
AWS Cloud9
API Reference
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AWS Cloud9: API Reference

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Welcome

AWS Cloud9 is a collection of tools that you can use to code, build, run, test, debug, and release software in the cloud.

For more information about AWS Cloud9, see the [AWS Cloud9 User Guide](#).

AWS Cloud9 supports these operations:

- `CreateEnvironmentEC2`: Creates an AWS Cloud9 development environment, launches an Amazon EC2 instance, and then connects from the instance to the environment.
- `CreateEnvironmentMembership`: Adds an environment member to an environment.
- `DeleteEnvironment`: Deletes an environment. If an Amazon EC2 instance is connected to the environment, also terminates the instance.
- `DeleteEnvironmentMembership`: Deletes an environment member from an environment.
- `DescribeEnvironmentMemberships`: Gets information about environment members for an environment.
- `DescribeEnvironments`: Gets information about environments.
- `DescribeEnvironmentStatus`: Gets status information for an environment.
- `ListEnvironments`: Gets a list of environment identifiers.
- `UpdateEnvironment`: Changes the settings of an existing environment.
- `UpdateEnvironmentMembership`: Changes the settings of an existing environment member for an environment.

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Actions

The following actions are supported:

- [CreateEnvironmentEC2](#) (p. 3)
- [CreateEnvironmentMembership](#) (p. 7)
- [DeleteEnvironment](#) (p. 11)
- [DeleteEnvironmentMembership](#) (p. 14)
- [DescribeEnvironmentMemberships](#) (p. 17)
- [DescribeEnvironments](#) (p. 23)
- [DescribeEnvironmentStatus](#) (p. 26)
- [ListEnvironments](#) (p. 29)
- [UpdateEnvironment](#) (p. 32)
- [UpdateEnvironmentMembership](#) (p. 35)

CreateEnvironmentEC2

Creates an AWS Cloud9 development environment, launches an Amazon Elastic Compute Cloud (Amazon EC2) instance, and then connects from the instance to the environment.

Request Syntax

```
{
  "automaticStopTimeMinutes": number,
  "clientRequestToken": "string",
  "description": "string",
  "instanceType": "string",
  "name": "string",
  "ownerArn": "string",
  "subnetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 44).

The request accepts the following data in JSON format.

automaticStopTimeMinutes (p. 3)

The number of minutes until the running instance is shut down after the environment has last been used.

Type: Integer

Valid Range: Maximum value of 20160.

Required: No

clientRequestToken (p. 3)

A unique, case-sensitive string that helps AWS Cloud9 to ensure this operation completes no more than one time.

For more information, see [Client Tokens](#) in the *Amazon EC2 API Reference*.

Type: String

Pattern: `[\x20-\x7E]{10,128}`

Required: No

description (p. 3)

The description of the environment to create.

Type: String

Length Constraints: Maximum length of 200.

Required: No

instanceType (p. 3)

The type of instance to connect to the environment (for example, `t2.micro`).

Type: String

Length Constraints: Minimum length of 5. Maximum length of 20.

Pattern: `^[a-z][1-9][.][a-z0-9]+$`

Required: Yes

[name \(p. 3\)](#)

The name of the environment to create.

This name is visible to other AWS IAM users in the same AWS account.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 60.

Required: Yes

[ownerArn \(p. 3\)](#)

The Amazon Resource Name (ARN) of the environment owner. This ARN can be the ARN of any AWS IAM principal. If this value is not specified, the ARN defaults to this environment's creator.

Type: String

Pattern: `arn:aws:(iam|sts)::\d+:(root|user|federated-user|assumed-role)\/?\S*`

Required: No

[subnetId \(p. 3\)](#)

The ID of the subnet in Amazon VPC that AWS Cloud9 will use to communicate with the Amazon EC2 instance.

Type: String

Length Constraints: Minimum length of 5. Maximum length of 30.

Required: No

Response Syntax

```
{  
  "environmentId": "string"  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

[environmentId \(p. 4\)](#)

The ID of the environment that was created.

Type: String

Pattern: `^[a-zA-Z0-9]{8,32}$`

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 46\)](#).

BadRequestException

The target request is invalid.

HTTP Status Code: 400

ConflictException

A conflict occurred.

HTTP Status Code: 400

ForbiddenException

An access permissions issue occurred.

HTTP Status Code: 400

InternalServerErrorException

An internal server error occurred.

HTTP Status Code: 500

LimitExceededException

A service limit was exceeded.

HTTP Status Code: 400

NotFoundException

The target resource cannot be found.

HTTP Status Code: 400

TooManyRequestsException

Too many service requests were made over the given time period.

HTTP Status Code: 400

Example

The following example creates an AWS Cloud9 development environment with the specified settings.

Sample Request

```
POST / HTTP/1.1
Host: cloud9.us-east-2.amazonaws.com
Accept-Encoding: identity
Content-Type: application/x-amz-json-1.1
User-Agent: aws-cli/1.14.29 Python/3.5.2 Windows/10 botocore/1.8.33
X-Amz-Date: 20180123T224817Z
Content-Length: ...
Authorization: AWS4-HMAC-SHA256 Credential=AKIAJ32OEXAMPLE/20180123/us-east-2/
cloud9/aws4_request, SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=6d4c1a32EXAMPLE
```

```
X-Amz-Target: AWSCloud9WorkspaceManagementService.CreateEnvironmentEC2

{
  "ownerArn": "arn:aws:iam::123456789012:user/MyDemoUser",
  "name": "my-demo-environment",
  "automaticStopTimeMinutes": 60,
  "description": "This is my demonstration environment.",
  "instanceType": "t2.micro",
  "subnetId": "subnet-1fab8aEX"
}
```

Sample Response

```
HTTP/1.1 200 OK
Date: Tue, 23 Jan 2018 22:48:20 GMT
Content-Type: application/x-amz-json-1.1
Content-Length: 52
x-amzn-RequestId: 814f962e-008f-11e8-9a37-1ba143abb2EX
Connection: Keep-alive

{
  "environmentId": "8d9967e2f0624182b74e7690ad69ebEX"
}
```

See Also

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

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

CreateEnvironmentMembership

Adds an environment member to an AWS Cloud9 development environment.

Request Syntax

```
{  
  "environmentId": "string",  
  "permissions": "string",  
  "userArn": "string"  
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 44\)](#).

The request accepts the following data in JSON format.

[environmentId \(p. 7\)](#)

The ID of the environment that contains the environment member you want to add.

Type: String

Pattern: `^[a-zA-Z0-9]{8,32}$`

Required: Yes

[permissions \(p. 7\)](#)

The type of environment member permissions you want to associate with this environment member. Available values include:

- `read-only`: Has read-only access to the environment.
- `read-write`: Has read-write access to the environment.

Type: String

Valid Values: `read-write | read-only`

Required: Yes

[userArn \(p. 7\)](#)

The Amazon Resource Name (ARN) of the environment member you want to add.

Type: String

Pattern: `arn:aws:(iam|sts)::\d+:(root|user|federated-user|assumed-role)\/?\S*`

Required: Yes

Response Syntax

```
{  
  "membership": {
```

```
"environmentId": "string",  
"lastAccess": number,  
"permissions": "string",  
"userArn": "string",  
"userId": "string"  
}  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

membership (p. 7)

Information about the environment member that was added.

Type: [EnvironmentMember \(p. 42\)](#) object

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 46\)](#).

BadRequestException

The target request is invalid.

HTTP Status Code: 400

ConflictException

A conflict occurred.

HTTP Status Code: 400

ForbiddenException

An access permissions issue occurred.

HTTP Status Code: 400

InternalServerErrorException

An internal server error occurred.

HTTP Status Code: 500

LimitExceededException

A service limit was exceeded.

HTTP Status Code: 400

NotFoundException

The target resource cannot be found.

HTTP Status Code: 400

TooManyRequestsException

Too many service requests were made over the given time period.

HTTP Status Code: 400

Example

The following example adds the specified environment member to the specified AWS Cloud9 development environment.

Sample Request

```
POST / HTTP/1.1
Host: cloud9.us-east-2.amazonaws.com
Accept-Encoding: identity
Content-Type: application/x-amz-json-1.1
X-Amz-Date: 20180123T231127Z
User-Agent: aws-cli/1.14.29 Python/3.5.2 Windows/10 botocore/1.8.33
X-Amz-Target: AWSCloud9WorkspaceManagementService.CreateEnvironmentMembership
Content-Length: ...
Authorization: AWS4-HMAC-SHA256 Credential=AKIAJ32OEXAMPLE/20180123/us-east-2/
cloud9/aws4_request, SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=bb140cb4EXAMPLE

{
  "environmentId": "8d9967e2f0624182b74e7690ad69ebEX",
  "permissions": "read-write",
  "userArn": "arn:aws:iam::123456789012:user/AnotherDemoUser"
}
```

Sample Response

```
HTTP/1.1 200 OK
Date: Tue, 23 Jan 2018 23:11:30 GMT
Content-Type: application/x-amz-json-1.1
Content-Length: 186
x-amzn-RequestId: beecb831-0092-11e8-84fe-c19e871c26EX
Connection: Keep-alive

{
  "membership": {
    "environmentId": "8d9967e2f0624182b74e7690ad69ebEX",
    "permissions": "read-write",
    "userArn": "arn:aws:iam::123456789012:user/AnotherDemoUser",
    "userId": "AIDAJ3BA6O2FMJWCWXHEX"
  }
}
```

See Also

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

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Go - Pilot](#)
- [AWS SDK for Java](#)

- [AWS SDK for JavaScript](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V2](#)

DeleteEnvironment

Deletes an AWS Cloud9 development environment. If an Amazon EC2 instance is connected to the environment, also terminates the instance.

Request Syntax

```
{  
  "environmentId": "string"  
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 44\)](#).

The request accepts the following data in JSON format.

environmentId (p. 11)

The ID of the environment to delete.

Type: String

Pattern: `^[a-zA-Z0-9]{8,32}$`

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 46\)](#).

BadRequestException

The target request is invalid.

HTTP Status Code: 400

ConflictException

A conflict occurred.

HTTP Status Code: 400

ForbiddenException

An access permissions issue occurred.

HTTP Status Code: 400

InternalServerErrorException

An internal server error occurred.

HTTP Status Code: 500

LimitExceededException

A service limit was exceeded.

HTTP Status Code: 400

NotFoundException

The target resource cannot be found.

HTTP Status Code: 400

TooManyRequestsException

Too many service requests were made over the given time period.

HTTP Status Code: 400

Example

The following example deletes the specified AWS Cloud9 development environment.

Sample Request

```
POST / HTTP/1.1
Host: cloud9.us-east-2.amazonaws.com
Accept-Encoding: identity
Authorization: AWS4-HMAC-SHA256 Credential=AKIAJ32OEXAMPLE/20180123/us-east-2/
cloud9/aws4_request, SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=25619c96EXAMPLE
X-Amz-Target: AWSCloud9WorkspaceManagementService.DeleteEnvironment
User-Agent: aws-cli/1.14.29 Python/3.5.2 Windows/10 botocore/1.8.33
X-Amz-Date: 20180123T232227Z
Content-Type: application/x-amz-json-1.1
Content-Length: 53

{
  "environmentId": "8d9967e2f0624182b74e7690ad69ebEX"
}
```

Sample Response

```
HTTP/1.1 200 OK
Date: Tue, 23 Jan 2018 23:22:29 GMT
Content-Type: application/x-amz-json-1.1
Content-Length: 2
x-amzn-RequestId: 47682ed5-0094-11e8-9118-55255722b4EX
Connection: Keep-alive

{}
```

See Also

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

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Go - Pilot](#)
- [AWS SDK for Java](#)
- [AWS SDK for JavaScript](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V2](#)

DeleteEnvironmentMembership

Deletes an environment member from an AWS Cloud9 development environment.

Request Syntax

```
{  
  "environmentId": "string",  
  "userArn": "string"  
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 44\)](#).

The request accepts the following data in JSON format.

environmentId (p. 14)

The ID of the environment to delete the environment member from.

Type: String

Pattern: `^[a-zA-Z0-9]{8,32}$`

Required: Yes

userArn (p. 14)

The Amazon Resource Name (ARN) of the environment member to delete from the environment.

Type: String

Pattern: `arn:aws:(iam|sts)::\d+:(root|user|federated-user|assumed-role)\/?\S*`

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 46\)](#).

BadRequestException

The target request is invalid.

HTTP Status Code: 400

ConflictException

A conflict occurred.

HTTP Status Code: 400

ForbiddenException

An access permissions issue occurred.

HTTP Status Code: 400

InternalServerErrorException

An internal server error occurred.

HTTP Status Code: 500

LimitExceededException

A service limit was exceeded.

HTTP Status Code: 400

NotFoundException

The target resource cannot be found.

HTTP Status Code: 400

TooManyRequestsException

Too many service requests were made over the given time period.

HTTP Status Code: 400

Example

The following example deletes the specified environment member from the specified AWS Cloud9 development environment.

Sample Request

```
POST / HTTP/1.1
Host: cloud9.us-east-2.amazonaws.com
Accept-Encoding: identity
X-Amz-Target: AWSCloud9WorkspaceManagementService.DeleteEnvironmentMembership
User-Agent: aws-cli/1.14.29 Python/3.5.2 Windows/10 botocore/1.8.33
Authorization: AWS4-HMAC-SHA256 Credential=AKIAJ32OEXAMPLE/20180123/us-east-2/
cloud9/aws4_request, SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=3c6bbcb8EXAMPLE
Content-Type: application/x-amz-json-1.1
X-Amz-Date: 20180123T231959Z
Content-Length: ...

{
  "userArn": "arn:aws:iam::123456789012:user/AnotherDemoUser",
  "environmentId": "8d9967e2f0624182b74e7690ad69ebEX"
}
```

Sample Response

```
HTTP/1.1 200 OK
Date: Tue, 23 Jan 2018 23:20:00 GMT
Content-Type: application/x-amz-json-1.1
Content-Length: 2
x-amzn-RequestId: eef3d67a-0093-11e8-a800-95fabd28ffEX
```

```
Connection: Keep-alive
```

```
{}
```

See Also

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

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

DescribeEnvironmentMemberships

Gets information about environment members for an AWS Cloud9 development environment.

Request Syntax

```
{  
  "environmentId": "string",  
  "maxResults": number,  
  "nextToken": "string",  
  "permissions": [ "string" ],  
  "userArn": "string"  
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 44\)](#).

The request accepts the following data in JSON format.

environmentId (p. 17)

The ID of the environment to get environment member information about.

Type: String

Pattern: `^[a-zA-Z0-9]{8,32}$`

Required: No

maxResults (p. 17)

The maximum number of environment members to get information about.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 25.

Required: No

nextToken (p. 17)

During a previous call, if there are more than 25 items in the list, only the first 25 items are returned, along with a unique string called a *next token*. To get the next batch of items in the list, call this operation again, adding the next token to the call. To get all of the items in the list, keep calling this operation with each subsequent next token that is returned, until no more next tokens are returned.

Type: String

Required: No

permissions (p. 17)

The type of environment member permissions to get information about. Available values include:

- `owner`: Owns the environment.
- `read-only`: Has read-only access to the environment.
- `read-write`: Has read-write access to the environment.

If no value is specified, information about all environment members are returned.

Type: Array of strings

Valid Values: `owner` | `read-write` | `read-only`

Required: No

[userArn \(p. 17\)](#)

The Amazon Resource Name (ARN) of an individual environment member to get information about. If no value is specified, information about all environment members are returned.

Type: String

Pattern: `arn:aws:(iam|sts)::\d+:(root|user|federated-user|assumed-role)\/?\S*`

Required: No

Response Syntax

```
{
  "memberships": [
    {
      "environmentId": "string",
      "lastAccess": number,
      "permissions": "string",
      "userArn": "string",
      "userId": "string"
    }
  ],
  "nextToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

[memberships \(p. 18\)](#)

Information about the environment members for the environment.

Type: Array of [EnvironmentMember \(p. 42\)](#) objects

[nextToken \(p. 18\)](#)

If there are more than 25 items in the list, only the first 25 items are returned, along with a unique string called a *next token*. To get the next batch of items in the list, call this operation again, adding the next token to the call.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 46\)](#).

BadRequestException

The target request is invalid.

HTTP Status Code: 400

ConflictException

A conflict occurred.

HTTP Status Code: 400

ForbiddenException

An access permissions issue occurred.

HTTP Status Code: 400

InternalServerErrorException

An internal server error occurred.

HTTP Status Code: 500

LimitExceededException

A service limit was exceeded.

HTTP Status Code: 400

NotFoundException

The target resource cannot be found.

HTTP Status Code: 400

TooManyRequestsException

Too many service requests were made over the given time period.

HTTP Status Code: 400

Examples

Get Environment Members for an AWS Cloud9 Development Environment

The following example gets information about all of the environment members for the specified AWS Cloud9 development environment.

Sample Request

```
POST / HTTP/1.1
Host: cloud9.us-east-2.amazonaws.com
Accept-Encoding: identity
X-Amz-Target: AWSCloud9WorkspaceManagementService.DescribeEnvironmentMemberships
Content-Type: application/x-amz-json-1.1
X-Amz-Date: 20180123T231253Z
User-Agent: aws-cli/1.14.29 Python/3.5.2 Windows/10 botocore/1.8.33
Authorization: AWS4-HMAC-SHA256 Credential=AKIAJ32OEXAMPLE/20180123/us-east-2/
cloud9/aws4_request, SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=50dbf72dEXAMPLE
Content-Length: 53
```

```
{
  "environmentId": "8d9967e2f0624182b74e7690ad69ebEX"
}
```

Sample Response

```
HTTP/1.1 200 OK
Date: Tue, 23 Jan 2018 23:12:55 GMT
Content-Type: application/x-amz-json-1.1
Content-Length: 350
x-amzn-RequestId: f1680001-0092-11e8-a65b-093e8a557dEX
Connection: Keep-alive

{
  "memberships": [
    {
      "environmentId": "8d9967e2f0624182b74e7690ad69ebEX",
      "permissions": "read-write",
      "userArn": "arn:aws:iam::123456789012:user/AnotherDemoUser",
      "userId": "AIDAJ3BA6O2FMJWCWXHEX"
    },
    {
      "environmentId": "8d9967e2f0624182b74e7690ad69ebEX",
      "permissions": "owner",
      "userArn": "arn:aws:iam::123456789012:user/MyDemoUser",
      "userId": "AIDAJNUEDQAQWFELJDLEX"
    }
  ]
}
```

Get the Owner of an AWS Cloud9 Development Environment

The following example gets information about the owner of the specified AWS Cloud9 development environment.

Sample Request

```
POST / HTTP/1.1
Host: cloud9.us-east-2.amazonaws.com
Accept-Encoding: identity
Content-Type: application/x-amz-json-1.1
User-Agent: aws-cli/1.14.29 Python/3.5.2 Windows/10 botocore/1.8.33
X-Amz-Date: 20180123T231350Z
X-Amz-Target: AWSCloud9WorkspaceManagementService.DescribeEnvironmentMemberships
Authorization: AWS4-HMAC-SHA256 Credential=AKIAJ32OEXAMPLE/20180123/us-east-2/cloud9/aws4_request, SignedHeaders=content-type;host;x-amz-date;x-amz-target, Signature=94ccc4d0EXAMPLE
Content-Length: 79

{
  "permissions": [
    "owner"
  ],
  "environmentId": "8d9967e2f0624182b74e7690ad69ebEX"
}
```

Sample Response

```
HTTP/1.1 200 OK
```



```
Date: Tue, 23 Jan 2018 23:13:51 GMT
Content-Type: application/x-amz-json-1.1
Content-Length: ...
x-amzn-RequestId: 13328344-0093-11e8-9118-55255722b4EX
Connection: Keep-alive

{
  "memberships": [
    {
      "environmentId": "8d9967e2f0624182b74e7690ad69ebEX",
      "permissions": "owner",
      "userArn": "arn:aws:iam::123456789012:user/MyDemoUser",
      "userId": "AIDAJNUEDQAQWFELJDLEX"
    }
  ]
}
```

Get AWS Cloud9 Development Environment Memberships for a User

The following example gets AWS Cloud9 development environment membership information for the specified user.

Sample Request

```
POST / HTTP/1.1
Host: cloud9.us-east-2.amazonaws.com
Accept-Encoding: identity
Content-Type: application/x-amz-json-1.1
X-Amz-Target: AWSCloud9WorkspaceManagementService.DescribeEnvironmentMemberships
X-Amz-Date: 20180123T231447Z
Authorization: AWS4-HMAC-SHA256 Credential=AKIAJ32OEXAMPLE/20180123/us-east-2/cloud9/aws4_request, SignedHeaders=content-type;host;x-amz-date;x-amz-target, Signature=112ae541EXAMPLE
Content-Length: 55
User-Agent: aws-cli/1.14.29 Python/3.5.2 Windows/10 botocore/1.8.33

{
  "userArn": "arn:aws:iam::123456789012:user/MyDemoUser"
}
```

Sample Response

```
HTTP/1.1 200 OK
Date: Tue, 23 Jan 2018 23:14:48 GMT
Content-Type: application/x-amz-json-1.1
Content-Length: 1118
x-amzn-RequestId: 34d50be5-0093-11e8-a7e1-d3b8935decEX
Connection: Keep-alive

{
  "memberships": [
    {
      "environmentId": "10a75714bd494714929e7f5ec4125aEX",
      "lastAccess": 1.516403173E9,
      "permissions": "owner",
      "userArn": "arn:aws:iam::123456789012:user/MyDemoUser",
      "userId": "AIDAJNUEDQAQWFELJDLEX"
    },
    {
      "environmentId": "12bfc3cd537f41cb9776f8af5525c9EX",

```

```
"lastAccess": 1.516405159E9,  
"permissions": "owner",  
"userArn": "arn:aws:iam::123456789012:user/MyDemoUser",  
"userId": "AIDAJNUEDQAQWFELJDLEX"  
  }  
]  
}
```

See Also

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

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

DescribeEnvironments

Gets information about AWS Cloud9 development environments.

Request Syntax

```
{  
  "environmentIds": [ "string" ]  
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 44).

The request accepts the following data in JSON format.

[environmentIds](#) (p. 23)

The IDs of individual environments to get information about.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 25 items.

Pattern: `^[a-zA-Z0-9]{8,32}$`

Required: Yes

Response Syntax

```
{  
  "environments": [  
    {  
      "arn": "string",  
      "description": "string",  
      "id": "string",  
      "name": "string",  
      "ownerArn": "string",  
      "type": "string"  
    }  
  ]  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

[environments](#) (p. 23)

Information about the environments that are returned.

Type: Array of [Environment](#) (p. 40) objects

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 46\)](#).

BadRequestException

The target request is invalid.

HTTP Status Code: 400

ConflictException

A conflict occurred.

HTTP Status Code: 400

ForbiddenException

An access permissions issue occurred.

HTTP Status Code: 400

InternalServerErrorException

An internal server error occurred.

HTTP Status Code: 500

LimitExceededException

A service limit was exceeded.

HTTP Status Code: 400

NotFoundException

The target resource cannot be found.

HTTP Status Code: 400

TooManyRequestsException

Too many service requests were made over the given time period.

HTTP Status Code: 400

Example

The following example gets information about the specified AWS Cloud9 development environments.

Sample Request

```
POST / HTTP/1.1
Host: cloud9.us-east-2.amazonaws.com
Accept-Encoding: identity
X-Amz-Date: 20180123T225030Z
Content-Length: 92
Authorization: AWS4-HMAC-SHA256 Credential=AKIAJ32OEXAMPLE/20180123/us-east-2/
cloud9/aws4_request, SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=ca32a303EXAMPLE
Content-Type: application/x-amz-json-1.1
X-Amz-Target: AWSCloud9WorkspaceManagementService.DescribeEnvironments
```

```
User-Agent: aws-cli/1.14.29 Python/3.5.2 Windows/10 botocore/1.8.33

{
  "environmentIds": [
    "8d9967e2f0624182b74e7690ad69ebEX",
    "349c86d4579e4e7298d500ff57a6b2EX"
  ]
}
```

Sample Response

```
HTTP/1.1 200 OK
Date: Tue, 23 Jan 2018 22:50:31 GMT
Content-Type: application/x-amz-json-1.1
Content-Length: ...
x-amzn-RequestId: d06763f8-008f-11e8-801f-9b144f0315EX
Connection: Keep-alive

{
  "environments": [
    {
      "arn": "arn:aws:cloud9:us-east-2:123456789012:environment:8d9967e2f0624182b74e7690ad69ebEX",
      "description": "This is my demonstration environment.",
      "id": "8d9967e2f0624182b74e7690ad69ebEX",
      "name": "my-demo-environment",
      "ownerArn": "arn:aws:iam::123456789012:user/MyDemoUser",
      "type": "ec2"
    },
    {
      "arn": "arn:aws:cloud9:us-east-2:123456789012:environment:349c86d4579e4e7298d500ff57a6b2EX",
      "id": "349c86d4579e4e7298d500ff57a6b2EX",
      "name": "another-demo-environment",
      "ownerArn": "arn:aws:sts::123456789012:assumed-role/AnotherDemoUser/AnotherDemoUser",
      "type": "ssh"
    }
  ]
}
```

See Also

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

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

DescribeEnvironmentStatus

Gets status information for an AWS Cloud9 development environment.

Request Syntax

```
{  
  "environmentId": "string"  
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 44\)](#).

The request accepts the following data in JSON format.

environmentId (p. 26)

The ID of the environment to get status information about.

Type: String

Pattern: `^[a-zA-Z0-9]{8,32}$`

Required: Yes

Response Syntax

```
{  
  "message": "string",  
  "status": "string"  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

message (p. 26)

Any informational message about the status of the environment.

Type: String

status (p. 26)

The status of the environment. Available values include:

- `connecting`: The environment is connecting.
- `creating`: The environment is being created.
- `deleting`: The environment is being deleted.
- `error`: The environment is in an error state.

- `ready`: The environment is ready.
- `stopped`: The environment is stopped.
- `stopping`: The environment is stopping.

Type: String

Valid Values: `error` | `creating` | `connecting` | `ready` | `stopping` | `stopped` | `deleting`

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 46\)](#).

BadRequestException

The target request is invalid.

HTTP Status Code: 400

ConflictException

A conflict occurred.

HTTP Status Code: 400

ForbiddenException

An access permissions issue occurred.

HTTP Status Code: 400

InternalServerErrorException

An internal server error occurred.

HTTP Status Code: 500

LimitExceededException

A service limit was exceeded.

HTTP Status Code: 400

NotFoundException

The target resource cannot be found.

HTTP Status Code: 400

TooManyRequestsException

Too many service requests were made over the given time period.

HTTP Status Code: 400

Example

The following example gets status information about the specified AWS Cloud9 development environment.

Sample Request

```
POST / HTTP/1.1
Host: cloud9.us-east-2.amazonaws.com
Accept-Encoding: identity
X-Amz-Date: 20180123T225304Z
X-Amz-Target: AWSCloud9WorkspaceManagementService.DescribeEnvironmentStatus
User-Agent: aws-cli/1.14.29 Python/3.5.2 Windows/10 botocore/1.8.33
Authorization: AWS4-HMAC-SHA256 Credential=AKIAJ32OEXAMPLE/20180123/us-east-2/
cloud9/aws4_request, SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=5e458ca5EXAMPLE
Content-Length: 53
Content-Type: application/x-amz-json-1.1

{
  "environmentId": "8d9967e2f0624182b74e7690ad69ebEX"
}
```

Sample Response

```
HTTP/1.1 200 OK
Date: Tue, 23 Jan 2018 22:53:07 GMT
Content-Type: application/x-amz-json-1.1
Content-Length: 58
x-amzn-RequestId: 2cd6dfae-0090-11e8-a542-51fd7a14e1EX
Connection: Keep-alive

{
  "message": "Environment is ready to use",
  "status": "ready"
}
```

See Also

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

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

ListEnvironments

Gets a list of AWS Cloud9 development environment identifiers.

Request Syntax

```
{  
  "maxResults": number,  
  "nextToken": "string"  
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 44\)](#).

The request accepts the following data in JSON format.

maxResults (p. 29)

The maximum number of environments to get identifiers for.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 25.

Required: No

nextToken (p. 29)

During a previous call, if there are more than 25 items in the list, only the first 25 items are returned, along with a unique string called a *next token*. To get the next batch of items in the list, call this operation again, adding the next token to the call. To get all of the items in the list, keep calling this operation with each subsequent next token that is returned, until no more next tokens are returned.

Type: String

Required: No

Response Syntax

```
{  
  "environmentIds": [ "string" ],  
  "nextToken": "string"  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

environmentIds (p. 29)

The list of environment identifiers.

Type: Array of strings

Pattern: `^[a-zA-Z0-9]{8,32}$`

[nextToken \(p. 29\)](#)

If there are more than 25 items in the list, only the first 25 items are returned, along with a unique string called a *next token*. To get the next batch of items in the list, call this operation again, adding the next token to the call.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 46\)](#).

BadRequestException

The target request is invalid.

HTTP Status Code: 400

ConflictException

A conflict occurred.

HTTP Status Code: 400

ForbiddenException

An access permissions issue occurred.

HTTP Status Code: 400

InternalServerErrorException

An internal server error occurred.

HTTP Status Code: 500

LimitExceededException

A service limit was exceeded.

HTTP Status Code: 400

NotFoundException

The target resource cannot be found.

HTTP Status Code: 400

TooManyRequestsException

Too many service requests were made over the given time period.

HTTP Status Code: 400

Example

The following example gets the IDs of available AWS Cloud9 development environments.

Sample Request

```
POST / HTTP/1.1
Host: cloud9.us-east-2.amazonaws.com
Accept-Encoding: identity
X-Amz-Target: AWSCloud9WorkspaceManagementService.ListEnvironments
Authorization: AWS4-HMAC-SHA256 Credential=AKIAJ32OEXAMPLE/20180123/us-east-2/
cloud9/aws4_request, SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=17a00c64EXAMPLE
X-Amz-Date: 20180123T223531Z
User-Agent: aws-cli/1.14.29 Python/3.5.2 Windows/10 botocore/1.8.33
Content-Type: application/x-amz-json-1.1
Content-Length: 2

{}
```

Sample Response

```
HTTP/1.1 200 OK
Date: Tue, 23 Jan 2018 22:35:34 GMT
Content-Type: application/x-amz-json-1.1
Content-Length: 230
x-amzn-RequestId: b9b13fd3-008d-11e8-a65b-093e8a557dEX
Connection: Keep-alive

{
  "environmentIds": [
    "349c86d4579e4e7298d500ff57a6b2EX",
    "45a3da47af0840f2b0c0824f5ee232EX"
  ]
}
```

See Also

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

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

UpdateEnvironment

Changes the settings of an existing AWS Cloud9 development environment.

Request Syntax

```
{  
  "description": "string",  
  "environmentId": "string",  
  "name": "string"  
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters \(p. 44\)](#).

The request accepts the following data in JSON format.

[description \(p. 32\)](#)

Any new or replacement description for the environment.

Type: String

Length Constraints: Maximum length of 200.

Required: No

[environmentId \(p. 32\)](#)

The ID of the environment to change settings.

Type: String

Pattern: `^[a-zA-Z0-9]{8,32}$`

Required: Yes

[name \(p. 32\)](#)

A replacement name for the environment.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 60.

Required: No

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 46\)](#).

BadRequestException

The target request is invalid.

HTTP Status Code: 400

ConflictException

A conflict occurred.

HTTP Status Code: 400

ForbiddenException

An access permissions issue occurred.

HTTP Status Code: 400

InternalServerErrorException

An internal server error occurred.

HTTP Status Code: 500

LimitExceededException

A service limit was exceeded.

HTTP Status Code: 400

NotFoundException

The target resource cannot be found.

HTTP Status Code: 400

TooManyRequestsException

Too many service requests were made over the given time period.

HTTP Status Code: 400

Example

The following example changes information about the specified AWS Cloud9 development environment.

Sample Request

```
POST / HTTP/1.1
Host: cloud9.us-east-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 140
X-Amz-Date: 20180123T232132Z
User-Agent: aws-cli/1.14.29 Python/3.5.2 Windows/10 botocore/1.8.33
X-Amz-Target: AWSCloud9WorkspaceManagementService.UpdateEnvironment
Authorization: AWS4-HMAC-SHA256 Credential=AKIAJ32OEXAMPLE/20180123/us-east-2/
cloud9/aws4_request, SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=280d6dbaEXAMPLE
Content-Type: application/x-amz-json-1.1

{
  "name": "my-changed-demo-environment",
  "description": "This is my changed demonstration environment.",
}
```

```
"environmentId": "8d9967e2f0624182b74e7690ad69ebEX"  
}
```

Sample Response

```
HTTP/1.1 200 OK  
Date: Tue, 23 Jan 2018 23:21:33 GMT  
Content-Type: application/x-amz-json-1.1  
Content-Length: 2  
x-amzn-RequestId: 26985f72-0094-11e8-abf2-0b9c8171c5EX  
Connection: Keep-alive  
  
{}
```

See Also

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

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

UpdateEnvironmentMembership

Changes the settings of an existing environment member for an AWS Cloud9 development environment.

Request Syntax

```
{  
  "environmentId": "string",  
  "permissions": "string",  
  "userArn": "string"  
}
```

Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](#) (p. 44).

The request accepts the following data in JSON format.

environmentId (p. 35)

The ID of the environment for the environment member whose settings you want to change.

Type: String

Pattern: `^[a-zA-Z0-9]{8,32}$`

Required: Yes

permissions (p. 35)

The replacement type of environment member permissions you want to associate with this environment member. Available values include:

- `read-only`: Has read-only access to the environment.
- `read-write`: Has read-write access to the environment.

Type: String

Valid Values: `read-write | read-only`

Required: Yes

userArn (p. 35)

The Amazon Resource Name (ARN) of the environment member whose settings you want to change.

Type: String

Pattern: `arn:aws:(iam|sts)::\d+:(root|user|federated-user|assumed-role)\/?\S*`

Required: Yes

Response Syntax

```
{  
  "membership": {
```

```
"environmentId": "string",  
"lastAccess": number,  
"permissions": "string",  
"userArn": "string",  
"userId": "string"  
}  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

[membership \(p. 35\)](#)

Information about the environment member whose settings were changed.

Type: [EnvironmentMember \(p. 42\)](#) object

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 46\)](#).

BadRequestException

The target request is invalid.

HTTP Status Code: 400

ConflictException

A conflict occurred.

HTTP Status Code: 400

ForbiddenException

An access permissions issue occurred.

HTTP Status Code: 400

InternalServerErrorException

An internal server error occurred.

HTTP Status Code: 500

LimitExceededException

A service limit was exceeded.

HTTP Status Code: 400

NotFoundException

The target resource cannot be found.

HTTP Status Code: 400

TooManyRequestsException

Too many service requests were made over the given time period.

HTTP Status Code: 400

Example

The following example changes membership status of the specified environment member for the specified AWS Cloud9 development environment.

Sample Request

```
POST / HTTP/1.1
Host: cloud9.us-east-2.amazonaws.com
Accept-Encoding: identity
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256 Credential=AKIAJ32OEXAMPLE/20180123/us-east-2/
cloud9/aws4_request, SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=f65b7aadEXAMPLE
User-Agent: aws-cli/1.14.29 Python/3.5.2 Windows/10 botocore/1.8.33
Content-Length: 142
X-Amz-Target: AWSCloud9WorkspaceManagementService.UpdateEnvironmentMembership
X-Amz-Date: 20180123T231840Z

{
  "userArn": "arn:aws:iam::123456789012:user/AnotherDemoUser",
  "permissions": "read-only",
  "environmentId": "8d9967e2f0624182b74e7690ad69ebEX"
}
```

Sample Response

```
HTTP/1.1 200 OK
Date: Tue, 23 Jan 2018 23:18:41 GMT
Content-Type: application/x-amz-json-1.1
Content-Length: 185
x-amzn-RequestId: c015da39-0093-11e8-87b5-3915a8b12eEX
Connection: Keep-alive

{
  "membership": {
    "environmentId": "8d9967e2f0624182b74e7690ad69eb31",
    "permissions": "read-only",
    "userArn": "arn:aws:iam::123456789012:user/AnotherDemoUser",
    "userId": "AIDAJ3BA6O2FMJWCXHEX"
  }
}
```

See Also

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

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Go - Pilot](#)
- [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 AWS Cloud9 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:

- [Environment](#) (p. 40)
- [EnvironmentMember](#) (p. 42)

Environment

Information about an AWS Cloud9 development environment.

Contents

arn

The Amazon Resource Name (ARN) of the environment.

Type: String

Required: No

description

The description for the environment.

Type: String

Length Constraints: Maximum length of 200.

Required: No

id

The ID of the environment.

Type: String

Pattern: `^[a-zA-Z0-9]{8,32}$`

Required: No

name

The name of the environment.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 60.

Required: No

ownerArn

The Amazon Resource Name (ARN) of the environment owner.

Type: String

Required: No

type

The type of environment. Valid values include the following:

- `ec2`: An Amazon Elastic Compute Cloud (Amazon EC2) instance connects to the environment.
- `ssh`: Your own server connects to the environment.

Type: String

Valid Values: `ssh | ec2`

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Go - Pilot](#)
- [AWS SDK for Java](#)
- [AWS SDK for Ruby V2](#)

EnvironmentMember

Information about an environment member for an AWS Cloud9 development environment.

Contents

environmentId

The ID of the environment for the environment member.

Type: String

Pattern: `^[a-zA-Z0-9]{8,32}$`

Required: No

lastAccess

The time, expressed in epoch time format, when the environment member last opened the environment.

Type: Timestamp

Required: No

permissions

The type of environment member permissions associated with this environment member. Available values include:

- `owner`: Owns the environment.
- `read-only`: Has read-only access to the environment.
- `read-write`: Has read-write access to the environment.

Type: String

Valid Values: `owner | read-write | read-only`

Required: No

userArn

The Amazon Resource Name (ARN) of the environment member.

Type: String

Pattern: `arn:aws:(iam|sts)::\d+:(root|user|federated-user|assumed-role)\/?\S*`

Required: No

userId

The user ID in AWS Identity and Access Management (AWS IAM) of the environment member.

Type: String

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Go - Pilot](#)
- [AWS SDK for Java](#)
- [AWS SDK for Ruby V2](#)

Common Parameters

The following list contains the parameters that all actions use for signing Signature Version 4 requests with a query string. Any action-specific parameters are listed in the topic for that action. For more information about Signature Version 4, see [Signature Version 4 Signing Process](#) in the *Amazon Web Services General Reference*.

Action

The action to be performed.

Type: string

Required: Yes

Version

The API version that the request is written for, expressed in the format YYYY-MM-DD.

Type: string

Required: Yes

X-Amz-Algorithm

The hash algorithm that you used to create the request signature.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Valid Values: `AWS4-HMAC-SHA256`

Required: Conditional

X-Amz-Credential

The credential scope value, which is a string that includes your access key, the date, the region you are targeting, the service you are requesting, and a termination string ("aws4_request"). The value is expressed in the following format: `access_key/YYYYMMDD/region/service/aws4_request`.

For more information, see [Task 2: Create a String to Sign for Signature Version 4](#) in the *Amazon Web Services General Reference*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

X-Amz-Date

The date that is used to create the signature. The format must be ISO 8601 basic format (YYYYMMDD'THHMMSS'Z'). For example, the following date time is a valid X-Amz-Date value: `20120325T120000Z`.

Condition: X-Amz-Date is optional for all requests; it can be used to override the date used for signing requests. If the Date header is specified in the ISO 8601 basic format, X-Amz-Date is

not required. When X-Amz-Date is used, it always overrides the value of the Date header. For more information, see [Handling Dates in Signature Version 4](#) in the *Amazon Web Services General Reference*.

Type: string

Required: Conditional

X-Amz-Security-Token

The temporary security token that was obtained through a call to AWS Security Token Service (AWS STS). For a list of services that support temporary security credentials from AWS Security Token Service, go to [AWS Services That Work with IAM](#) in the *IAM User Guide*.

Condition: If you're using temporary security credentials from the AWS Security Token Service, you must include the security token.

Type: string

Required: Conditional

X-Amz-Signature

Specifies the hex-encoded signature that was calculated from the string to sign and the derived signing key.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

X-Amz-SignedHeaders

Specifies all the HTTP headers that were included as part of the canonical request. For more information about specifying signed headers, see [Task 1: Create a Canonical Request For Signature Version 4](#) in the *Amazon Web Services General Reference*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

Common Errors

This section lists the errors common to the API actions of all AWS services. For errors specific to an API action for this service, see the topic for that API action.

AccessDeniedException

You do not have sufficient access to perform this action.

HTTP Status Code: 400

IncompleteSignature

The request signature does not conform to AWS standards.

HTTP Status Code: 400

InternalFailure

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

InvalidAction

The action or operation requested is invalid. Verify that the action is typed correctly.

HTTP Status Code: 400

InvalidClientTokenId

The X.509 certificate or AWS access key ID provided does not exist in our records.

HTTP Status Code: 403

InvalidParameterCombination

Parameters that must not be used together were used together.

HTTP Status Code: 400

InvalidParameterValue

An invalid or out-of-range value was supplied for the input parameter.

HTTP Status Code: 400

InvalidQueryParameter

The AWS query string is malformed or does not adhere to AWS standards.

HTTP Status Code: 400

MalformedQueryString

The query string contains a syntax error.

HTTP Status Code: 404

MissingAction

The request is missing an action or a required parameter.

HTTP Status Code: 400

MissingAuthenticationToken

The request must contain either a valid (registered) AWS access key ID or X.509 certificate.

HTTP Status Code: 403

MissingParameter

A required parameter for the specified action is not supplied.

HTTP Status Code: 400

OptInRequired

The AWS access key ID needs a subscription for the service.

HTTP Status Code: 403

RequestExpired

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 pre-signed URLs), or the date stamp on the request is more than 15 minutes in the future.

HTTP Status Code: 400

ServiceUnavailable

The request has failed due to a temporary failure of the server.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 400

ValidationError

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400