTemplateTagSpecification

The tag specification for the launch template.

Contents

resourceType

The type of resource.

Type: String


Required: No

tagSet

The tags for the resource.

Type: Array of Tag (p. 1188) 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
- AWS SDK for Ruby V2
LaunchTemplateTagSpecificationRequest

The tags specification for the launch template.

Contents

**ResourceType**

The type of resource to tag. Currently, the resource types that support tagging on creation are **instance** and **volume**. To tag a resource after it has been created, see `CreateTags (p. 186)`.

Type: String


Required: No

**Tags**

The tags to apply to the resource.

Type: Array of Tag (p. 1188) 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
- AWS SDK for Ruby V2
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 (p. 1100) 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: 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
- AWS SDK for Ruby V2
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 (p. 844) object

Required: No

TargetGroupsConfig (request), targetGroupsConfig (response)

The target groups.

Type: TargetGroupsConfig (p. 1196) 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
LoadPermissionModifications

Describes modifications to the load permissions of an Amazon FPGA image (AFI).

Contents

Add

The load permissions to add.

Type: Array of LoadPermissionRequest (p. 1023) objects

Required: No

Remove

The load permissions to remove.

Type: Array of LoadPermissionRequest (p. 1023) 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
MovingAddressStatus

Describes the status of a moving Elastic IP address.

Contents

moveStatus

The status of the Elastic IP address that's being moved to the EC2-VPC platform, or restored to the EC2-Classic platform.

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
- AWS SDK for Ruby V2
NatGateway

Describes a NAT gateway.

Contents

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-xxxxxxx, created and used internally by this NAT gateway is in an invalid state. Please try again."
• For InvalidSubnetID.NotFound: "The specified subnet subnet-xxxxxxx 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 (p. 1029) 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 (p. 1066) object

Required: No

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 (p. 1188) 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:
See Also

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
NatGatewayAddress

Describes the IP addresses and network interface associated with a NAT gateway.

Contents

allocationId

The allocation ID of the Elastic IP address that's associated with the NAT gateway.

Type: String

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 Elastic IP address.

Type: String

Required: No

publicIp

The Elastic IP address associated with the NAT 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
- AWS SDK for Ruby V2
NetworkAcl

Describes a network ACL.

Contents

associationSet

Any associations between the network ACL and one or more subnets

Type: Array of NetworkAclAssociation (p. 1032) objects

Required: No

default

Indicates whether this is the default network ACL for the VPC.

Type: Boolean

Required: No

entrySet

One or more entries (rules) in the network ACL.

Type: Array of NetworkAclEntry (p. 1033) objects

Required: No

networkAclId

The ID of the network ACL.

Type: String

Required: No

tagSet

Any tags assigned to the network ACL.

Type: Array of Tag (p. 1188) 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++
- AWS SDK for Go
- AWS SDK for Java
• AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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 (p. 920) 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 (p. 1056) object
Required: No

protocol

The protocol. 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
- AWS SDK for Ruby V2
NetworkInterface

Describes a network interface.

**Contents**

**association**

The association information for an Elastic IP address (IPv4) associated with the network interface.

Type: `NetworkInterfaceAssociation` (p. 1038) object

Required: No

**attachment**

The network interface attachment.

Type: `NetworkInterfaceAttachment` (p. 1039) object

Required: No

**availabilityZone**

The Availability Zone.

Type: String

Required: No

**description**

A description.

Type: String

Required: No

**groupSet**

Any security groups for the network interface.

Type: Array of `GroupId` (p. 905) objects

Required: No

**interfaceType**

The type of interface.

Type: String

Valid Values: `interface` | `natGateway`

Required: No

**ipv6AddressesSet**

The IPv6 addresses associated with the network interface.

Type: Array of `NetworkInterfaceIpv6Address` (p. 1042) objects

Required: No
macAddress
The MAC address.
Type: String
Required: No

networkInterfaceId
The ID of the network interface.
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 (p. 1046) objects
Required: No

requesterId
The ID of the entity that launched the instance on your behalf (for example, AWS Management Console or Auto Scaling).
Type: String
Required: No

requesterManaged
Indicates whether the network interface is being managed by AWS.
Type: Boolean
Required: No

sourceDestCheck
Indicates whether traffic to or from the instance is validated.
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 (p. 1188) 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
- AWS SDK for Ruby V2
NetworkInterfaceAssociation

Describes association information for an Elastic IP address (IPv4 only).

Contents

allocationId

The allocation ID.
Type: String
Required: No

associationId

The association ID.
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 for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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

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

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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
NetworkInterfaceIpv6Address

Describes an IPv6 address associated with a network interface.

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
- AWS SDK for Ruby V2
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 (p. 1045) 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
• AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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 (p. 1038) 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
- AWS SDK for Ruby V2
NewDhcpConfiguration

Describes a DHCP configuration option.

Contents

Key
The type of DHCP option.
Type: String
Required: No

Values
The provided values for the DHCP option.
Type: array of Strings
Required: No
OnDemandOptions

The allocation strategy of On-Demand Instances in an EC2 Fleet.

Contents

allocationStrategy

The order of the launch template overrides to use in fulfilling On-Demand capacity. If you specify `lowest-price`, EC2 Fleet uses price to determine the order, launching the lowest price first. If you specify `prioritized`, EC2 Fleet uses the priority that you assigned to each launch template override, launching the highest priority first. If you do not specify a value, EC2 Fleet defaults to `lowest-price`.

Type: String

Valid Values: `lowest-price` | `prioritized`

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
OnDemandOptionsRequest

The allocation strategy of On-Demand Instances in an EC2 Fleet.

Contents

AllocationStrategy

The order of the launch template overrides to use in fulfilling On-Demand capacity. If you specify lowest-price, EC2 Fleet uses price to determine the order, launching the lowest price first. If you specify prioritized, EC2 Fleet uses the priority that you assigned to each launch template override, launching the highest priority first. If you do not specify a value, EC2 Fleet defaults to lowest-price.

Type: String

Valid Values: lowest-price | prioritized

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
PciId

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
- AWS SDK for Ruby V2
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

If true, enables outbound communication from an EC2-Classic instance that's linked to a local VPC via ClassicLink to instances in a peer VPC.

Type: Boolean

Required: No

allowEgressFromLocalVpcToRemoteClassicLink

If true, enables outbound communication from instances in a local VPC to an EC2-Classic instance that's linked to a peer VPC via ClassicLink.

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
- AWS SDK for Ruby V2
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

If true, enables outbound communication from an EC2-Classic instance that's linked to a local VPC via ClassicLink to instances in a peer VPC.

Type: Boolean

Required: No

AllowEgressFromLocalVpcToRemoteClassicLink

If true, enables outbound communication from instances in a local VPC to an EC2-Classic instance that's linked to a peer VPC via ClassicLink.

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
- AWS SDK for Ruby V2
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 the ImportInstance (p. 638) command.

Type: String

Required: No

**AvailabilityZone** (request), **availabilityZone** (response)

The Availability Zone of the instance.

Type: String

Required: No

**GroupName** (request), **groupName** (response)

The name of the placement group the instance is in.

Type: String

Required: No

**HostId** (request), **hostId** (response)

The ID of the Dedicated Host on which the instance resides. This parameter is not supported for the ImportInstance (p. 638) command.

Type: String

Required: No

**SpreadDomain** (request), **spreadDomain** (response)

Reserved for future use.

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 the ImportInstance (p. 638) command.

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:
See Also

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
PlacementGroup

Describes a placement group.

Contents

groupName

The name of the placement group.
Type: String
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
Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
PrefixListId

[EC2-VPC only] The ID of the prefix.

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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
PrincipalIdFormat

PrincipalIdFormat description

Contents

arn

PrincipalIdFormatARN description
Type: String
Required: No

statusSet

PrincipalIdFormatStatuses description
Type: Array of IdFormat (p. 921) 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
- AWS SDK for Ruby V2
PrivatIpAddressSpecification

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

PrivatIpAddress (request), privatIpAddress (response)

The private IPv4 addresses.

Type: String

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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

status

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
• AWS SDK for Ruby V2
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

Required: No

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++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
Region

Describes a region.

Contents

**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++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
RequestLaunchTemplateData

The information to include in the launch template.

Contents

**BlockDeviceMappings**

The block device mapping.

*Important*

Supplying both a snapshot ID and an encryption value as arguments for block-device mapping results in an error. This is because only blank volumes can be encrypted on start, and these are not created from a snapshot. If a snapshot is the basis for the volume, it contains data by definition and its encryption status cannot be changed using this action.

Type: Array of LaunchTemplateBlockDeviceMappingRequest (p. 987) objects  
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 (p. 990) object  
Required: No

**CreditSpecification**

The credit option for CPU usage of the instance. Valid for T2 instances only.

Type: CreditSpecificationRequest (p. 855) object  
Required: No

**DisableApiTermination**

If set to `true`, you can't terminate the instance using the Amazon EC2 console, CLI, or API. To change this attribute to `false` after launch, use ModifyInstanceAttribute (p. 665).

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 (p. 879) objects
Required: No

IamInstanceProfile

The IAM instance profile.

Type: `LaunchTemplateIamInstanceProfileSpecificationRequest (p. 996)` object

Required: No

ImageId

The ID of the AMI, which you can get by using `DescribeImages (p. 367)`.

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 (p. 998)` object

Required: No

InstanceType

The instance type. For more information, see `Instance Types` in the `Amazon Elastic Compute Cloud User Guide`.

Type: String

Valid Values: `t1.micro` | `t2.nano` | `t2.micro` | `t2.small` | `t2.medium` | `t2.large`
| `t2.xlarge` | `t2.2xlarge` | `m1.small` | `m1.medium` | `m1.large` | `m1.xlarge`
| `m3.medium` | `m3.large` | `m3.xlarge` | `m4.large` | `m4.xlarge`
| `m4.2xlarge` | `m4.4xlarge` | `m4.10xlarge` | `m4.16xlarge` | `m2.xlarge` | `m2.2xlarge`
| `m2.4xlarge` | `cr1.8xlarge` | `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.large` | `r5.d.large` | `r5.d.xlarge`
| `r5d.2xlarge` | `r5d.4xlarge` | `r5d.8xlarge` | `r5d.12xlarge` | `r5d.16xlarge`
| `r5d.24xlarge` | `r5d.meta` | `x1.16xlarge` | `x1.32xlarge` | `x1.6xlarge`
| `x1e.2xlarge` | `x1e.4xlarge` | `x1e.8xlarge` | `x1e.16xlarge` | `x1e.32xlarge`
| `i2.xlarge` | `i2.2xlarge` | `i2.4xlarge` | `i2.8xlarge` | `i3.large` | `i3.xlarge`
| `i3.2xlarge` | `i3.4xlarge` | `i3.8xlarge` | `i3.16xlarge` | `i3.meta` | `hi1.4xlarge`
| `hi1.8xlarge` | `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`
| `c5.16xlarge` | `c5d.large` | `c5d.xlarge` | `c5d.2xlarge` | `c5d.4xlarge` | `c5d.9xlarge`
| `c5d.18xlarge` | `cc1.4xlarge` | `cc2.8xlarge` | `g2.2xlarge` |
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 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 (p. 133) or ImportKeyPair (p. 641).

**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

**Monitoring**

The monitoring for the instance.

Type: LaunchTemplatesMonitoringRequest (p. 1010) object

Required: No

**NetworkInterfaces**

One or more network interfaces.

Type: Array of LaunchTemplateInstanceNetworkInterfaceSpecificationRequest (p. 1001) objects

Required: No

**Placement**

The placement for the instance.

Type: LaunchTemplatePlacementRequest (p. 1007) 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 in the Amazon Elastic Compute Cloud User Guide.
Type: String  
Required: No  

**SecurityGroups**  
[EC2-Classic, default VPC] One or more security group names. For a nondefault VPC, you must use security group IDs instead. You cannot specify both a security group ID and security name in the same request.  
Type: Array of strings  
Required: No  

**SecurityGroupIds**  
One or more security group IDs. You can create a security group using `CreateSecurityGroup (p. 173)`. You cannot specify both a security group ID and security name in the same request.  
Type: Array of strings  
Required: No  

**TagSpecifications**  
The tags to apply to the resources during launch. You can only tag instances and volumes on launch. The specified tags are applied to all instances or volumes that are created during launch. To tag a resource after it has been created, see `CreateTags (p. 186)`.  
Type: Array of `LaunchTemplateTagSpecificationRequest (p. 1017)` objects  
Required: No  

**UserData**  
The Base64-encoded user data to make available to the instance. For more information, see Running Commands on Your Linux Instance at Launch (Linux) and Adding User Data (Windows).  
Type: String  
Required: No  

**See Also**  
For more information about using this API in one of the language-specific AWS SDKs, see the following:  
- AWS SDK for C++  
- AWS SDK for Go  
- AWS SDK for Java  
- AWS SDK for Ruby V2
RequestSpotLaunchSpecification

Describes the launch specification for an instance.

Contents

AddressingType

Deprecated.

Type: String
Required: No

BlockDeviceMappings

One or more 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 (p. 832) 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 (p. 919) object
Required: No

ImageId

The ID of the AMI.

Type: String
Required: No

InstanceType

The instance type.

Type: String

Valid Values: t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge |
| m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge |
| m2.4xlarge | cr1.8xlarge | 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 | r5d.large | r5d.xlarge |
| r5d.2xlarge | r5d.4xlarge | r5d.8xlarge | r5d.12xlarge | r5d.16xlarge |
| r5d.24xlarge | r5d.metal | x1.16xlarge | x1.32xlarge | x1e.xlarge |
| x1e.2xlarge | x1e.4xlarge | x1e.8xlarge | x1e.16xlarge | x1e.32xlarge |
| i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge |
| i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.metal | hi1.4xlarge |
| 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 |
| c5.18xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge |
| c5d.18xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge | g2.8xlarge | g3.4xlarge |
| g3.8xlarge | g3.16xlarge | cg1.4xlarge | p2.xlarge | p2.8xlarge | p2.16xlarge |
| p3.2xlarge | p3.4xlarge | p3.8xlarge | p3.16xlarge | d2.xlarge | d2.2xlarge |
| d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.4xlarge | m5.large | m5.xlarge |
| m5.2xlarge | m5.4xlarge | m5.8xlarge | m5.12xlarge | m5.24xlarge |
| m5d.large | m5d.xlarge | m5d.2xlarge | m5d.4xlarge | m5d.12xlarge |
| m5d.24xlarge | h1.2xlarge | h1.4xlarge | h1.8xlarge | h1.16xlarge |
| z1d.large | z1d.xlarge | z1d.2xlarge | z1d.3xlarge | z1d.6xlarge | z1d.12xlarge |

**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 (p. 1109) object

Required: No

**NetworkInterfaces**

One or more 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 (p. 960) objects

Required: No

**Placement**

The placement information for the instance.
Type: SpotPlacement (p. 1173) object

Required: No

RamdiskId
The ID of the RAM disk.

Type: String

Required: No

SecurityGroups
One or more security groups. When requesting instances in a VPC, you must specify the IDs of the security groups. When requesting instances in EC2-Classic, you can specify the names or the IDs of the security groups.

Type: Array of strings

Required: No

SecurityGroupIds
One or more security group IDs.

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 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
- AWS SDK for Ruby V2
Reservation

Describes a reservation.

Contents

groupSet

[EC2-Classic only] One or more security groups.
Type: Array of GroupIdentifier (p. 905) objects
Required: No

instancesSet

One or more instances.
Type: Array of Instance (p. 938) 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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 (p. 1081) 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
- AWS SDK for Ruby V2
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

duration

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: t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large
| t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge
| m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge
| m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge
| m2.4xlarge | cr1.8xlarge | 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.meta | r5d.large | r5d.xlarge
| r5d.2xlarge | r5d.4xlarge | r5d.8xlarge | r5d.12xlarge | r5d.16xlarge
| r5d.24xlarge | r5d.meta | x1.16xlarge | x1.32xlarge | x1e.xlarge
| x2.xlarge | x1e.2xlarge | x1e.4xlarge | x1e.8xlarge | x1e.16xlarge | x1e.32xlarge
| x2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge
| i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.meta | hi1.4xlarge
| hs1.8xlarge | 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
| c5.18xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge
| c5d.9xlarge | c5d.18xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge
| g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | g1.4xlarge | p2.xlarge
| p2.8xlarge | p2.16xlarge | p3.2xlarge | p3.8xlarge | p3.16xlarge
| d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.16xlarge
| m5.large | m5.xlarge | m5.2xlarge | m5.4xlarge | m5.12xlarge | m5.24xlarge
| m5d.large | m5d.xlarge | m5d.2xlarge | m5d.4xlarge | m5d.12xlarge
| m5d.24xlarge | h1.2xlarge | h1.4xlarge | h1.8xlarge | h1.16xlarge
| z1d.large | z1d.xlarge | z1d.2xlarge | z1d.3xlarge | z1d.6xlarge
| z1d.12xlarge

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.
recurringCharges

The recurring charge tag assigned to the resource.

Type: Array of RepeatingCharge (p. 1071) objects

reservedInstancesId

The ID of the Reserved Instance.

Type: String

scope

The scope of the Reserved Instance.

Type: String

Valid Values: Availability Zone | Region

start

The date and time the Reserved Instance started.

Type: Timestamp

state

The state of the Reserved Instance purchase.

Type: String

Valid Values: payment-pending | active | payment-failed | retired

tagSet

Any tags assigned to the resource.

Type: Array of Tag (p. 1188) objects

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++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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.

Type: Integer

Required: No

InstanceType (request), instanceType (response)

The instance type for the modified Reserved Instances.

Type: String

Valid Values: t1.micro | t2.nano | t2.micro | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | 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 | r5d.large | r5d.xlarge | r5d.2xlarge | r5d.4xlarge | r5d.8xlarge | r5d.12xlarge | r5d.16xlarge | r5d.24xlarge | r5d.metal | x1.16xlarge | x1.32xlarge | x1e.xlarge | x1e.2xlarge | x1e.4xlarge | x1e.8xlarge | x1e.16xlarge | x1e.32xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge | i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.meta | hi1.4xlarge | hi1.8xlarge | hi1.16xlarge | hi1.32xlarge | c1.xlarge | c1.2xlarge | c1.4xlarge | c1.8xlarge | c1.16xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c3.16xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.8xlarge | c5.12xlarge | c5.16xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.8xlarge | c5d.12xlarge | c5d.16xlarge | c5d.32xlarge | c5d.64xlarge | cc2.8xlarge | g2.2xlarge | g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | g3.32xlarge | g4.8xlarge | c41.4xlarge | p2.large | p2.xlarge | p2.2xlarge | p2.4xlarge | p2.8xlarge | p3.4xlarge | p3.8xlarge | p3.16xlarge | p3.24xlarge | p3.48xlarge | p3.96xlarge | d2.large | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | d2.16xlarge | d2.32xlarge | d2.64xlarge | d2.128xlarge | d3.16xlarge | d3.32xlarge | d3.64xlarge | d3.128xlarge | d4.16xlarge | d4.32xlarge | d4.64xlarge | d4.128xlarge | m5.large | m5.xlarge | m5.2xlarge | m5.4xlarge | m5.8xlarge | m5.16xlarge | m5.32xlarge | m5.64xlarge | m5.128xlarge | m5d.large | m5d.xlarge | m5d.2xlarge | m5d.4xlarge | m5d.8xlarge | m5d.16xlarge | m5d.32xlarge | m5d.64xlarge | m5d.128xlarge | h1.2xlarge | h1.large | h1.xlarge | h1.4xlarge | h1.8xlarge | h1.16xlarge | z1.large | z1.xlarge | z1.2xlarge | z1.4xlarge | z1.8xlarge | z1.16xlarge

Required: No

Platform (request), platform (response)

The network platform of the modified Reserved Instances, which is either EC2-Classic or EC2-VPC.
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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 (p. 947) objects

Required: No

priceSchedules

The price of the Reserved Instance listing.

Type: Array of PriceSchedule (p. 1059) 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 (p. 1188) objects

Required: No

**updateDate**

The last modified timestamp of the listing.

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
- AWS SDK for Ruby V2
ReservedInstancesModification

Describes a Reserved Instance modification.

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 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 (p. 1095) 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 (p. 1090) 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++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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 (p. 1088) 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
- AWS SDK for Ruby V2
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: t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | 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.meta | r5d.large | r5d.xlarge | r5d.2xlarge | r5d.4xlarge | r5d.8xlarge | r5d.12xlarge | r5d.16xlarge | r5d.24xlarge | r5d.meta | x1.16xlarge | x1.32xlarge | x1e.xlarge | x1e.2xlarge | x1e.4xlarge | x1e.8xlarge | x1e.16xlarge | x1e.32xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge | i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.meta | hi1.4xlarge | hs1.8xlarge | 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 | c5.18xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.9xlarge | c5d.18xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge | g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | cg1.4xlarge | p2.xlarge | p2.8xlarge | p2.16xlarge | p3.2xlarge | p3.8xlarge | p3.16xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.4xlarge | f1.16xlarge | m5.large | m5.xlarge | m5.2xlarge | m5.4xlarge | m5.12xlarge | m5.24xlarge | m5d.large | m5d.xlarge | m5d.2xlarge | m5d.4xlarge | m5d.12xlarge | m5d.24xlarge | h1.2xlarge | h1.4xlarge | h1.8xlarge | h1.16xlarge | z1d.large | z1d.xlarge | z1d.2xlarge | z1d.3xlarge | z1d.6xlarge | z1d.12xlarge |

## 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 (p. 1061) 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 (p. 1071) objects

Required: No

reservedInstancesOfferingId

The ID of the Reserved Instance offering. This is the offering ID used in GetReservedInstancesExchangeQuote (p. 631) 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++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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 | launchTemplateNameDoesNotExist | launchTemplateNameMalformed | launchTemplateVersionDoesNot Exist | 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
- AWS SDK for Ruby V2
ResponseLaunchTemplateData

The information for a launch template.

Contents

blockDeviceMappingSet

The block device mappings.

Type: Array of LaunchTemplateBlockDeviceMapping (p. 986) objects

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 (p. 989) object

Required: No

creditSpecification

The credit option for CPU usage of the instance.

Type: CreditSpecification (p. 854) object

Required: No

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 (p. 880) objects

Required: No

iamInstanceProfile

The IAM instance profile.

Type: LaunchTemplateIamInstanceProfileSpecification (p. 995) object

Required: No
imagId

The ID of the AMI that was used to launch the instance.

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 (p. 997) object

Required: No

instanceType

The instance type.

Type: String

Valid Values: t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | 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.large | r5d.large | r5d.2xlarge | r5d.4xlarge | r5d.8xlarge | r5d.12xlarge | r5d.16xlarge | r5d.24xlarge | x1.16xlarge | x1.32xlarge | x1e.xlarge | x1e.2xlarge | x1e.4xlarge | x1e.8xlarge | x1e.16xlarge | x1e.32xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge | i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.large | i3.meta | hi1.4xlarge | hi1.8xlarge | c1.medium | c1.xlarge | c1.2xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | c4.16xlarge | c4.32xlarge | c5.large | c5.xlarge | c5.2xlarge | c5.4xlarge | c5.8xlarge | c5.16xlarge | c5.32xlarge | c5.64xlarge | c5.12xlarge | c5.24xlarge | c5.48xlarge | c5.96xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge | c5d.8xlarge | c5d.16xlarge | c5d.32xlarge | cc1.4xlarge | cc1.8xlarge | cc1.16xlarge | cc1.32xlarge | cc1.64xlarge | cc1.128xlarge | g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | g3.32xlarge | g3.64xlarge | g3.128xlarge | g3.256xlarge | p2.xlarge | p2.2xlarge | p2.4xlarge | p2.8xlarge | p3.xlarge | p3.2xlarge | p3.4xlarge | p3.8xlarge | p3.16xlarge | p3.24xlarge | p3.48xlarge | p3.96xlarge | p3.192xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.4xlarge | f1.6xlarge | f1.8xlarge | f2.xlarge | f2.2xlarge | f2.4xlarge | f2.8xlarge | f3.xlarge | f3.2xlarge | f3.4xlarge | f3.8xlarge | f4.xlarge | f4.2xlarge | f4.4xlarge | f4.8xlarge | f5.xlarge | f5.2xlarge | f5.4xlarge | f5.8xlarge | f6.xlarge | f6.2xlarge | f6.4xlarge | f6.8xlarge | f7.xlarge | f7.2xlarge | f7.4xlarge | f7.8xlarge | f8.xlarge | f8.2xlarge | f8.4xlarge | f8.8xlarge | f9.xlarge | f9.2xlarge | f9.4xlarge | f9.8xlarge | m5.large | m5.xlarge | m5.2xlarge | m5.4xlarge | m5.8xlarge | m5.16xlarge | m5.32xlarge | m5.64xlarge | m5.128xlarge | m5.256xlarge | m5.512xlarge | m5.1024xlarge | m5d.large | m5d.xlarge | m5d.2xlarge | m5d.4xlarge | m5d.8xlarge | m5d.16xlarge | m5d.32xlarge | m5d.64xlarge | m5d.128xlarge | m5d.256xlarge | m5d.512xlarge | m5d.1024xlarge | m5d.2048xlarge | m5d.4096xlarge | m5d.8192xlarge | m5d.16384xlarge | m5d.32768xlarge | m5d.65536xlarge | m5d.131072xlarge | m5d.262144xlarge | m5d.524288xlarge | m5d.1048576xlarge | m5d.2097152xlarge | m5d.4194304xlarge | m5d.8388608xlarge | m5d.16777216xlarge | m5d.33554432xlarge | z1d.large | z1d.xlarge | z1d.2xlarge | z1d.4xlarge | z1d.8xlarge | z1d.16xlarge | z1d.32xlarge | z1d.64xlarge | z1d.128xlarge

Required: No
kernelId
The ID of the kernel, if applicable.
Type: String
Required: No

keyName
The name of the key pair.
Type: String
Required: No

monitoring
The monitoring for the instance.
Type: LaunchTemplatesMonitoring (p. 1009) object
Required: No

networkInterfaceSet
The network interfaces.
Type: Array of LaunchTemplateInstanceNetworkInterfaceSpecification (p. 999) objects
Required: No

placement
The placement of the instance.
Type: LaunchTemplatePlacement (p. 1005) 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.
Type: Array of LaunchTemplateTagSpecification (p. 1016) 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
- AWS SDK for Ruby V2
Route

Describes a route in a route table.

Contents

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 AWS account ID of the owner of the instance.
   Type: String
   Required: No

natGatewayId
   The ID of a NAT gateway.
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

evpcPeeringConnectionId

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
- AWS SDK for Ruby V2
RouteTable

Describes a route table.

Contents

associationSet

The associations between the route table and one or more subnets.

Type: Array of RouteTableAssociation (p. 1108) objects

Required: No

propagatingVgwSet

Any virtual private gateway (VGW) propagating routes.

Type: Array of PropagatingVgw (p. 1065) objects

Required: No

routeSet

The routes in the route table.

Type: Array of Route (p. 1104) 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 (p. 1188) 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

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RouteTableAssociation

Describes an association between a route table and a subnet.

Contents

main

Indicates whether this is the main route table.
Type: Boolean
Required: No

routeTableAssociationId

The ID of the association between a route table and a subnet.
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
**S3Storage**

Describes the storage parameters for S3 and 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 Managing AWS Access Keys.*

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
- AWS SDK for Ruby V2
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 (EC2-Classical or EC2-VPC).

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 (p. 1116) 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++
See Also

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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 (EC2-Classic or EC2-VPC).
Type: String
Required: No

debugToken
The debug token. The debug token is used to debug failed scheduled instances.
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 (p. 1116) 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++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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 (p. 1120) object

Required: No

NoDevice

Suppresses the specified device included in the block device mapping of the AMI.

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
- AWS SDK for Ruby V2
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) that the volume supports. For io1 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. For more information about gp2 baseline performance, I/O credits, and bursting, see Amazon EBS Volume Types in the Amazon Elastic Compute Cloud User Guide.

Constraint: Range is 100-20000 IOPS for io1 volumes and 100-10000 IOPS for gp2 volumes.

Condition: This parameter is required for requests to create io1 volumes; it is not used in requests to create gp2, st1, sc1, or standard volumes.

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. gp2 for General Purpose SSD, io1 for Provisioned IOPS SSD, Throughput Optimized HDD for st1, Cold HDD for sc1, or standard for Magnetic.
Default: standard
Type: String
Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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

BlockDeviceMappings

One or more block device mapping entries.

Type: Array of ScheduledInstancesBlockDeviceMapping (p. 1119) 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 (p. 1122) object

Required: No

ImageId

The ID of the Amazon Machine Image (AMI).

Type: String

Required: Yes

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 (p. 1127) object`
Required: No

**NetworkInterfaces**
One or more network interfaces.
Type: Array of `ScheduledInstancesNetworkInterface (p. 1128) objects`
Required: No

**Placement**
The placement information.
Type: `ScheduledInstancesPlacement (p. 1130) object`
Required: No

**RamdiskId**
The ID of the RAM disk.
Type: String
Required: No

**SecurityGroupIds**
The IDs of one or more 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++
See Also

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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.

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 one or more security groups.

Type: Array of strings
Required: No

Ipv6Addresses

One or more specific IPv6 addresses from the subnet range.

Type: Array of ScheduledInstancesIpv6Address (p. 1123) objects
Required: No

Ipv6AddressCount

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

**PrivateIpAddress**

The IPv4 address of the network interface within the subnet.

Type: String

Required: No

**PrivateIpAddressConfigs**

The private IPv4 addresses.

Type: Array of ScheduledInstancesPrivatetIpAddressConfig (p. 1131) 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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

One or more inbound rules associated with the security group.
Type: Array of IpPermission (p. 973) objects
Required: No

ipPermissionsEgress

[EC2-VPC] One or more outbound rules associated with the security group.
Type: Array of IpPermission (p. 973) 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 (p. 1188) objects
Required: No

vpcId

[EC2-VPC] 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
SecurityGroupReference

Describes a VPC with a security group that references your security group.

Contents

groupId

The ID of your security group.

Type: String

Required: Yes

referencingVpcId

The ID of the VPC with the referencing security group.

Type: String

Required: Yes

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
- AWS SDK for Ruby V2
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

In 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*

### networkLoadBalancerArnSet

The Amazon Resource Names (ARNs) of the Network Load Balancers for the service.

*Type: Array of strings*

*Required: No*

### privateDnsName

The private DNS name for the service.

*Type: String*

*Required: No*

### serviceId

The ID of the service.

*Type: String*

*Required: No*

### serviceName

The name of the service.

*Type: String*

*Required: No*
serviceState

The service state.

Type: String

Valid Values: Pending | Available | Deleting | Deleted | Failed

Required: No

serviceType

The type of service.

Type: Array of ServiceTypeDetail (p. 1140) 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
- AWS SDK for Ruby V2
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

owner

  The AWS account ID of the service owner.

  Type: String
  Required: No

privateDnsName

  The private DNS name for the service.

  Type: String
  Required: No

serviceName

  The Amazon Resource Name (ARN) of the service.

  Type: String
  Required: No

serviceType

  The type of service.

  Type: Array of ServiceTypeDetail (p. 1140) 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
- AWS SDK for Ruby V2
ServiceTypeDetail

Describes the type of service for a VPC endpoint.

Contents

serviceType

The type of service.

Type: String

Valid Values: Interface | Gateway

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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 the DescribeSnapshots (p. 489) API operation.

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 full ARN of the AWS Key Management Service (AWS KMS) customer master key (CMK) that was used to protect the volume encryption key for the parent volume.

Type: String
Required: No

ownerAlias

Value from an Amazon-maintained list (amazon | aws-marketplace | microsoft) of snapshot owners. Not to be confused with the user-configured AWS account alias, which is set from the IAM console.

Type: String
Required: No

ownerId

The AWS account ID of the EBS snapshot owner.

Type: String
Required: No

progress

The progress of the snapshot, as a percentage.
Type: String
Required: No

**snapshotId**

The ID of the snapshot. Each snapshot receives a unique identifier when it is created.

Type: String
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
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 the DescribeSnapshots (p. 489) API operation.

Type: String
Required: No

**tagSet**

Any tags assigned to the snapshot.

Type: Array of Tag (p. 1188) objects
Required: No

**volumeId**

The ID of the volume that was used to create the snapshot. Snapshots created by the CopySnapshot (p. 98) 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
- AWS SDK for Ruby V2
**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 S3 bucket for the disk image.
Type: UserBucketDetails (p. 1203) 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
- AWS SDK for Ruby V2
**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 | OVA

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 S3 bucket for the disk image.

Type: [UserBucket](p. 1202) 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
- AWS SDK for Ruby V2
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

format

The format of the disk image from which the snapshot is created.
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 S3 bucket for the disk image.

Type: UserBucketDetails (p. 1203) 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
- AWS SDK for Ruby V2
SpotDatafeedSubscription

Describes the data feed for a Spot Instance.

Contents

bucket

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 (p. 1167) object

Required: No

ownerId

The AWS account ID of the account.

Type: String

Required: No

prefix

The prefix that is prepended to 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
- AWS SDK for Ruby V2
SpotFleetLaunchSpecification

Describes the launch specification for one or more Spot Instances.

Contents

**AddressingType** (request), **addressingType** (response)

- Deprecated.
- Type: String
- Required: No

**BlockDeviceMappings** (request), **blockDeviceMapping** (response)

- One or more 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 (p. 832) 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)

- One or more security groups. When requesting instances in a VPC, you must specify the IDs of the security groups. When requesting instances in EC2-Classic, you can specify the names or the IDs of the security groups.
- Type: Array of GroupIdentifier (p. 905) objects
- Required: No

**iamInstanceProfile** (request), **iamInstanceProfile** (response)

- The IAM instance profile.
- Type: iamInstanceProfileSpecification (p. 919) object
- Required: No

**ImageId** (request), **imageId** (response)

- The ID of the AMI.
- Type: String
- Required: No
InstanceType (request), instanceType (response)

The instance type.

Type: String

Valid Values: t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large |
| t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge |
| m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge |
| m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge |
| m2.4xlarge | cr1.8xlarge | r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge |
| r3.8xlarge | r4.1.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 | r5d.large | r5d.xlarge |
| r5d.2xlarge | r5d.4xlarge | r5d.8xlarge | r5d.12xlarge | r5d.16xlarge |
| r5d.24xlarge | r5d.metal | x1.16xlarge | x1.32xlarge | xe.1.xlarge |
| xe.2xlarge | xe.4xlarge | xe.8xlarge | xe.16xlarge | xe.32xlarge |
| i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | i3.large | i3.xlarge |
| i3.2xlarge | i3.4xlarge | i3.8xlarge | i3.16xlarge | i3.metal | hi1.4xlarge |
| hs1.8xlarge | 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 |
| c5.16xlarge | c5d.large | c5d.xlarge | c5d.2xlarge | c5d.4xlarge |
| c5d.9xlarge | c5d.18xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge |
| g2.8xlarge | g3.4xlarge | g3.8xlarge | g3.16xlarge | cg1.4xlarge | p2.xlarge |
| p2.8xlarge | p2.16xlarge | p3.2xlarge | p3.8xlarge | p3.16xlarge |
| d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | d2.16xlarge | f1.2xlarge |
| f1.8xlarge | f1.16xlarge | m5.large | m5.xlarge | m5.2xlarge | m5.4xlarge |
| m5.12xlarge | m5.24xlarge | m5d.large | m5d.xlarge | m5d.2xlarge | m5d.4xlarge |
| m5d.12xlarge | m5d.24xlarge | h1.2xlarge | h1.4xlarge | h1.8xlarge |
| h1.16xlarge | z1.d.large | z1.d.xlarge | z1d.2xlarge | z1d.3xlarge | z1d.6xlarge |
| z1d.12xlarge |

Required: No

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 (p. 1156) 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.
The placement information.
Type: SpotPlacement (p. 1173) object
Required: No

The ID of the RAM disk.
Type: String
Required: No

The maximum price per unit hour that you are willing to pay for a Spot Instance. If this value is not specified, the default is the Spot price specified for the fleet. To determine the Spot price per unit hour, divide the Spot price by the value of WeightedCapacity.
Type: String
Required: No

The ID of the subnet in which to launch the instances. To specify multiple subnets, separate them using commas; for example, "subnet-a61dafcf, subnet-65ea5f08".
Type: String
Required: No

The tags to apply during creation.
Type: Array of SpotFleetTagSpecification (p. 1163) objects
Required: No

The Base64-encoded user data to make available to the instances.
Type: String
Required: No

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 (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, we round 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
Spot Fleet Request Config

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: Yes

*spotFleetRequestConfig*

The configuration of the Spot Fleet request.

Type: Spot Fleet Request Config Data (p. 1159) object

Required: Yes

*spotFleetRequestId*

The ID of the Spot Fleet request.

Type: String

Required: Yes

*spotFleetRequestState*

The state of the Spot Fleet request.

Type: String

Valid Values: submitted | active | cancelled | failed | cancelled_running | cancelled_terminating | modifying

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
See Also

- AWS SDK for Java
- AWS SDK for Ruby V2
SpotFleetRequestConfigData

Describes the configuration of a Spot Fleet request.

Contents

AllocationStrategy (request), allocationStrategy (response)

Indicates how to allocate the target capacity across the Spot pools specified by the Spot Fleet request. The default is lowestPrice.

Type: String

Valid Values: lowestPrice | diversified

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

ExcessCapacityTerminationPolicy (request), excessCapacityTerminationPolicy (response)

Indicates whether running Spot Instances should be terminated if the target capacity of the Spot Fleet request is decreased below the current size of the Spot Fleet.

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.

Type: Double

Required: No

IamFleetRole (request), iamFleetRole (response)

Grants the Spot Fleet permission to terminate Spot Instances on your behalf when you cancel its Spot Fleet request using CancelSpotFleetRequests (p. 87) or when the Spot Fleet request expires, if you set terminateInstancesWithExpiration.

Type: String

Required: Yes

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 and evenly allocates your target Spot capacity across the number of Spot pools that you specify.

Type: Integer

Required: No

**LaunchSpecifications** (request), **launchSpecifications** (response)

The launch specifications for the Spot Fleet request.

Type: Array of **SpotFleetLaunchSpecification** (p. 1152) objects

Required: No

**LaunchTemplateConfigs** (request), **launchTemplateConfigs** (response)

The launch template and overrides.

Type: Array of **LaunchTemplateConfig** (p. 988) 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** (p. 1020) 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

**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: Yes

ReplaceUnhealthyInstances (request), replaceUnhealthyInstances (response)

Indicates whether Spot Fleet should replace unhealthy instances.

Type: Boolean
Required: No

SpotPrice (request), spotPrice (response)

The maximum price per unit hour that you are willing to pay for a Spot Instance. The default is the On-Demand price.

Type: String
Required: No

TargetCapacity (request), targetCapacity (response)

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: Integer
Required: Yes

TerminateInstancesWithExpiration (request), terminateInstancesWithExpiration (response)

Indicates whether running Spot Instances should be 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. To maintain a certain target capacity, the Spot Fleet places the required requests to meet capacity and automatically replenishes any interrupted instances. Default: maintain.

Type: String
Valid Values: request | maintain
Required: No

ValidFrom (request), validFrom (response)

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 (request), validUntil (response)

The end date and time of the request, in UTC format (for example, YYYY-MM-DDTHH:MM:SSZ). At this point, no new Spot 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
- AWS SDK for Ruby V2
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.

Type: String


Required: No

Tags (request), tag (response)

The tags.

Type: Array of Tag (p. 1188) 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
- AWS SDK for Ruby V2
SpotInstanceRequest

Describes a Spot Instance request.

Contents

actualBlockHourlyPrice

If you specified a duration and your Spot Instance request was fulfilled, this is the fixed hourly price in effect for the Spot Instance while it runs.

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

The duration for the Spot Instance, in minutes.

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 (p. 1167) object
Required: No

instanceId

The instance ID, if an instance has been launched to fulfill the Spot Instance request.

Type: String
Required: No

instance InterruptionBehavior

The behavior when a Spot Instance is interrupted.

Type: String
Valid Values: hibernate | stop | terminate
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 (p. 981) object
Required: No

productDescription

The product description associated with the Spot Instance.
Type: String
Valid Values: Linux/UNIX | Linux/UNIX (Amazon VPC) | Windows | Windows (Amazon VPC)
Required: No

spotInstanceRequestId

The ID of the Spot Instance request.
Type: String
Required: No

spotPrice

The maximum price per hour that you are willing to pay for a Spot Instance.
Type: String
Required: No

state

The state of the Spot Instance request. Spot status information helps track your Spot Instance requests. For more information, see Spot 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: SpotInstanceStatus (p. 1168) object
Required: No

tagSet
Any tags assigned to the resource.
Type: Array of Tag (p. 1188) 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 (for example, YYYY-MM-DDTHH:MM:SSZ). If this is a one-time request, it 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 is reached. 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
• AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
SpotInstanceStatus

Describes the status of a Spot Instance request.

Contents

code

The status code. For a list of status codes, see Spot 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
- AWS SDK for Ruby V2
SpotMarketOptions

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. 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. The default is the On-Demand price.

Type: String

Required: No

SpotInstanceType

The Spot Instance request type. For RunInstances (p. 781), persistent Spot Instance requests are only supported when InstanceInterruptionBehavior is set to either hibernate or stop.

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. 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
• AWS SDK for Ruby V2
SpotOptions

Describes the configuration of Spot Instances in an EC2 Fleet.

Contents

allocationStrategy

Indicates how to allocate the target capacity across the Spot pools specified by the Spot Fleet request. The default is lowest-price.

Type: String

Valid Values: lowest-price | diversified

Required: No

instanceInterruptionBehavior

The behavior when a Spot Instance is interrupted. The default is terminate.

Type: String

Valid Values: hibernate | stop | terminate

Required: No

instancePoolsToUseCount

The number of Spot pools across which to allocate your target Spot capacity. Valid only when AllocationStrategy is set to lowestPrice. EC2 Fleet selects the cheapest Spot pools and evenly allocates your target Spot capacity across the number of Spot pools that you specify.

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
- AWS SDK for Ruby V2
SpotOptionsRequest

Describes the configuration of Spot Instances in an EC2 Fleet request.

Contents

AllocationStrategy

Indicates how to allocate the target capacity across the Spot pools specified by the Spot Fleet request. The default is lowestPrice.

Type: String

Valid Values: lowest-price | diversified

Required: No

InstanceInterruptionBehavior

The behavior when a Spot Instance is interrupted. The default is terminate.

Type: String

Valid Values: hibernate | stop | terminate

Required: No

InstancePoolsToUseCount

The number of Spot pools across which to allocate your target Spot capacity. Valid 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.

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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
SpotPrice

Describes the maximum price per hour that you are willing to pay for a Spot Instance.

Contents

availabilityZone

The Availability Zone.

Type: String

Required: No

instanceType

The instance type.

Type: String

Valid Values:
- t1.micro
- t2.nano
- t2.micro
- t2.large
- t2.xlarge
- t2.2xlarge
- m1.small
- m1.medium
- m1.large
- m1.xlarge
- m3.medium
- m3.large
- m3.xlarge
- m3.2xlarge
- m4.large
- m4.xlarge
- m4.2xlarge
- m4.10xlarge
- m4.16xlarge
- m2.xlarge
- m2.2xlarge
- m2.4xlarge
- cr1.8xlarge
- 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
- r5d.large
- r5d.xlarge
- r5d.4xlarge
- r5d.8xlarge
- r5d.12xlarge
- r5d.16xlarge
- r5d.24xlarge
- r5d.metal
- x1.16xlarge
- x1.32xlarge
- x1e.xlarge
- x1e.2xlarge
- x1e.4xlarge
- x1e.8xlarge
- x1e.16xlarge
- x1e.32xlarge
- i2.xlarge
- i2.2xlarge
- i2.4xlarge
- i2.8xlarge
- i3.large
- i3.xlarge
- i3.2xlarge
- i3.4xlarge
- i3.8xlarge
- i3.16xlarge
- i3.meta
- hi1.4xlarge
- hs1.8xlarge
- 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
- c5.8xlarge
- c5.16xlarge
- c5d.large
- c5d.xlarge
- c5d.2xlarge
- c5d.4xlarge
- c5d.9xlarge
- c5d.18xlarge
- cc1.4xlarge
- cc2.8xlarge
- g2.2xlarge
- g2.8xlarge
- g3.4xlarge
- g3.8xlarge
- g3.16xlarge
- g3.32xlarge
- gc1.4xlarge
- p2.xlarge
- p2.2xlarge
- p2.3xlarge
- p2.4xlarge
- p2.8xlarge
- p2.16xlarge
- p3.2xlarge
- p3.8xlarge
- p3.16xlarge
- p3.2xlarge
- p3.4xlarge
- p3.8xlarge
- p3.16xlarge
- d2.xlarge
- d2.2xlarge
- d2.4xlarge
- d2.8xlarge
- f1.2xlarge
- f1.4xlarge
- f1.6xlarge
- f1.8xlarge
- f1.16xlarge
- f1.32xlarge
- m5.large
- m5.xlarge
- m5.2xlarge
- m5.4xlarge
- m5.8xlarge
- m5.16xlarge
- m5.32xlarge
- m5d.large
- m5d.xlarge
- m5d.2xlarge
- m5d.4xlarge
- m5d.8xlarge
- m5d.16xlarge
- m5d.32xlarge
- h1.2xlarge
- h1.32xlarge
- h1.6xlarge
- h1.16xlarge
- h1.32xlarge
- z1d.large
- z1d.xlarge
- z1d.2xlarge
- z1d.3xlarge
- z1d.6xlarge
- z1d.12xlarge

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 hour that you are willing to pay for a Spot Instance.

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
- AWS SDK for Ruby V2
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

One or more 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 (p. 1205) objects

Required: No

ipProtocol

The IP protocol name (for tcp, udp, and icmp) or number (see Protocol Numbers).

Type: String

Required: No

ipRanges

One or more IP ranges. Not applicable for stale security group rules.

Type: Array of strings

Required: No

prefixListIds

One or more prefix list IDs for an AWS service. 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:
See Also

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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: Yes

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 (p. 1176) objects
  Required: No

staleIpPermissionsEgress
  Information about the stale outbound rules in the security group.
  Type: Array of StaleIpPermission (p. 1176) objects
  Required: No

vpcId
  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
• AWS SDK for Ruby V2
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 using the `shutdown -h` command from 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.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++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
Storage

Describes the storage location for an instance store-backed AMI.

Contents

**S3** *(request), **S3** *(response)*

An Amazon S3 storage location.

Type: **S3Storage** *(p. 1110)* 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
Subnet

Describes a subnet.

Contents

assignIpv6AddressOnCreation

Indicates whether a network interface created in this subnet (including a network interface created by RunInstances (p. 781)) receives an IPv6 address.

Type: Boolean
Required: No

availabilityZone

The Availability Zone 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

defaultForAz

Indicates whether this is the default subnet for the Availability Zone.

Type: Boolean
Required: No

ipv6CidrBlockAssociationSet

Information about the IPv6 CIDR blocks associated with the subnet.

Type: Array of SubnetIpv6CidrBlockAssociation (p. 1186) objects
Required: No

mapPublicIpOnLaunch

Indicates whether instances launched in this subnet receive a public IPv4 address.

Type: Boolean
Required: No
state

The current state of the subnet.

Type: String

Valid Values: pending | available

Required: No

subnetId

The ID of the subnet.

Type: String

Required: No

tagSet

Any tags assigned to the subnet.

Type: Array of Tag (p. 1188) 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
SubnetIpv6CidrBlockAssociation

Describes an IPv6 CIDR block associated with a subnet.

Contents

associationId

The association ID for the 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: SubnetCidrBlockState (p. 1185) 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
- AWS SDK for Ruby V2
SuccessfulInstanceCreditSpecificationItem

Describes the T2 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
- AWS SDK for Ruby V2
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 255 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
- AWS SDK for Ruby V2
TagDescription

Describes a tag.

Contents

key

The tag key.
Type: String
Required: No

resourceId

The ID of the resource. For example, ami-1a2b3c4d.
Type: String
Required: No

resourceType

The resource type.
Type: String


Required: No

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
- AWS SDK for Ruby V2
TagSpecification

The tags to apply to a resource when the resource is being created.

Contents

ResourceType

The type of resource to tag. Currently, the resource types that support tagging on creation are fleet, instance, snapshot, and volume. To tag a resource after it has been created, see CreateTags (p. 186).

Type: String


Required: No

Tags

The tags to apply to the resource.

Type: Array of Tag (p. 1188) 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
- AWS SDK for Ruby V2
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.

Contents

defaultTargetCapacityType

The default TotalTargetCapacity, which is either Spot or On-Demand.

Type: String

Valid Values: spot | on-demand

Required: No

onDemandTargetCapacity

The number of On-Demand units to request.

Type: Integer

Required: No

spotTargetCapacity

The maximum number of Spot units to launch.

Type: Integer

Required: No

totalTargetCapacity

The number of units to request, filled using DefaultTargetCapacityType.

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
- AWS SDK for Ruby V2
TargetCapacitySpecificationRequest

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.

Contents

DefaultTargetCapacityType

The default TotalTargetCapacity, which is either Spot or On-Demand.

Type: String

Valid Values: spot | on-demand

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

TotalTargetCapacity

The number of units to request, filled using DefaultTargetCapacityType.

Type: Integer

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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
TargetConfigurationRequest

Details about the target configuration.

Contents

InstanceCount

The number of instances the Covertible Reserved Instance offering can be applied to. This parameter is reserved and cannot be specified in a request

Type: Integer
Required: No

OfferingId

The Convertible Reserved Instance offering ID.

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
- AWS SDK for Ruby V2
TargetGroup

Describes a load balancer target group.

Contents

Arn (request), arn (response)

The Amazon Resource Name (ARN) of the target group.

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
- AWS SDK for Ruby V2
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 (p. 1195) objects

Array Members: Minimum number of 1 item. Maximum number of 5 items.

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
- AWS SDK for Ruby V2
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 (p. 1081) object

Required: No

targetConfiguration

The configuration of the Convertible Reserved Instances that make up the exchange.

Type: TargetConfiguration (p. 1193) 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
• AWS SDK for Ruby V2
UnsuccessfulInstanceCreditSpecificationItem

Describes the T2 instance whose credit option for CPU usage was not modified.

Contents

error

The applicable error for the T2 instance whose credit option for CPU usage was not modified.

Type: UnsuccessfulInstanceCreditSpecificationItemError (p. 1199) 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
- AWS SDK for Ruby V2
UnsuccessfulInstanceCreditSpecificationItemError

Information about the error for the T2 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
- AWS SDK for Ruby V2
UnsuccessfulItem

Information about items that were not successfully processed in a batch call.

Contents

error

Information about the error.

Type: UnsuccessfulItemError (p. 1201) object

Required: Yes

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
- AWS SDK for Ruby V2
UnsuccessfulItemError

Information about the error that occurred. For more information about errors, see Error Codes.

Contents

code

The error code.
Type: String
Required: Yes

message

The error message accompanying the error code.
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
- AWS SDK for Ruby V2
UserBucket

Describes the S3 bucket for the disk image.

Contents

S3Bucket

The name of the 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++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
UserBucketDetails

Describes the S3 bucket for the disk image.

Contents

s3Bucket

The 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
- AWS SDK for Ruby V2
**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++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
**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)

The name of the security group. In a request, use this parameter for a security group in EC2-Classic or a default VPC only. 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.

[EC2-Classic] Required when adding or removing rules that reference a security group in another AWS account.

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
- AWS SDK for Ruby V2
VgwTelemetry

Describes telemetry for a VPN tunnel.

Contents

acceptedRouteCount

The number of accepted routes.

Type: Integer

Required: No

lastStatusChange

The date and time of the last change in status.

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
- AWS SDK for Ruby V2
Volume

Describes a volume.

Contents

attachmentSet

Information about the volume attachments.

Type: Array of VolumeAttachment (p. 1211) 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 will be encrypted.

Type: Boolean

Required: No

iops

The number of I/O operations per second (IOPS) that the volume supports. For Provisioned IOPS SSD volumes, this represents the number of IOPS that are provisioned for the volume. For General Purpose SSD volumes, this represents the baseline performance of the volume and the rate at which the volume accumulates I/O credits for bursting. For more information about General Purpose SSD baseline performance, I/O credits, and bursting, see Amazon EBS Volume Types in the Amazon Elastic Compute Cloud User Guide.

Constraint: Range is 100-32000 IOPS for io1 volumes and 100-10000 IOPS for gp2 volumes.

Condition: This parameter is required for requests to create io1 volumes; it is not used in requests to create gp2, st1, sc1, or standard volumes.

Type: Integer

Required: No

kmsKeyId

The full ARN of the AWS Key Management Service (AWS KMS) customer master key (CMK) that was used to protect the volume encryption key for the volume.

Type: String
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

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 (p. 1188) objects
Required: No

volumeId
The ID of the volume.
Type: String
Required: No

volumeType
The volume type. This can be gp2 for General Purpose SSD, io1 for Provisioned IOPS SSD, st1 for Throughput Optimized HDD, sc1 for Cold HDD, or standard for Magnetic volumes.
Type: String
Valid Values: standard | io1 | gp2 | sc1 | st1
Required: No

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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++
See Also

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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

originalSize
The original size of the volume.
Type: Integer
Required: No

originalVolumeType
The original EBS volume type of the volume.
Type: String
Valid Values: standard | io1 | gp2 | sc1 | st1
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

**targetSize**
The target size of the volume, in GiB.
Type: Integer
Required: No

**targetVolumeType**
The target EBS volume type of the volume.
Type: String

Valid Values:
- standard
- io1
- gp2
- sc1
- st1

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++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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

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
- AWS SDK for Ruby V2
VolumeStatusInfo

Describes the status of a volume.

Contents

details

The details of the volume status.

Type: Array of VolumeStatusDetails (p. 1217) 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
- AWS SDK for Ruby V2
VolumeStatusItem

Describes the volume status.

Contents

actionsSet

The details of the operation.

Type: Array of VolumeStatusAction (p. 1216) 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 (p. 1218) objects

Required: No

volumeId

The volume ID.

Type: String

Required: No

volumeStatus

The volume status.

Type: VolumeStatusInfo (p. 1219) 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
- AWS SDK for Ruby V2
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 (p. 1224) objects

Required: No
dhcpOptionsId

The ID of the set of DHCP options you've associated with the VPC (or default if the default options are 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 (p. 1230) objects

Required: No
isDefault

Indicates whether the VPC is the default VPC.

Type: Boolean

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 (p. 1188) 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
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 (p. 1225) 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
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
VpcClassicLink

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 (p. 1188) 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
- AWS SDK for Ruby V2
VpcEndpoint

Describes a VPC endpoint.

Contents

creationTimestamp

The date and time the VPC endpoint was created.

Type: Timestamp

Required: No

dnsEntrySet

(Interface endpoint) The DNS entries for the endpoint.

Type: Array of DnsEntry (p. 869) objects

Required: No

groupSet

(Interface endpoint) Information about the security groups associated with the network interface.

Type: Array of SecurityGroupIdentifier (p. 1134) objects

Required: No

networkInterfaceIdSet

(Interface endpoint) One or more network interfaces for the endpoint.

Type: Array of strings

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

routeTableIdSet

(Gateway endpoint) One or more 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 VPC endpoint.
Type: String

Valid Values: PendingAcceptance | Pending | Available | Deleting | Deleted | Rejected | Failed | Expired
Required: No

**subnetIdSet**
(Interface endpoint) One or more subnets in which the endpoint is located.
Type: Array of strings
Required: No

**vpcEndpointId**
The ID of the VPC endpoint.
Type: String
Required: No

**vpcEndpointType**
The type of endpoint.
Type: String

Valid Values: Interface | Gateway
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++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
VpcEndpointConnection

Describes a VPC endpoint connection to a service.

Contents

creationTimestamp

The date and time the VPC endpoint was created.

Type: Timestamp

Required: No

serviceId

The ID of the service to which the endpoint is connected.

Type: String

Required: No

vpcEndpointId

The ID of the VPC endpoint.

Type: String

Required: No

vpcEndpointOwner

The AWS account ID of the owner of 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
- AWS SDK for Ruby V2
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 (p. 1225) 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
- AWS SDK for Ruby V2
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 (p. 1235) 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 (p. 1235) object

Required: No

status

The status of the VPC peering connection.

Type: VpcPeeringConnectionStateReason (p. 1234) object

Required: No

tagSet

Any tags assigned to the resource.

Type: Array of Tag (p. 1188) 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++
See Also

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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

Indicates whether a local ClassicLink connection can communicate with the peer VPC over the VPC peering connection.

Type: Boolean
Required: No

allowEgressFromLocalVpcToRemoteClassicLink

Indicates whether a local VPC can communicate with a ClassicLink connection in the peer VPC over the VPC peering connection.

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
- AWS SDK for Ruby V2
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++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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 (p. 840) objects

Required: No

ipv6CidrBlockSet

The IPv6 CIDR block for the VPC.

Type: Array of Ipv6CidrBlock (p. 976) objects

Required: No

ownerId

The AWS account ID of the VPC owner.

Type: String

Required: No

peeringOptions

Information about the VPC peering connection options for the accepter or requester VPC.

Type: VpcPeeringConnectionOptionsDescription (p. 1233) 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
- AWS SDK for Ruby V2
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. For more information, see AWS Managed VPN Categories in the Amazon Virtual Private Cloud User Guide.

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

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 (p. 1188) objects

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 (p. 1207) 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
- AWS SDK for Ruby V2
VpnConnectionOptions

Describes VPN connection options.

Contents

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

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
VpnConnectionOptionsSpecification

Describes VPN connection options.

Contents

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 (p. 216)` to create a static route.

Default: `false`

Type: Boolean

Required: No

TunnelOptions

The tunnel options for the VPN connection.

Type: Array of `VpnTunnelOptionsSpecification (p. 1244)` 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
- AWS SDK for Ruby V2
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 (p. 1223) 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 (p. 1188) 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
See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
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
- AWS SDK for Ruby V2
VpnTunnelOptionsSpecification

The tunnel options for a VPN connection.

Contents

PreSharedKey

The pre-shared key (PSK) to establish initial authentication between the virtual private gateway and customer gateway.

Constraints: Allowed characters are alphanumeric characters and _. Must be between 8 and 64 characters in length and cannot start with zero (0).

Type: String

Required: No

TunnelInsideCidr

The range of inside IP 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

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
Making API Requests

We provide the Query API for Amazon EC2, as well as software development kits (SDK) for Amazon Web Services (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.

Topics

• Required Knowledge (p. 1245)
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Required Knowledge

If you plan to access Amazon EC2 through an API, you should be familiar with the following:

• XML
• Web services
• HTTP requests
• One or more programming languages, such as Java, PHP, Perl, Python, Ruby, C#, or C++.

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 downloading the AWS SDKs, see AWS SDKs and Tools. For more information about the language-specific APIs for Amazon EC2, see the following documentation.

AWS SDK for .NET

• Amazon.EC2
• Amazon.EC2.Model
Query requests are HTTP or HTTPS requests that use the HTTP verb GET or POST and a Query parameter named `Action`. For a list of Amazon EC2 API actions, see [Actions](#)

**Topics**
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**Structure of a GET Request**

The Amazon EC2 documentation presents the GET requests as URLs, which can be used directly in a browser.
Note
Because the GET requests are URLs, you must URL encode the parameter values. In the Amazon EC2 documentation, we leave the example GET requests unencoded to make them easier to read.

The request consists of the following:

- **Endpoint**: The URL that serves as the entry point for the web service.
- **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.
- **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; for more information, see Signature Version 2 Signing Process and Signature Version 4 Signing Process in the Amazon Web Services 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 (p. 1267).

The following is an example request that launches instances:

```plaintext
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=AKIAIOSFODNN7EXAMPLE%2F20130813%2Fus-east-1%2Fec2%2Faws4_request&X-Amz-Date=20130813T150206Z&X-Amz-SignedHeaders=content-type%3Bhost%3Bx-amz-date&X-Amz-Signature=525d1a96c69b5549d75dbbec8e8e264102288b83ba87b7d58d4b76b71f59fd2
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:

```plaintext
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%3Bamz-date
&X-Amz-Signature=ced6826de92d2bdeed8f846f0bf508e8559e98e4b0194b84example54174de456c
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.
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** (p. 1267), 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:

```plaintext
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-2bb65342
&MaxCount=3
&MinCount=1
&Placement.AvailabilityZone=us-east-1a
&Monitoring.Enabled=true
&AUTHPARAMS
```

**Important**
Before you specify your access key ID for the `AWSAccessKeyId` or `Credential` parameter, review and follow the guidance in **Best Practices for Managing AWS Access Keys**.

### Endpoints

An endpoint is a URL that serves as an entry point for a web service. You can select a regional endpoint for Amazon EC2 when you make your requests to reduce latency. For more information about Regions, see **Regions and Availability Zones** in the *Amazon EC2 User Guide for Linux Instances*. For information about the endpoints for Amazon EC2, see **Regions and Endpoints** in the *Amazon Web Services General Reference*.

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.

### Query Parameters

Each Query request must include required common parameters to handle authentication and selection of an action.

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.

```plaintext
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. For more information, see Signature Version 2 Signing Process and Signature Version 4 Signing Process in the Amazon Web Services General Reference.

Signature Version 4 requests allow you specify all the authorization parameters in a single header, for example:

```
Content-Type: application/x-www-form-urlencoded; charset=UTF-8
X-Amz-Date: 20130813T150211Z
Host: ec2.amazonaws.com
Authorization: AWS4-HMAC-SHA256 Credential=AKIDEXAMPLE/20130813/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.

```
<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>
```

## 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.

Topics
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 IAM 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, GetConsoleOutput, 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.

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, AWS Identity and Access Management (IAM) users don't have permission to create or modify Amazon EC2 resources, or perform tasks using the Amazon EC2 API, unless they've
An IAM 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 an IAM 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.

Currently, not all API actions support resource-level permissions; we'll add support for more in the future. For more information about which ARNs you can use with which Amazon EC2 API actions, see Granting IAM Users Required Permissions for Amazon EC2 Resources.

Ensuring Idempotency

An idempotent operation completes no more than one time.

When you launch an instance, the request typically returns before the operation has completed. You determine whether the operation was successful by monitoring the state of the instance (it goes from pending to running). If the operation times out or there are connection issues, you might need to retry the request. However, if the original request and a retry are both successful, you'll end up with more instances than you intended to launch.

If you launch your instance using run-instances (AWS CLI), ec2-run-instances (Amazon EC2 CLI), or RunInstances, you can optionally provide a client token to ensure that the request is idempotent. If you repeat a request, the same response is returned for each repeated request. The only information that might vary in the response is the state of the instance.

Contents
- Client Tokens (p. 1252)
- Idempotency Support (p. 1253)
- Example Idempotent Command (p. 1254)
- Example Idempotent Query (p. 1254)

Client Tokens

A client token is a unique, case-sensitive string of up to 64 ASCII characters. It is included in the response when you describe the instance. A client token is valid for at least 24 hours after the termination of the instance. You should not reuse a client token in another call later on.

If you repeat a request with the same client token, but change another request parameter, Amazon EC2 returns an IdempotentParameterMismatch error.

You can use the same client token for the same request across different Regions. 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 other Regions, we launch instances in each of those Regions.

The following table shows common response codes and the recommended course of action.
Idempotency Support

The following commands and actions are idempotent:

**AWS CLI Idempotent Commands**
- associate-address
- create-vpn-connection
- disassociate-address
- replace-network-acl-association
- terminate-instances

**Query API Idempotent Actions**
- AssociateAddress
- CreateVpnConnection
- DisassociateAddress
- ReplaceNetworkAclAssociation
- TerminateInstances

The following commands and actions support idempotent operations using a client token:

**AWS CLI Commands with a --client-token Option**
- allocate-hosts
- copy-image
- create-egress-only-internet-gateway
- create-flow-logs
- create-fpga-image
- create-nat-gateway
- create-reserved-instances-listing
Example Idempotent Command

To make a command an idempotent request, add the --client-token option. The client token is a unique, case-sensitive string of up to 64 ASCII characters.

**AWS CLI**

Use the `run-instances` command as follows to make an idempotent request:

```
aws ec2 run-instances --image-id ami-b232d0db --count 1 --key-name my-key-pair --client-token 550e8400-e29b-41d4-a716-446655440000
```

Example Idempotent Query

Use the `RunInstances` action as follows to make an idempotent request:
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-3ac33653
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&ClientToken=550e8400-e29b-41d4-a716-446655440000
&AUTHPARAMS

The ClientToken parameter requires a unique, case-sensitive string of up to 64 ASCII characters.

SOAP Requests

We have deprecated the SOAP API for Amazon EC2. After 1 December 2015, we will no longer support SOAP requests for any API versions, including versions 2014-02-01 and earlier. If you use a SOAP request against a later API version or after 1 December 2015, you will receive the following response:

Client.UnsupportedProtocol: SOAP is no longer supported.

Similarly, the AWS software development kits (SDKs) will no longer support SOAP requests after 1 December 2015 for any API version.

If you are using the Amazon EC2 CLI tools, you can no longer use the EC2_PRIVATE_KEY and EC2_CERT environment variables. You must use the AWS_ACCESS_KEY and AWS_SECRET_KEY variables instead. For more information, see Setting Up the Amazon EC2 CLI and AMI Tools.

We recommend that you use the Query API for Amazon EC2, or the SDKs for AWS. For more information, see Making API Requests (p. 1245).

Cross-Origin Resource Sharing Support

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 requestor. 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/Actual Requests

The following are the criteria that define a simple 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/Actual 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/Actual 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 with AWS CloudTrail**

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 IAM user credentials.
- Whether the request was made with temporary security credentials for a role or federated user.
- 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",
        "accessKeyId": "AKIAIOSFODNN7EXAMPLE",
        "userName": "user"
      },
      "eventTime": "2016-05-20T08:27:45Z",
      "eventSource": "ec2.amazonaws.com",
      "eventName": "TerminateInstances",
      "awsRegion": "us-west-2",
      "sourceIPAddress": "198.51.100.1",
      "userAgent": "aws-cli/1.10.10 Python/2.7.9 Windows/7botocore/1.4.1",
      "requestParameters": {
        "instancesSet": {
          "items": [
            {
              "instanceId": "i-1a2b3c4d"
            }
          ]
        }
      },
      "responseElements": {
        "instancesSet": {
        }
      }
    }
  ]
}
```
Monitoring API Requests with Amazon CloudWatch

**Important**
This is an opt-in feature. To enable this feature for your AWS account, contact AWS Support.

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.

**Topics**
- Amazon EC2 API Metrics and Dimensions (p. 1259)
- Metric Data Retention (p. 1260)
- Billing (p. 1260)
- Working with Amazon CloudWatch (p. 1260)

**Amazon EC2 API Metrics and Dimensions**

**Metrics**

The Amazon EC2 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.</td>
</tr>
<tr>
<td></td>
<td>These errors are usually caused by something the client did, such as specifying an incorrect or invalid parameter</td>
</tr>
</tbody>
</table>
Metric | Description
--- | ---
 | 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
RequestLimitExceeded | 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
ServerErrors | The number of failed API requests caused by internal server errors.
 | These errors are usually caused by an AWS server-side error, exception, or failure.
 | Unit: Count
SuccessfulCalls | The number of successful API requests.
 | Unit: Count

For more information about metrics, see [Amazon CloudWatch Concepts](#).

**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).

**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 (p. 1261)
• Creating CloudWatch Alarms (p. 1261)

Viewing CloudWatch Metrics

You can view Amazon EC2 API metrics using the CloudWatch console and the command line tools.

To view metrics using the CloudWatch console

2. In the navigation pane, choose Metrics.
3. Under All metrics, choose the AWS/EC2/API metric namespace.
4. To view the metrics, select the metric dimension.

To view metrics using the command line tools

Use one of the following commands:

• list-metrics (AWS CLI)

```
aws cloudwatch list-metrics --namespace "AWS/EC2/API"
```

• Get-CWMetricList (AWS Tools for Windows 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.

To create an alarm for Amazon EC2 DescribeInstances API request server errors

2. In the navigation pane, choose Alarms, Create Alarm.
3. Choose EC2/API Metrics.
4. Select the DescribeInstances API operation and the ServerErrors metric and choose Next.
5. Configure the alarm as follows, and choose Create Alarm when you are done:
   a. Under Alarm Threshold, enter a name and description for your alarm.
   b. For Whenever, choose >=, enter 10, and then enter 1 for the consecutive periods.
   c. Under Actions, select an existing notification list or choose New list.
   d. Under Alarm Preview, select a period of 5 minutes and specify a statistic of Sum.

For more information, see Creating 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 or AWS Management Portal for vCenter 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 normally 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:documentation> </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:element name="self-destruct-url" type="xs:anyURI">
          <xs:annotation>
            <xs:documentation> Signed URL used to delete the stored manifest file. </xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="import" type="Import">
          <xs:annotation>
            <xs:documentation> Complex type describing the size and chunking of the volume file. </xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

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<xs:complexType name="Importer">
  <xs:sequence>
    <xs:element name="name" type="xs:string">
      <xs:documentation> Name of the software that created the manifest. </xs:documentation>
    </xs:element>
    <xs:element name="version" type="xs:string">
      <xs:documentation> Version of the software that created the manifest. </xs:documentation>
    </xs:element>
    <xs:element name="release" type="xs:string">
      <xs:documentation> Release number of the software that created the manifest. </xs:documentation>
    </xs:element>
  </xs:sequence>
</xs:complexType>

<xs:complexType name="Import">
  <xs:sequence>
    <xs:element name="size" type="xs:long">
      <xs:documentation> Exact size of the file to be imported (bytes on disk). </xs:documentation>
    </xs:element>
    <xs:element name="volume-size" type="xs:long">
      <xs:documentation> Rounded size in gigabytes of volume to be imported. </xs:documentation>
    </xs:element>
    <xs:element name="parts" type="Parts">
      <xs:documentation> Complex type describing and counting the parts into which the file is split. </xs:documentation>
    </xs:element>
  </xs:sequence>
</xs:complexType>

<xs:complexType name="Parts">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="unbounded" name="part" type="Part">
      <xs:documentation> Definition of a particular part. Any number of parts may be defined. </xs:documentation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
<xs:complexType name="Manifest">
  <xs:attribute name="total-count" type="xs:int">
    <xs:annotation>
      <xs:documentation> Total count of the parts. </xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:complexType name="Part">
    <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:sequence>
    <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:complexType name="ByteRange">
  <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>
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.

```xml
<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&amp;Expires=1416618486&amp;Signature=m%2Bl%2FkuKuvfEeD%2Fy%s20TrqeiH%2FvLM%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?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&amp;Expires=1416618486&amp;Signature=2yqS2VGYXGmqcbu%2FrQEn8FGIKai3D</head-url>
        <get-url>https://example-disk-part-bucket.s3.amazonaws.com/d6e1ca17-72f6-4ab0-b2c8-d7ba8186cb23/cirros-0.3.2-x86_64-disk.vmdk.part0?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&amp;Expires=1416618486&amp;Signature=nEvl8VhFoEu1jJFRkAYB2IWKRTY%3D</get-url>
        <delete-url>https://example-disk-part-bucket.s3.amazonaws.com/d6e1ca17-72f6-4ab0-b2c8-d7ba8186cb23/cirros-0.3.2-x86_64-disk.vmdk.part0?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&amp;Expires=1416618486&amp;Signature=CX19zc4Eys8BN%2Fxs0epk%2Bii34No%3D</delete-url>
      </part>
      <part index="1">
        <byte-range end="12595199" start="10485760"/>
        <key>d6e1ca17-72f6-4ab0-b2c8-d7ba8186cb23/cirros-0.3.2-x86_64-disk.vmdk.part1</key>
        <head-url>https://example-disk-part-bucket.s3.amazonaws.com/d6e1ca17-72f6-4ab0-b2c8-d7ba8186cb23/cirros-0.3.2-x86_64-disk.vmdk.part1?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&amp;Expires=1416618486&amp;Signature=3b%2FkFky92L8g%2Bf1I094VnR4J%3D</head-url>
        <get-url>https://example-disk-part-bucket.s3.amazonaws.com/d6e1ca17-72f6-4ab0-b2c8-d7ba8186cb23/cirros-0.3.2-x86_64-disk.vmdk.part1?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&amp;Expires=1416618486&amp;Signature=W%2FxagI5ChmfqqyVWwyDJ3Rgwi%3D</get-url>
        <delete-url>https://example-disk-part-bucket.s3.amazonaws.com/d6e1ca17-72f6-4ab0-b2c8-d7ba8186cb23/cirros-0.3.2-x86_64-disk.vmdk.part1?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&amp;Expires=1416618486&amp;Signature=08FH3QPwkJcNURnNt9D1vvhQ%3D</delete-url>
      </part>
    </parts>
  </import>
</manifest>
```

The second example describes a volume image with a single part that has already been uploaded to Amazon S3.

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>

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```
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Examples

<manifest>
  <version>2010-11-15</version>
  <file-format>VMDK</file-format>
  <importer>
    <name>Linux_RHEL_59_64.vmdk</name>
    <version>1.0.0</version>
    <release>2010-11-15</release>
  </importer>
  <self-destruct-url>https://example-disk-part-bucket.s3.ap-northeast-2.amazonaws.com/Linux_RHEL_59_64.vmdk?X-Amz-Algorithm=AWS4-HMAC-SHA256&amp;X-Amz-Credential=AKIAJ26ZRPZDGYJT4KAQFEXAMPLE%2Fap-northeast-2%2Faws4_request&amp;X-Amz-Date=20151119T234529Z&amp;X-Amz-Expires=604800&amp;X-Amz-Signature=4dbf803f2e52f6a87ed3b63778033af42ec11155b37366ab4fca56691672807&amp;X-Amz-SignedHeaders=Host</self-destruct-url>
  <import>
    <size>994433536</size>
    <volume-size>1</volume-size>
    <parts count="1">
      <part index="0">
        <byte-range end="994433536" start="0"/>
        <key>Linux_RHEL_59_64.vmdk</key>
        <head-url>https://example-disk-part-bucket.s3.ap-northeast-2.amazonaws.com/Linux_RHEL_59_64.vmdk?X-Amz-Algorithm=AWS4-HMAC-SHA256&amp;X-Amz-Credential=AKIAJ26ZRPZDGYJT4KAQFEXAMPLE%2Fap-northeast-2%2Faws4_request&amp;X-Amz-Date=20151119T234529Z&amp;X-Amz-Expires=604800&amp;X-Amz-Signature=4c3a7bd3f3e5a35a55bfc67747c81e1f65f09f3768998a575dabf5dfda2e&amp;X-Amz-SignedHeaders=Host</head-url>
        <get-url>https://example-disk-part-bucket.s3.ap-northeast-2.amazonaws.com/Linux_RHEL_59_64.vmdk?X-Amz-Algorithm=AWS4-HMAC-SHA256&amp;X-Amz-Credential=AKIAJ26ZRPZDGYJT4KAQFEXAMPLE%2Fap-northeast-2%2Faws4_request&amp;X-Amz-Date=20151119T234529Z&amp;X-Amz-Expires=604800&amp;X-Amz-Signature=329d6abb673e4ce11c0a662f34f62f8c3ed7038ae6c0f42c16e79d76699e52&amp;X-Amz-SignedHeaders=Host</get-url>
        <delete-url>https://example-disk-part-bucket.s3.ap-northeast-2.amazonaws.com/Linux_RHEL_59_64.vmdk?X-Amz-Algorithm=AWS4-HMAC-SHA256&amp;X-Amz-Credential=AKIAJ26ZRPZDGYJT4KAQFEXAMPLE%2Fap-northeast-2%2Faws4_request&amp;X-Amz-Date=20151119T234529Z&amp;X-Amz-Expires=604800&amp;X-Amz-Signature=4dbf803f2e52f6a87ed3b63778033af42ec11155b37366ab4fca56691672807&amp;X-Amz-SignedHeaders=Host</delete-url>
      </part>
    </parts>
  </import>
</manifest>
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 API Requests (p. 1245).

Topics
- Common Query Parameters for Signature Version 2 (p. 1267)
- Common Query Parameters for Signature Version 4 (p. 1268)

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: AKIAIOSFODNN7EXAMPLE</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>Conditional. Requests must include either Timestamp or Expires, but cannot contain both.</td>
</tr>
<tr>
<td></td>
<td>Example: 2006-07-07T15:04:56Z</td>
<td></td>
</tr>
<tr>
<td>Timestamp</td>
<td>The date and time at which the request is signed, in the format YYYY-MM-DDThh:mm:ssZ. For more information, see ISO 8601.</td>
<td>Conditional. Requests must include either Timestamp or Expires, but cannot contain both.</td>
</tr>
<tr>
<td></td>
<td>Example: 2006-07-07T15:04:56Z</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>Signature</td>
<td>The request signature.</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Example: Qnp14Qk/7tINHzfXCi7VEXAMPLE</td>
<td></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></td>
<td>Example: HmacSHA256</td>
<td></td>
</tr>
<tr>
<td>SignatureVersion</td>
<td>The signature version you use to sign the request. Set this value to 2.</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Example: 2</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>
<tr>
<td>SecurityToken</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: AQoEXAMPLEH4aoAH0gNCAPyJxz4B1CFxFxWNE10PTgk5TthT+FvwqnKwRcOfrR3c/L</td>
<td></td>
</tr>
</tbody>
</table>

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>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>X-Amz-Algorithm</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>
</tbody>
</table>

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### Common Query Parameters for Signature Version 4

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<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 X-Amz-Credential 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: ced6826de92d2bdeed8f846f0bf508e8559example</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: AQoEXAMPLEH4aoAH0gNCAPyJxz4BlCFFxWNE10PTgk5TthT+FvwqnKwRcOiIfrRh3c/L</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 IAM Users Required Permissions for Amazon EC2 Resources

By default, AWS Identity and Access Management (IAM) users don't have permission to create or modify Amazon EC2 resources, or perform tasks using the Amazon EC2 API. To allow IAM users to create or modify resources and perform tasks, you must create IAM policies that grant IAM users permissions for the specific resources and API actions they'll need to use, and then attach those policies to the IAM users or groups that require those permissions.

For more information and for example policies, see IAM Policies for Amazon EC2 in the Amazon EC2 User Guide.

When you make an API request, the parameters that you specify in the request determine which resources an IAM user must have permission to use. If the user doesn't have the required permissions, the request fails. For example, if you use RunInstances to launch an instance in a subnet (by specifying the SubnetId parameter), an IAM user must have permission to use the VPC.

If an action creates a resource, an IAM user must have permission to create the resource or the request fails. Many Amazon EC2 resources receive an identifier when they are created. Because you can't know what that identifier is in advance, you must use a wildcard in the ARN for a resource when it is to be created by the request, as shown in the following sections.

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.

Contents

• Supported Resource-Level Permissions (p. 1270)
• Unsupported Resource-Level Permissions (p. 1296)

Supported Resource-Level Permissions

The following sections describe 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 to grant users permission to create or modify particular Amazon EC2 resources. (We'll add support for additional actions, ARNs, and condition keys later.)

When specifying an ARN, you can use the * wildcard in your paths; for example, when you cannot or do not want to specify exact resource IDs. For examples of using wildcards, see the Example Policies in the Amazon EC2 User Guide.

Topics

• Customer Gateways (p. 1271)
• DHCP Options Sets (p. 1271)
• Instances (p. 1271)
• Internet Gateways (p. 1279)
Customer Gateways

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action: DeleteCustomerGateway (p. 221)</td>
<td>arn:aws:ec2:region:account:customer-gateway/*</td>
<td>ec2:Region</td>
</tr>
</tbody>
</table>

DHCP Options Sets

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action: DeleteDhcpOptions (p. 223)</td>
<td>arn:aws:ec2:region:account:dhcp-options/*</td>
<td>ec2:Region</td>
</tr>
</tbody>
</table>

Instances

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action: AssociateIamInstanceProfile (p. 42)</td>
<td>arn:aws:ec2:region:account:instance/*</td>
<td>ec2:AvailabilityZone</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2:region:account:instance/instance-id</td>
<td>ec2:InstanceProfile</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2:region:account:instance/instance-id</td>
<td>ec2:InstanceType</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2:region:account:instance/instance-id</td>
<td>ec2:Region</td>
</tr>
<tr>
<td>Resource</td>
<td>ARN Format</td>
<td>Condition Keys</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:RootDeviceType</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:Tenancy</td>
</tr>
<tr>
<td><strong>Action:</strong></td>
<td><strong>AttachClassicLinkVpc (p. 51)</strong></td>
<td></td>
</tr>
<tr>
<td>Instance</td>
<td>arn:aws:ec2:region:account:*</td>
<td>ec2:AvailabilityZone</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2:region:account:instance/instance-id</td>
<td>ec2:InstanceProfile</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:InstanceType</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:PlacementGroup</td>
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<tr>
<td></td>
<td></td>
<td>ec2:Region</td>
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<tr>
<td></td>
<td></td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:RootDeviceType</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:Tenancy</td>
</tr>
<tr>
<td>VPC</td>
<td>arn:aws:ec2:region:account:vpc/*</td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:Tenancy</td>
</tr>
<tr>
<td><strong>Action:</strong></td>
<td><strong>DetachClassicLinkVpc (p. 583)</strong></td>
<td></td>
</tr>
<tr>
<td>Resource</td>
<td>ARN Format</td>
<td>Condition Keys</td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>----------------</td>
</tr>
</tbody>
</table>
| Instance | arn:aws:ec2:region:account:instance/*  
          | arn:aws:ec2:region:account:instance/instance-id | ec2:AvailabilityZone  
          |                                                  | ec2:EbsOptimized  
          |                                                  | ec2:InstanceProfile  
          |                                                  | ec2:InstanceType  
          |                                                  | ec2:PlacementGroup  
          |                                                  | ec2:Region  
          |                                                  | ec2:ResourceTag/tag-key  
          |                                                  | ec2:RootDeviceType  
          |                                                  | ec2:Tenancy |
| VPC      | arn:aws:ec2:region:account:vpc/*  
          | arn:aws:ec2:region:account:vpc/vpc-id | ec2:Region  
          |                                                  | ec2:ResourceTag/tag-key  
          |                                                  | ec2:Tenancy |

**Action:** DisassociateIamInstanceProfile (p. 602)

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
</table>
| Instance | arn:aws:ec2:region:account:instance/*  
          | arn:aws:ec2:region:account:instance/instance-id | ec2:AvailabilityZone  
          |                                                  | ec2:EbsOptimized  
          |                                                  | ec2:InstanceProfile  
          |                                                  | ec2:InstanceType  
          |                                                  | ec2:PlacementGroup  
          |                                                  | ec2:Region  
          |                                                  | ec2:ResourceTag/tag-key  
          |                                                  | ec2:RootDeviceType  
          |                                                  | ec2:Tenancy |

**Action:** GetConsoleScreenshot (p. 621)
<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instance</td>
<td>arn:aws:ec2:region:account:instance/*</td>
<td>ec2:AvailabilityZone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:InstanceProfile</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:InstanceType</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:PlacementGroup</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:RootDeviceType</td>
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<tr>
<td></td>
<td></td>
<td>ec2:Tenancy</td>
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</tbody>
</table>

**Action: RebootInstances (p. 723)**

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instance</td>
<td>arn:aws:ec2:region:account:instance/*</td>
<td>ec2:AvailabilityZone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:InstanceProfile</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:InstanceType</td>
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<tr>
<td></td>
<td></td>
<td>ec2:PlacementGroup</td>
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<tr>
<td></td>
<td></td>
<td>ec2:Region</td>
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<tr>
<td></td>
<td></td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:RootDeviceType</td>
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<tr>
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<td></td>
<td>ec2:Tenancy</td>
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</table>

**Action: ReplacelamInstanceProfileAssociation (p. 739)**
<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instance</td>
<td>arn:aws:ec2:region:account:instance/*</td>
<td>ec2:AvailabilityZone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:InstanceProfile</td>
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<tr>
<td></td>
<td></td>
<td>ec2:InstanceType</td>
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<td></td>
<td></td>
<td>ec2:PlacementGroup</td>
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<td>ec2:Region</td>
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<tr>
<td></td>
<td></td>
<td>ec2:ResourceTag/tag-key</td>
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<td></td>
<td></td>
<td>ec2:RootDeviceType</td>
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<tr>
<td></td>
<td></td>
<td>ec2:Tenancy</td>
</tr>
<tr>
<td>Action:</td>
<td>RunInstances (p. 781)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:IsLaunchTemplateResource</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:LaunchTemplate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:Region</td>
</tr>
<tr>
<td>Image</td>
<td>arn:aws:ec2:region::image/*</td>
<td>ec2:ImageType</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2:region::image/image-id</td>
<td>ec2:IsLaunchTemplateResource</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:LaunchTemplate</td>
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<tr>
<td></td>
<td></td>
<td>ec2:Owner</td>
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<td></td>
<td></td>
<td>ec2:Public</td>
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<td></td>
<td></td>
<td>ec2:Region</td>
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<tr>
<td></td>
<td></td>
<td>ec2:RootDeviceType</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td>Resource</td>
<td>ARN Format</td>
<td>Condition Keys</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Instance</td>
<td><code>arn:aws:ec2:region:account:instance/*</code></td>
<td><code>ec2:AvailabilityZone</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:EbsOptimized</code></td>
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<td><code>ec2:InstanceMarketType</code></td>
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<td><code>ec2:InstanceProfile</code></td>
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<td></td>
<td></td>
<td><code>ec2:InstanceType</code></td>
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<tr>
<td></td>
<td></td>
<td><code>ec2:IsLaunchTemplateResource</code></td>
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<td><code>ec2:LaunchTemplate</code></td>
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<td></td>
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<td><code>ec2:PlacementGroup</code></td>
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<td><code>ec2:Region</code></td>
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<td></td>
<td></td>
<td><code>ec2:RootDeviceType</code></td>
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<td><code>ec2:Tenancy</code></td>
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<tr>
<td></td>
<td></td>
<td><code>aws:RequestTag/tag-key</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>aws:TagKeys</code></td>
</tr>
<tr>
<td>Key pair</td>
<td><code>arn:aws:ec2:region:account:key-pair/*</code></td>
<td><code>ec2:IsLaunchTemplateResource</code></td>
</tr>
<tr>
<td></td>
<td><code>arn:aws:ec2:region:account:key-pair/key-pair-name</code></td>
<td><code>ec2:LaunchTemplate</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:Region</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:Region</code></td>
</tr>
<tr>
<td>Network interface</td>
<td><code>arn:aws:ec2:region:account:network-interface/*</code> (if specifying a subnet in the request)</td>
<td><code>ec2:AvailabilityZone</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:LaunchTemplate</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:Region</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:Subnet</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:ResourceTag/tag-key</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:Vpc</code></td>
</tr>
<tr>
<td>Resource</td>
<td>ARN Format</td>
<td>Condition Keys</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------------------------------</td>
<td>---------------------------------------</td>
</tr>
<tr>
<td>Placement group</td>
<td>arn:aws:ec2::region:account:placement-group/*</td>
<td>ec2:IsLaunchTemplateResource</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2::region:account:placement-group/</td>
<td>ec2:LaunchTemplate</td>
</tr>
<tr>
<td></td>
<td>placement-group-name</td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2::region:account:placement-group/*</td>
<td>ec2:PlacementGroupStrategy</td>
</tr>
<tr>
<td></td>
<td>placement-group-name</td>
<td></td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2::region:account:security-group/</td>
<td>ec2:LaunchTemplate</td>
</tr>
<tr>
<td></td>
<td>security-group-id</td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2::region:account:security-group/id</td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2::region:account:security-group/id</td>
<td>ec2:Vpc</td>
</tr>
<tr>
<td>Snapshot</td>
<td>arn:aws:ec2::region::snapshot/*</td>
<td>ec2:IsLaunchTemplateResource</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2::region::snapshot/snapshot-id</td>
<td>ec2:LaunchTemplate</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2::region::snapshot/snapshot-id</td>
<td>ec2:Owner</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2::region::snapshot/snapshot-id</td>
<td>ec2:ParentVolume</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2::region::snapshot/snapshot-id</td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2::region::snapshot/snapshot-id</td>
<td>ec2:SnapshotTime</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2::region::snapshot/snapshot-id</td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2::region::snapshot/snapshot-id</td>
<td>ec2:VolumeSize</td>
</tr>
<tr>
<td>Subnet</td>
<td>arn:aws:ec2::region:account:subnet/*</td>
<td>ec2:AvailabilityZone</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2::region:account:subnet/subnet-id</td>
<td>ec2:IsLaunchTemplateResource</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2::region:account:subnet/subnet-id</td>
<td>ec2:LaunchTemplate</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2::region:account:subnet/subnet-id</td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2::region:account:subnet/subnet-id</td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2::region:account:subnet/subnet-id</td>
<td>ec2:Vpc</td>
</tr>
<tr>
<td>Resource</td>
<td>ARN Format</td>
<td>Condition Keys</td>
</tr>
<tr>
<td>----------</td>
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</tr>
<tr>
<td>Action</td>
<td>StartInstances (p. 793)</td>
<td></td>
</tr>
</tbody>
</table>
| Instance | arn:aws:ec2:region:account:instance/*  
| Action   | StopInstances (p. 796) |
### Internet Gateways

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instance</td>
<td><code>arn:aws:ec2:region:account:*</code></td>
<td><code>ec2:AvailabilityZone</code></td>
</tr>
<tr>
<td></td>
<td><code>arn:aws:ec2:region:account:instance/instance-id</code></td>
<td><code>ec2:InstanceProfile</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:InstanceType</code></td>
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<tr>
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<td></td>
<td><code>ec2:PlacementGroup</code></td>
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<td></td>
<td><code>ec2:Region</code></td>
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<tr>
<td></td>
<td></td>
<td><code>ec2:ResourceTag/tag-key</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:RootDeviceType</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:Tenancy</code></td>
</tr>
</tbody>
</table>

**Action:** `DeleteInternetGateway` (p. 233)

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet gateway</td>
<td><code>arn:aws:ec2:region:account:internet-gateway/*</code></td>
<td><code>ec2:Region</code></td>
</tr>
</tbody>
</table>

---

### Amazon Elastic Compute Cloud API Reference

**Internet Gateways**

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instance</td>
<td><code>arn:aws:ec2:region:account:*</code></td>
<td><code>ec2:AvailabilityZone</code></td>
</tr>
<tr>
<td></td>
<td><code>arn:aws:ec2:region:account:instance/instance-id</code></td>
<td><code>ec2:InstanceProfile</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:InstanceType</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:PlacementGroup</code></td>
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<td><code>ec2:Region</code></td>
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<tr>
<td></td>
<td></td>
<td><code>ec2:ResourceTag/tag-key</code></td>
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<td></td>
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<td><code>ec2:RootDeviceType</code></td>
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<tr>
<td></td>
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</tbody>
</table>

**Action:** `TerminateInstances` (p. 799)
## Launch Templates

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action</strong>: CreateLaunchTemplateVersion (p. 139)</td>
<td>arn:aws:ec2:region:account:launch-template/*</td>
<td>ec2:Region</td>
</tr>
<tr>
<td><strong>Action</strong>: DeleteLaunchTemplateVersions (p. 239)</td>
<td>arn:aws:ec2:region:account:launch-template/*</td>
<td>ec2:Region</td>
</tr>
<tr>
<td><strong>Action</strong>: ModifyLaunchTemplate (p. 675)</td>
<td>arn:aws:ec2:region:account:launch-template/*</td>
<td>ec2:Region</td>
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</table>

## Network ACLs

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action</strong>: DeleteNetworkAcl (p. 244)</td>
<td>arn:aws:ec2:region:account:network-acl/*</td>
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<tr>
<td><strong>Action</strong>: DeleteNetworkAclEntry (p. 246)</td>
<td>arn:aws:ec2:region:account:network-acl/*</td>
<td>ec2:Region</td>
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## Network Interfaces

<table>
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<tbody>
<tr>
<td>Action:</td>
<td>CreateNetworkInterfacePermission (p. 157)</td>
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<td>ec2:Permission</td>
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<td>ec2:ResourceTag/tag-key</td>
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<td></td>
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<td>ec2:Subnet</td>
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## Route Tables

<table>
<thead>
<tr>
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</tr>
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<tbody>
<tr>
<td>Action:</td>
<td>CreateRoute (p. 166)</td>
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</tr>
<tr>
<td>Route table</td>
<td>arn:aws:ec2:region:account:route-table/*</td>
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<tr>
<td>Action:</td>
<td>DeleteRoute (p. 254)</td>
<td></td>
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<td>arn:aws:ec2:region:account:route-table/*</td>
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<td>ec2:Vpc</td>
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<tr>
<td>Action:</td>
<td>DeleteRouteTable (p. 256)</td>
<td></td>
</tr>
<tr>
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<td>arn:aws:ec2:region:account:route-table/*</td>
<td>ec2:Region</td>
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<td></td>
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<td>ec2:Vpc</td>
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<tr>
<td>Action:</td>
<td>ReplaceRoute (p. 746)</td>
<td></td>
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<td>Route table</td>
<td>arn:aws:ec2:region:account:route-table/*</td>
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### Security Groups

<table>
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<th>Condition Keys</th>
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<th>ARN Format</th>
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<tr>
<td>Resource</td>
<td>ARN Format</td>
<td>Condition Keys</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td></td>
<td>**arn:<em><em>aws:ec2:<em>region</em>:account</em>:security-group:<em>security-group-id</em></em></td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td>**arn:*<em>aws:ec2:<em>region</em>:account:<em>security-group-id</em></em></td>
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**Action:** `UpdateSecurityGroupRuleDescriptionsIngress` (p. 810)

<table>
<thead>
<tr>
<th>Security group</th>
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<tr>
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<td>**arn:**aws:ec2:<em>region</em>:account:<em>security-group:</em></td>
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<td>**arn:*<em>aws:ec2:<em>region</em>:account:<em>security-group-id</em></em></td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td>**arn:**aws:ec2:<em>region</em>:account:<em>security-group-</em></td>
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**Tags**

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<tbody>
<tr>
<td></td>
<td>**arn:**aws:ec2:<em>region</em>:account:<em>fpga-image:</em></td>
<td>ec2:CreateAction</td>
</tr>
<tr>
<td></td>
<td>**arn:**aws:ec2:<em>region</em>:account:*fpga-image:<em>afi-id</em></td>
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</tr>
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<td>**arn:**aws:ec2:<em>region</em>:account:*fpga-image:<em>afi-</em></td>
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<td>**arn:**aws:ec2:<em>region</em>:account:*fpga-image:<em>afi-</em></td>
<td>aws:RequestTag/tag-key</td>
</tr>
<tr>
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<td>**arn:**aws:ec2:<em>region</em>:account:*fpga-image:<em>afi-</em></td>
<td>aws:TagKeys</td>
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**Action:** `CreateTags` (p. 186)

<table>
<thead>
<tr>
<th>DHCP options set</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
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<tbody>
<tr>
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<td>**arn:**aws:ec2:<em>region</em>:account:<em>dhcp-options:</em></td>
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</tr>
<tr>
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<td>**arn:**aws:ec2:<em>region</em>:account:*dhcp-options:<em>dhcp-options-id</em></td>
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</tr>
<tr>
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<td>**arn:**aws:ec2:<em>region</em>:account:*dhcp-options:<em>dhcp-options-</em></td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
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<td>**arn:**aws:ec2:<em>region</em>:account:*dhcp-options:<em>dhcp-options-</em></td>
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<tr>
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<td>**arn:**aws:ec2:<em>region</em>:account:*dhcp-options:<em>dhcp-options-</em></td>
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</table>

<table>
<thead>
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<td>**arn:**aws:ec2:<em>region</em>:image:<em>image-id</em></td>
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<td>**arn:**aws:ec2:<em>region</em>:image:<em>image-id</em></td>
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<td>**arn:**aws:ec2:<em>region</em>:image:<em>image-id</em></td>
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<td>**arn:**aws:ec2:<em>region</em>:image:<em>image-id</em></td>
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<td>ec2:RootDeviceType</td>
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<td>aws:RequestTag/tag-key</td>
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<td>aws:TagKeys</td>
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<td>Instance</td>
<td>arn:aws:ec2:region:account:instance/*</td>
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<td>arn:aws:ec2:region:account:instance/instance-id</td>
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<td>aws:RequestTag/tag-key</td>
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<td>Internet gateway</td>
<td>arn:aws:ec2:region:account:internet-gateway/*</td>
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<td>aws:RequestTag/tag-key</td>
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<td>Resource</td>
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<tr>
<td>NAT gateway</td>
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<td><code>arn:aws:ec2:region:account:natgateway/natgateway-id</code></td>
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<tr>
<td>Reserved Instance</td>
<td><code>arn:aws:ec2:region:account:reserved-instances/*</code></td>
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<td><code>arn:aws:ec2:region:account:reserved-instances/reservation-id</code></td>
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<td>ec2:Tenancy</td>
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<td>Resource</td>
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<td><code>aws:TagKeys</code></td>
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<tr>
<td>Route table</td>
<td>arn:aws:ec2:region:account:route-table/*</td>
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<td><code>aws:TagKeys</code></td>
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<td>arn:aws:ec2:region:account:security-group/</td>
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<td><code>aws:RequestTag/tag-key</code></td>
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<td><code>aws:TagKeys</code></td>
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<tr>
<td>Snapshot</td>
<td>arn:aws:ec2:region::snapshot/*</td>
<td><code>ec2:CreateAction</code></td>
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<td>arn:aws:ec2:region::snapshot/snapshot-id</td>
<td><code>ec2:Owner</code></td>
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<td><code>ec2:ParentVolume</code></td>
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<td><code>ec2:VolumeSize</code></td>
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<td><code>aws:TagKeys</code></td>
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<td>Spot Instance request</td>
<td>arn:aws:ec2:region:account:spot-instances-</td>
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<td>request/*</td>
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<td>request/spot-instance-request-id</td>
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<tr>
<td>Resource</td>
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<td>aws:RequestTag/tag-key</td>
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<td>arn:aws:ec2:region:account:subnet/subnet-id</td>
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<td>arn:aws:ec2:region:account:volume/volume-id</td>
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<td></td>
<td>arn:aws:ec2:region:account:vpc/vpc-id</td>
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</table>
### Resource

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<th>Resource</th>
<th>ARN Format</th>
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</tr>
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<tbody>
<tr>
<td>VPN connection</td>
<td>arn:aws:ec2:region:account:vpn-connection/*</td>
<td>ec2:CreateAction</td>
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<td></td>
<td>ec2:ResourceTag/tag-key</td>
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<td>aws:RequestTag/tag-key</td>
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<td>aws:TagKeys</td>
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<tr>
<td>VPN gateway</td>
<td>arn:aws:ec2:region:account:vpn-gateway/*</td>
<td>ec2:CreateAction</td>
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<tr>
<td></td>
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<td>ec2:ResourceTag/tag-key</td>
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<td>aws:RequestTag/tag-key</td>
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<td></td>
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<td>aws:TagKeys</td>
</tr>
<tr>
<td><strong>Action:</strong> DeleteTags (p. 266)</td>
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<td></td>
</tr>
<tr>
<td>Amazon FPGA image (AFI)</td>
<td>arn:aws:ec2:region:account:fpga-image/*</td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:RequestTag/tag-key</td>
</tr>
<tr>
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<td>aws:TagKeys</td>
</tr>
<tr>
<td>DHCP options set</td>
<td>arn:aws:ec2:region:account:dhcp-options/*</td>
<td>ec2:Region</td>
</tr>
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<td></td>
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<td>aws:RequestTag/tag-key</td>
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<td>Image</td>
<td>arn:aws:ec2:region::image/*</td>
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</tr>
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<td>arn:aws:ec2:region::image/image-id</td>
<td>ec2:ResourceTag/tag-key</td>
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<td>aws:RequestTag/tag-key</td>
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<td>aws:TagKeys</td>
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<td>Resource</td>
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<tr>
<td>Instance</td>
<td>arn:aws:ec2:region:account:instance/*</td>
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<tr>
<td></td>
<td>arn:aws:ec2:region:account:instance/instance-id</td>
<td>ec2:ResourceTag/tag-key</td>
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<td>aws:RequestTag/tag-key</td>
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<td>aws:TagKeys</td>
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<tr>
<td>Internet gateway</td>
<td>arn:aws:ec2:region:account:internet-gateway/*</td>
<td>ec2:Region</td>
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<td>aws:RequestTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:TagKeys</td>
</tr>
<tr>
<td>Launch template</td>
<td>arn:aws:ec2:region:account:launch-template/*</td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:RequestTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:TagKeys</td>
</tr>
<tr>
<td>NAT gateway</td>
<td>arn:aws:ec2:region:account:network-acl/*</td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:RequestTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:TagKeys</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:RequestTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:TagKeys</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:RequestTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:TagKeys</td>
</tr>
<tr>
<td>Resource</td>
<td>ARN Format</td>
<td>Condition Keys</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Reserved Instance</td>
<td>arn:aws:ec2:region:account:reserved-instances/*</td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2:region:account:reserved-instances/reservation-id</td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:RequestTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:TagKeys</td>
</tr>
<tr>
<td>Route table</td>
<td>arn:aws:ec2:region:account:route-table/*</td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:RequestTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:TagKeys</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:RequestTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:TagKeys</td>
</tr>
<tr>
<td>Snapshot</td>
<td>arn:aws:ec2:region::snapshot/*</td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2:region::snapshot/snapshot-id</td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:RequestTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:TagKeys</td>
</tr>
<tr>
<td>Spot Instance request</td>
<td>arn:aws:ec2:region:account:spot-instances-request/*</td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:RequestTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:TagKeys</td>
</tr>
<tr>
<td>Subnet</td>
<td>arn:aws:ec2:region:account:subnet/*</td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:RequestTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aws:TagKeys</td>
</tr>
</tbody>
</table>
## Volumes

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
</table>

**Volumes**

**Action:** AttachVolume (p. 58)

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource</td>
<td>ARN Format</td>
<td>Condition Keys</td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>----------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:RootDeviceType</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:Tenancy</td>
</tr>
<tr>
<td>Volume</td>
<td>arn:aws:ec2:region:account:volume/*</td>
<td>ec2:AvailabilityZone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:ParentSnapshot</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:VolumeIops</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:VolumeSize</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:VolumeType</td>
</tr>
</tbody>
</table>

**Action:** CreateVolume (p. 188)

| Volume   | arn:aws:ec2:region:account:volume/* | ec2:AvailabilityZone |
|          |                                        | ec2:Encrypted |
|          |                                        | ec2:ParentSnapshot |
|          |                                        | ec2:Region      |
|          |                                        | ec2:VolumeIops  |
|          |                                        | ec2:VolumeSize  |
|          |                                        | ec2:VolumeType  |
|          |                                        | aws:RequestTag/tag-key |
|          |                                        | aws:TagKeys     |

**Action:** DeleteVolume (p. 269)
<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action: DetachVolume (p. 589)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Snapshots

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action:</strong> CreateSnapshot (p. 176)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Snapshot</strong></td>
<td>arn:aws:ec2:<em>::snapshot/</em></td>
<td>ec2:ParentVolume, ec2:Region, aws:RequestTag/tag-key, aws:TagKeys</td>
</tr>
<tr>
<td><strong>Action:</strong> DeleteSnapshot (p. 260)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Action:</strong> ModifySnapshotAttribute (p. 683)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### VPCs

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
</table>
| **Action:** DisableVpcClassicLink (p. 596) | **VPC**
  - `arn:aws:ec2:region:account:vpc/*`
  - `arn:aws:ec2:region:account:vpc/vpc-id`
  - `ec2:Region`
  - `ec2:ResourceTag/tag-key`
  - `ec2:Tenancy`
|                  | **VPC**
  - `arn:aws:ec2:region:account:vpc/*`
  - `arn:aws:ec2:region:account:vpc/vpc-id`
  - `ec2:Region`
  - `ec2:ResourceTag/tag-key`
  - `ec2:Tenancy`

### VPC Peering Connections

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
</table>
| **Action:** AcceptVpcPeeringConnection (p. 22) | **VPC**
  - `arn:aws:ec2:region:account:vpc/*`
  - `arn:aws:ec2:region:account:vpc/vpc-id`
  - `ec2:Region`
  - `ec2:ResourceTag/tag-key`
  - `ec2:Tenancy`
|                  | **VPC peering connection**
  - `ec2:AccepterVpc`
  - `ec2:Region`
  - `ec2:ResourceTag/tag-key`
  - `ec2:RequesterVpc`
|                  | **Action:** CreateVpcPeeringConnection (p. 208) | **VPC**
  - `arn:aws:ec2:region:account:vpc/*`
  - `arn:aws:ec2:region:account:vpc/vpc-id`
  - `ec2:Region`
  - `ec2:ResourceTag/tag-key`
  - `ec2:Tenancy`
|                  | **VPC peering connection**
  - `ec2:AccepterVpc`
  - `ec2:Region`
Unsupported Resource-Level Permissions

All Amazon EC2 actions can be used in an IAM policy to either grant or deny users permission to use that action. However, not all Amazon EC2 actions support resource-level permissions, which enable you to specify the resources on which an action can be performed. The following Amazon EC2 API actions currently do not support resource-level permissions; therefore, to use these actions in an IAM policy, you must grant users permission to use all resources for the action by using a * wildcard for the `Resource` element in your statement. All Amazon EC2 actions support the `ec2:Region` condition key; however, you cannot use other Amazon EC2 condition keys for these actions. For examples, see Example Policies for CLI or SDK.

- AcceptReservedInstancesExchangeQuote
- AcceptVpcEndpointConnections
- AllocateAddress
- AllocateHosts
- AssignIpv6Addresses
- AssignPrivateIpAddresses
- AssociateAddress
- AssociateDhcpOptions
- AssociateRouteTable
- AssociateSubnetCidrBlock
- AssociateVpcCidrBlock
- AttachInternetGateway
- AttachNetworkInterface
- AttachVpnGateway
- BundleInstance
- CancelBundleTask
• CancelConversionTask
• CancelExportTask
• CancelImportTask
• CancelReservedInstancesListing
• CancelSpotFleetRequests
• CancelSpotInstanceRequests
• ConfirmProductInstance
• CopyFpgaImage
• CopyImage
• CopySnapshot
• CreateCustomerGateway
• CreateDefaultSubnet
• CreateDefaultVpc
• CreateDhcpOptions
• CreateEgressOnlyInternetGateway
• CreateFlowLogs
• CreateFpgaImage
• CreateImage
• CreateInstanceExportTask
• CreateInternetGateway
• CreateKeyPair
• CreateLaunchTemplate
• CreateNatGateway
• CreateNetworkAcl
• CreateNetworkAclEntry
• CreateNetworkInterface
• CreatePlacementGroup
• CreateReservedInstancesListing
• CreateRouteTable
• CreateSecurityGroup
• CreateSpotDatafeedSubscription
• CreateSubnet
• CreateVpc
• CreateVpcEndpoint
• CreateVpcEndpointConnectionNotification
• CreateVpcEndpointServiceConfiguration
• CreateVpnConnection
• CreateVpnConnectionRoute
• CreateVpnGateway
• DeleteEgressOnlyInternetGateway
• DeleteFlowLogs
• DeleteFpgaImage
• DeleteKeyPair
• DeleteNatGateways
• DeleteNetworkInterface
• DeleteNetworkInterfacePermission
• DeletePlacementGroup
• DeleteSpotDatafeedSubscription
• DeleteSubnet
• DeleteVpc
• DeleteVpcEndpointConnectionNotifications
• DeleteVpcEndpointServiceConfigurations
• DeleteVpcEndpoints
• DeleteVpnConnection
• DeleteVpnConnectionRoute
• DeleteVpnGateway
• DeregisterImage
• DescribeAccountAttributes
• DescribeAddresses
• DescribeAggregateIdFormat
• DescribeAvailabilityZones
• DescribeBundleTasks
• DescribeClassicLinkInstances
• DescribeConversionTasks
• DescribeCustomerGateways
• DescribeDhcpOptions
• DescribeEgressOnlyInternetGateways
• DescribeElasticGpus
• DescribeExportTasks
• DescribeFlowLogs
• DescribeFpgaImageAttribute
• DescribeFpgaImages
• DescribeHosts
• DescribeIamInstanceProfileAssociations
• DescribeIdentityIdFormat
• DescribeIdFormat
• DescribeImageAttribute
• DescribeImages
• DescribeImportImageTasks
• DescribeImportSnapshotTasks
• DescribeInstanceAttribute
• DescribeInstanceCreditSpecifications
• DescribeInstances
• DescribeInstanceStatus
• DescribeInternetGateways
• DescribeKeyPairs
• DescribeLaunchTemplates
• DescribeLaunchTemplateVersions
• DescribeMovingAddresses
• DescribeNatGateways
• DescribeNetworkAcls
• DescribeNetworkInterfaceAttribute
Unsupported Resource-Level Permissions

- DescribeNetworkInterfacePermissions
- DescribeNetworkInterfaces
- DescribePlacementGroups
- DescribePrefixLists
- DescribePrincipalIdFormat
- DescribeRegions
- DescribeReservedInstances
- DescribeReservedInstancesListings
- DescribeReservedInstancesModifications
- DescribeReservedInstancesOfferings
- DescribeRouteTables
- DescribeScheduledInstanceAvailability
- DescribeScheduledInstances
- DescribeSecurityGroupReferences
- DescribeSecurityGroups
- DescribeSnapshotAttribute
- DescribeSnapshots
- DescribeSpotDatafeedSubscription
- DescribeSpotFleetInstances
- DescribeSpotFleetRequestHistory
- DescribeSpotFleetRequests
- DescribeSpotInstanceRequests
- DescribeSpotPriceHistory
- DescribeStaleSecurityGroups
- DescribeSubnets
- DescribeTags
- DescribeVolumeAttribute
- DescribeVolumes
- DescribeVolumesModifications
- DescribeVolumeStatus
- DescribeVpcAttribute
- DescribeVpcClassicLink
- DescribeVpcClassicLinkDnsSupport
- DescribeVpcEndpointConnectionNotifications
- DescribeVpcEndpointConnections
- DescribeVpcEndpoints
- DescribeVpcEndpointServiceConfigurations
- DescribeVpcEndpointServicePermissions
- DescribeVpcEndpointServices
- DescribeVpcPeeringConnections
- DescribeVpcs
- DescribeVpnConnections
- DescribeVpnGateways
- DetachInternetGateway
- DetachNetworkInterface
- DetachVpnGateway
Unsupported Resource-Level Permissions

- DisableVgwRoutePropagation
- DisableVpcClassicLinkDnsSupport
- DisassociateAddress
- DisassociateRouteTable
- DisassociateSubnetCidrBlock
- DisassociateVpcCidrBlock
- EnableVgwRoutePropagation
- EnableVolumeIo
- EnableVpcClassicLinkDnsSupport
- GetConsoleOutput
- GetHostReservationPurchasePreview
- GetLaunchTemplateData
- GetPasswordData
- GetReservedInstancesExchangeQuote
- ImportImage
- ImportInstance
- ImportKeyPair
- ImportSnapshot
- importVolume
- ModifyFpgalImageAttribute
- ModifyHosts
- ModifyIdentityIdFormat
- ModifyKeyIdFormat
- ModifyImageAttribute
- ModifyInstanceAttribute
- ModifyInstanceCreditSpecification
- ModifyInstancePlacement
- ModifyNetworkInterfaceAttribute
- ModifyReservedInstances
- ModifySpotFleetRequest
- ModifySubnetAttribute
- ModifyVolume
- ModifyVolumeAttribute
- ModifyVpcAttribute
- ModifyVpcEndpoint
- ModifyVpcEndpointConnectionNotification
- ModifyVpcEndpointServiceConfiguration
- ModifyVpcEndpointServicePermissions
- ModifyVpcPeeringConnectionOptions
- ModifyVpcTenancy
- MonitorInstances
- MoveAddressToVpc
- PurchaseHostReservation
- PurchaseReservedInstancesOffering
- PurchaseScheduledInstances
- RegisterImage
Unsupported Resource-Level Permissions

- RejectVpcEndpointConnections
- ReleaseAddress
- ReleaseHosts
- ReplaceNetworkAclAssociation
- ReplaceNetworkAclEntry
- ReplaceRouteTableAssociation
- ReportInstanceStatus
- RequestSpotFleet
- RequestSpotInstances
- ResetFpgaImageAttribute
- ResetImageAttribute
- ResetInstanceAttribute
- ResetNetworkInterfaceAttribute
- ResetSnapshotAttribute
- RestoreAddressToClassic
- RunScheduledInstances
- UnassignIpv6Addresses
- UnassignPrivateIpAddresses
- UnmonitorInstances
Error Codes

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 Errors (p. 1302)
- Client Errors for Specific Actions (p. 1304)
- Server Errors (p. 1328)
- Example Error Response (p. 1328)
- Eventual Consistency (p. 1329)

Common Client Errors

This section lists the common client errors that all 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 may not be authorized to carry out the request; for example, associating 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 the Amazon EC2 service, that your credit card details are correct, and that you are using the correct access keys.</td>
</tr>
<tr>
<td>Blocked</td>
<td>Your account is currently blocked. Contact <a href="mailto:aws-verification@amazon.com">aws-verification@amazon.com</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>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidClientTokenId</td>
<td>The X.509 certificate or AWS access key ID provided does 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>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>MalformedQueryStringLength</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 either a valid (registered) AWS access key ID or X.509 certificate.</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>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>
</tbody>
</table>
### Error Code

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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 <a href="https://docs.aws.amazon.com/IAM/latest/UserGuide/id_roles_providers:gpg.html">Temporary Security Credentials</a> in the IAM User Guide.</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 access keys. For more information, see <a href="https://docs.aws.amazon.com/IAM/latest/UserGuide/id_roles_providers.html">Controlling Access</a>. If the returned message is encoded, you can decode it using the <a href="https://docs.aws.amazon.com/AWSSecurityTokenService/latest/APIReference/API_DecodeAuthorizationMessage.html">DecodeAuthorizationMessage</a> action. For more information, see <a href="https://docs.aws.amazon.com/AWSSecurityTokenService/latest/APIReference/API_DecodeAuthorizationMessage.html">DecodeAuthorizationMessage</a> in the <a href="https://docs.aws.amazon.com/AWSSecurityTokenService/latest/APIReference/">AWS Security Token Service API Reference</a>.</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 [SOAP Requests](<a href="https://docs.aws.amazon.com/AWSRequesterSecurity/latest/dg/s3">https://docs.aws.amazon.com/AWSRequesterSecurity/latest/dg/s3</a> Soap-Requests.html).</td>
</tr>
<tr>
<td>ValidationException</td>
<td>The input fails to satisfy the constraints specified by an AWS service.</td>
</tr>
</tbody>
</table>

### Client Errors 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>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>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="https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/elastic-ip-addresses-manage-limits.html">Elastic IP Address Limit</a>. If you need additional Elastic IP addresses, complete</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</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 Amazon EBS Volume Types.</td>
</tr>
<tr>
<td>BundlingInProgress</td>
<td>The specified instance already has a bundling EBS 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 Amazon EC2 Security Groups.</td>
</tr>
<tr>
<td>CidrConflict</td>
<td>You cannot enable a VPC for ClassicLink or extend a VPC peering connection to use the ClassicLink connection of a peer VPC if the VPC has routing that conflicts with the EC2-Classic private IP address range.</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>CustomerGatewayLimitExceeded</td>
<td>You've reached the limit on the number of customer gateways you can create for the region. For more information, see Amazon VPC Limits. To request an increase on your customer gateway limit, complete the Amazon VPC Limits form.</td>
</tr>
<tr>
<td>CustomerKeyHasBeenRevoked</td>
<td>The customer master key cannot be accessed. For more information, see Amazon EBS Encryption.</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>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>DefaultVpcAlreadyExists</td>
<td>A default VPC already exists in the 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="https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/creating-a-default-vpc.html">Creating 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>DisallowedForDedicatedTenancyNetwork</td>
<td>Dedicated tenancy VPCs cannot be used with ClassicLink. If you want to allow your dedicated tenancy VPC to be enabled for ClassicLink, contact AWS Support.</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>EIPMigratedToVpc</td>
<td>The Elastic IP address has been migrated to EC2-VPC, and cannot be used in EC2-Classic.</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 <a href="https://docs.aws.amazon.com/AmazonEBS/latest/UserGuide/EC2-Volumes-Encryption.html">Amazon EBS encryption</a> in the Amazon EC2 User Guide for Linux Instances.</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 <a href="https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/iam-iam-how-to-change-spot-fleet.html">Modifying a Spot Fleet Request</a>.</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 <a href="https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/vpc-limits.html">Amazon VPC Limits</a>.</td>
</tr>
<tr>
<td>FilterLimitExceeded</td>
<td>The request uses too many filters or too many filter values.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
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</tr>
<tr>
<td><code>Gateway.NotAttached</code></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><code>HostAlreadyCoveredByReservation</code></td>
<td>The specified Dedicated Host is already covered by a reservation.</td>
</tr>
<tr>
<td><code>HostLimitExceeded</code></td>
<td>You've reached the limit on the number of Dedicated Hosts that you can allocate. For more information, see Dedicated Hosts.</td>
</tr>
<tr>
<td><code>IdempotentInstanceTerminated</code></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><code>InaccessibleStorageLocation</code></td>
<td>The specified Amazon S3 URL cannot be accessed. Check the access permissions for the URL.</td>
</tr>
<tr>
<td><code>IncorrectInstanceState</code></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><code>IncorrectState</code></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. Ensure 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><code>IncompatibleHostRequirements</code></td>
<td>There are no available or compatible Dedicated Hosts available on which to launch or start the instance.</td>
</tr>
<tr>
<td><code>InstanceAlreadyLinked</code></td>
<td>The EC2-Classic instance you are trying to link is already linked to another VPC. You cannot link an EC2-Classic instance to more than one VPC at a time.</td>
</tr>
<tr>
<td><code>InstanceCreditSpecification.NotSupported</code></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><code>InstanceLimitExceeded</code></td>
<td>You've reached the limit on the number of instances you can run concurrently. The limit depends on the instance type. For more information, see How many instances can I run in Amazon EC2. If you need additional instances, complete the Amazon EC2 Instance Request Form.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
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<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>InsufficientFreeAddressesInSubnet</td>
<td>The specified subnet does not contain enough free private IP addresses to fulfill your request. Use the DescribeSubnets 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>InternetGatewayLimitExceeded</td>
<td>You've reached the limit on the number of internet gateways that you can create. For more information, see Amazon VPC Limits. To request an increase on the internet gateway limit, complete the Amazon VPC Limits form.</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 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 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 region in which the IP address is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidAMIAtributeItemValue</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>InvalidAMIID.Malformed</td>
<td>The specified AMI ID is malformed. Ensure that you provide the full AMI ID, in the form ami-xxxxxxxxx.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
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</tr>
<tr>
<td>InvalidAMIID.NotFound</td>
<td>The specified AMI does not exist. Check the AMI ID, and ensure that you specify the 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.</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: ( ) . - / _</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 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>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 region in which the bundle task 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>InvalidClientToken</td>
<td>The specified client token is not valid. For more information, see Client Tokens (p. 1252).</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-xxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidCpuCredits.Malformed</td>
<td>The specified CpuCredit value is invalid. Valid values are standard and unlimited.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
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</tr>
<tr>
<td>InvalidCustomerGateway.DuplicateIpAddress</td>
<td>There is a conflict among the specified gateway IP addresses. Each VPN connection in a region must be created with a unique customer gateway IP address (across all AWS accounts). For more information, see Your Customer Gateway in the Amazon VPC Network Administrator Guide.</td>
</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 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 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>InvalidDevice.InUse</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 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 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>InvalidExportTaskID.NotFound</td>
<td>The specified export task ID cannot be found.</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. Ensure that you have indicated the region in which the flow log is located, if it's not in the default region.</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-xxxxxxxxxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidFpgaImageID.NotFound</td>
<td>The specified Amazon FPGA image (AFI) ID does not exist. Ensure that you specify the region in which the AFI is located, if it's not in the default region.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
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</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, or the same region (EC2-Classic).</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 sg-xxxxxxxx.</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 Eventual Consistency (p. 1250).</td>
</tr>
<tr>
<td></td>
<td>You can't specify a security group that is in a different 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. You also cannot delete the default EC2-Classic security group, but you can change its rules. For more information, see Amazon EC2 Security Groups.</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 h-xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx.</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 h-xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx.</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>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-xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
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<td>---------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</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-xxxxxxxxxxxxxxxxxx.</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 Amazon Resource Names (ARNs) and AWS Service Namespaces.</td>
</tr>
<tr>
<td>InvalidID</td>
<td>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, &quot;Name=TestTag&quot;.</td>
</tr>
<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>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>InvalidInstanceID</td>
<td>This error commonly occurs when trying to associate an IP address with an instance that is not in the 'running' state. This error can also occur when trying to perform an operation on an instance that has multiple network interfaces.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>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-xxxxxxxxxxxxxxxxxx.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
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<td>----------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidInstanceID.NotFound</td>
<td>The specified instance does not exist. Ensure that you have indicated the region in which the instance is located, if it's not in the default region. This error may occur because the ID of a recently created instance has not propagated through the system. For more information, see Eventual Consistency (p. 1250).</td>
</tr>
<tr>
<td>InvalidInstanceID.NotLinkable</td>
<td>The specified instance cannot be linked to the specified VPC. Ensure that the instance is an EC2-Classic instance. 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>InvalidInstanceFamily</td>
<td>The instance family for the Dedicated Host Reservation offering is different from the instance family of the Dedicated Hosts.</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 about the maximum number of private IP addresses per elastic network interface, see Private IP addresses per Elastic 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-xxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidInternetGatewayID.NotFound</td>
<td>The specified internet gateway does not exist. Ensure that you specify the 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>InvalidKernelId.Malformed</td>
<td>The specified kernel ID is not valid. Ensure that you specify the kernel ID in the form aki-xxxxxxxxx.</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 region. If you are creating or importing a key pair, ensure that you use a unique name.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
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</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 region in which the key pair is located, if it’s not in the default region.</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-xxxxxxxxxxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidLaunchTemplateId.NotFound</td>
<td>The specified launch template ID does not exist. Ensure that you specify the region in which the launch template is located.</td>
</tr>
<tr>
<td>InvalidLaunchTemplateId.VersionNotFound</td>
<td>The specified launch template version does not exist.</td>
</tr>
<tr>
<td>InvalidLaunchTemplateName.AlreadyExists</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 125 characters, and may contain letters, numbers, and the following characters: ()/_-.</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 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 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-xxxxxxxx.</td>
</tr>
<tr>
<td>InvalidNetworkAclID.NotFound</td>
<td>The specified network ACL does not exist. Ensure that you specify the region in which the network ACL is located, if it’s not in the default region.</td>
</tr>
<tr>
<td>InvalidNetworkLoadBalancerArn.NotFound</td>
<td>The specified Network Load Balancer ARN does not exist.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidNetworkInterfaceAttachmentId.Malformed</td>
<td>The network interface attachment is malformed. Ensure that you use the attachment ID rather than the network interface ID, in the form eni-attach-xxxxxxxx.</td>
</tr>
<tr>
<td>InvalidNetworkInterface.InUse</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 InvalidParameterValue error.</td>
</tr>
<tr>
<td>InvalidNetworkInterfaceId.Malformed</td>
<td>The specified network interface ID is malformed. Ensure that you specify the network interface ID in the form eni-xxxxxxxx.</td>
</tr>
<tr>
<td>InvalidNetworkInterfaceId.NotFound</td>
<td>The specified network interface does not exist. Ensure that you specify the region in which the network interface is located, if it's not in the default region.</td>
</tr>
<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, 203.0.113.0/24.</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 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 region in which the placement group is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidPolicyDocument</td>
<td>The specified policy document is not a valid JSON policy document.</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-xxxxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidPrefixListId.NotFound</td>
<td>The specified prefix list ID does not exist. Ensure that you have indicated the region for the service, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidProductInfo</td>
<td>(AWS Marketplace) The product code is not valid.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
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<td>-----------------------------------------------------------------------------</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 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>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-xxxxxxxx.</td>
</tr>
<tr>
<td>InvalidRouteTableID.NotFound</td>
<td>The specified route table does not exist. Ensure that you specify the 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-xxxxxxxx.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidSecurityGroupId.NotFound</td>
<td>The specified security group does not exist. If you are creating a network interface, ensure that you specify a VPC security group, and not an EC2-Classic security group.</td>
</tr>
<tr>
<td>InvalidSecurity.RequestHasExpired</td>
<td>The difference between the request time stamp 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 DescribeVpcEndpointServices.</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 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>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 Spot Fleet Limits.</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 sfr- followed by 36 characters, including hyphens; for example, sfr-123f8fc2-11aa-22bb-33cc-example12710.</td>
</tr>
<tr>
<td>InvalidSpotFleetRequestId.NotFound</td>
<td>The specified Spot Fleet request ID does not exist. Ensure that you specify the 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 sir-xxxxxxxxx.</td>
</tr>
<tr>
<td>InvalidSpotInstanceRequestID.NotFound</td>
<td>The specified Spot Instance request ID does not exist. Ensure that you specify the region in which the Spot instance request is located, if it's not in the default region.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>------------------------------------------------------------------------------</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>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-xxxxxxxx</td>
</tr>
<tr>
<td>InvalidSubnetIdNotFound</td>
<td>The specified subnet does not exist. Ensure that you have indicated the region in which the subnet is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidSubnetIDNotFound</td>
<td>The specified subnet does not exist. Ensure that you have indicated the region in which the subnet is located, if it's not in the default region.</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 IAM user, IAM role, or root user 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 time stamp is not valid.</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>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>------------------------------------------------------------------------------</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. Ensure that you have indicated the region in which the volume is located, if it's not in the default region. Ensure that you are using the correct access credentials.</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>InvalidVpcEndpointId.Malformed</td>
<td>The specified VPC endpoint ID is malformed. Use the full VPC endpoint ID in the request, in the form vpce-xxxxxxxx.</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.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.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. Valid values are Interface and Gateway.</td>
</tr>
<tr>
<td>InvalidVpcID.Malformed</td>
<td>The specified VPC ID is malformed. Ensure that you've specified the ID in the form vpc-xxxxxxxx.</td>
</tr>
<tr>
<td>InvalidVpcID.NotFound</td>
<td>The specified VPC does not exist. Ensure that you have indicated the region in which the VPC is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidVpcPeeringConnectionId.Malformed</td>
<td>The specified VPC peering connection ID is malformed. Ensure that you provide the ID in the form pcx-xxxxxxxx.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
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<td>------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidVpcPeeringConnectionID.NotFound</td>
<td>The specified VPC peering connection ID does not exist. Ensure that you have indicated the region in which the VPC peering connection is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidVpcPeeringConnectionState.DnsHostnamesDisabled</td>
<td>To enable DNS hostname resolution for the VPC peering connection, DNS hostname support must be enabled for the VPCs.</td>
</tr>
<tr>
<td>InvalidVpcRange</td>
<td>The specified CIDR block range is not valid. The block range must be between a /28 netmask and /16 netmask. For more information, see Your VPC and Subnets.</td>
</tr>
<tr>
<td>InvalidVpcState</td>
<td>The specified VPC already has a virtual private gateway attached to it.</td>
</tr>
<tr>
<td>InvalidVpnConnectionID</td>
<td>The specified VPN connection ID cannot be found. Ensure that you have indicated the region in which the VPN connection ID is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidVpnConnectionID.NotFound</td>
<td>The specified VPN connection ID does not exist. Ensure that you have indicated the region in which the VPN connection ID is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidVpnConnection.InvalidState</td>
<td>The VPN connection must be in the available state to complete the request.</td>
</tr>
<tr>
<td>InvalidVpnConnection.InvalidType</td>
<td>The specified VPN connection does not support static routes.</td>
</tr>
<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. Ensure that you have indicated the region in which the virtual private gateway is located, if it's not in the default region.</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 DescribeAvailabilityZones request to list the Availability Zones that are currently available to you. Ensure that you have indicated the region for the Availability Zone in the request, if it's not in the default region. Specify the full name of the Availability Zone: for example, us-east-1a.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
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<td>------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>KeyPairLimitExceeded</td>
<td>You've reached the limit on the number of key pairs that you can have in this 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>LogDestinationPermissionIssue</td>
<td>You do not have sufficient permissions to publish flow logs to the specific Amazon S3 bucket.</td>
</tr>
<tr>
<td>MaxIOPSLimitExceeded</td>
<td>You've reached the limit on your IOPS usage for that region. To increase your volume limit, complete the Amazon EC2 EBS Volume Limit Form.</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 region (the target capacity). For more information, see Spot Fleet Limits.</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 How many instances can I run in Amazon EC2. If you need additional instances, complete the Amazon EC2 Instance Request Form.</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>MaxTemplateVersionLimitExceeded</td>
<td>You've reached the limit on the number of launch template versions you can create. For more information, see Launch Template Restrictions.</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 Amazon VPC Limits.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</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 nat-xxxxxxxxxxxxxxxxx.</td>
</tr>
<tr>
<td>NatGatewayNotFound</td>
<td>The specified NAT gateway does not exist. Ensure that you have indicated the region in which the NAT gateway is located, if it's not in the default region.</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 Amazon VPC Limits.</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 Amazon VPC Limits. To request an increase on your network ACL limit, complete the Amazon VPC Limits form.</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 Amazon VPC Limits.</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 instances that were previously imported into Amazon EC2. For more information, see Exporting EC2 Instances</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>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>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</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 about the maximum number of private IP addresses per elastic network interface, see Private IP addresses per ENI.</td>
</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 bid 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>ReservedInstancesCountExceeded</td>
<td>You've reached the limit for the number of Reserved Instances.</td>
</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>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</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>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 Amazon VPC Limits.</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. The limit depends on whether you are using EC2-Classic or EC2-VPC. For more information, see Security Group Rules.</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. The limit depends on whether you are using EC2-Classic or EC2-VPC. For more information, see Creating Your Own Security Groups.</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. The limit depends on whether you are using EC2-Classic or EC2-VPC. For more information, see Amazon EC2 Security Groups.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</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="https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/vpc-limits.html">Amazon VPC Limits</a>.</td>
</tr>
<tr>
<td>SignatureDoesNotMatch</td>
<td>The request signature that Amazon has does not match the signature that you provided. Check your AWS access keys and signing method.</td>
</tr>
<tr>
<td>SnapshotCopyUnsupported.InterRegion</td>
<td>Inter-region snapshot copy is not supported for this 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. To request an increase on your snapshot limit, complete the <a href="https://console.aws.amazon.com/ec2/home#VolumeLimits">Amazon EC2 EBS Volume Limit Form</a>.</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 about subnet limits, see <a href="https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/vpc-limits.html">Amazon VPC Limits</a>. To request an increase on your subnet limit, complete the <a href="https://console.aws.amazon.com/ec2/home#SubnetLimits">Amazon VPC Limits form</a>.</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 <a href="https://docs.aws.amazon.com/AWSEC2/latest/APIReference/index.html">Tag Restrictions</a>.</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>UnknownPrincipalType.Unsupported</td>
<td>The principal type is not supported. The principal must be an IAM user, IAM role, or the root user for the AWS account.</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>UnsupportedHostConfiguration</td>
<td>The specified Dedicated Host configuration is unsupported. For more information about supported configurations, see <a href="https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ud-dedicated-hosts.html">Dedicated Hosts</a>.</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/dedicated-hosts/pricing/">Amazon EC2 Dedicated Hosts Pricing</a></td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</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>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 Amazon EBS Volume Types.</td>
</tr>
<tr>
<td>VolumeLimitExceeded</td>
<td>You've reached the limit on your Amazon EBS volume storage. To request an increase, complete the Amazon EC2 EBS Volume Limit Form.</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>VpcCidrConflict</td>
<td>You cannot enable a VPC for ClassicLink if the VPC has routing that conflicts with the EC2-Classic private IP address range of 10/8; for example, if your VPC's route table points to 10.0.0.0/16 for a VPC peering connection. This excludes local routes for VPCs in the 10.0.0.0/16 and 10.1.0.0/16 IP address ranges. For more information, see Routing for Classic Link.</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 region. For more information about VPC limits, see Amazon VPC Limits. To request an increase on your VPC limit, complete the Amazon VPC Limits form.</td>
</tr>
<tr>
<td>VpcLimitExceeded</td>
<td>You've reached the limit on the number of VPCs that you can create in the region. For more information about VPC limits, see Amazon VPC Limits. To request an increase on your VPC limit, complete the Amazon VPC Limits form.</td>
</tr>
<tr>
<td>VpcPeeringConnectionAlreadyExists</td>
<td>A VPC peering connection between the VPCs already exists.</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 Limits.</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 regions. If you are specifying a resource that's located in a region other than the default region (us-east-1), 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-xxxxxxxx`.

- **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 [Controlling Access](#) in the [Amazon EC2 User Guide for Linux Instances](#).

- **Check your VPC**: Some resources cannot be shared between VPCs; for example, security groups.

- **Check your credentials**: Ensure that you provide your access keys when you are making requests; that you have entered the credentials correctly; and, if you have more than one account, that you are using the correct credentials for a particular account. If the provided credentials are incorrect, you may get the following error: `Client.AuthFailure`.

---

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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 about limits, see <a href="#">Amazon VPC Limits</a>. To request an increase on your VPN connection limit, complete the <a href="#">Amazon VPC Limits form</a>.</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 <a href="#">Amazon VPC Limits</a>. To request an increase on your virtual private gateway limit, complete the <a href="#">Amazon VPC Limits form</a>.</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>
Server Errors

This section lists server errors that can be returned.

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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>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 instance request. 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>
<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>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 (p. 1250).</td>
</tr>
<tr>
<td>ServiceUnavailable</td>
<td>The request has failed due to a temporary failure of the server.</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.
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 (p. 1250).