API Reference

AWS Cloud9

API Version 2017-09-23

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.
- `ListTagsForResource`: Gets the tags for an environment.
- `TagResource`: Adds tags to an environment.
- `UntagResource`: Removes tags from an environment.
- `UpdateEnvironment`: Changes the settings of an existing environment.
- `UpdateEnvironmentMembership`: Changes the settings of an existing environment member for an environment.

This document was last published on July 2, 2024.

Actions

The following actions are supported:

- CreateEnvironmentEC2
- CreateEnvironmentMembership
- DeleteEnvironment
- DeleteEnvironmentMembership
- DescribeEnvironmentMemberships
- DescribeEnvironments
- DescribeEnvironmentStatus
- ListEnvironments
- ListTagsForResource
- TagResource
- UntagResource
- UpdateEnvironment
- UpdateEnvironmentMembership

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",
   "connectionType": "string",
   "description": "string",
   "dryRun": boolean,
   "imageId": "string",
   "instanceType": "string",
   "name": "string",
   "ownerArn": "string",
   "subnetId": "string",
   "tags": [
      {
         "Key": "string",
         "Value": "string"
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

automaticStopTimeMinutes

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

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 20160.

Required: No

clientRequestToken

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

connectionType

The connection type used for connecting to an Amazon EC2 environment. Valid values are `CONNECT_SSH` (default) and `CONNECT_SSM` (connected through Amazon EC2 Systems Manager).

For more information, see Accessing no-ingress EC2 instances with Amazon EC2 Systems Manager in the *AWS Cloud9 User Guide*.

Type: String

Valid Values: `CONNECT_SSH | CONNECT_SSM`

Required: No

description

The description of the environment to create.

Type: String

Length Constraints: Maximum length of 200.

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 identifier for the Amazon Machine Image (AMI) that's used to create the EC2 instance. To choose an AMI for the instance, you must specify a valid AMI alias or a valid Amazon EC2 Systems Manager (SSM) path.

From December 04, 2023, you will be required to include the `imageId` parameter for the `CreateEnvironmentEC2` action. This change will be reflected across all direct methods of communicating with the API, such as AWS SDK, AWS CLI and AWS CloudFormation. This change will only affect direct API consumers, and not AWS Cloud9 console users.

We recommend using Amazon Linux 2023 as the AMI to create your environment as it is fully supported.

Since Ubuntu 18.04 has ended standard support as of May 31, 2023, we recommend you choose Ubuntu 22.04.

AMI aliases

- Amazon Linux 2: `amazonlinux-2-x86_64`
- Amazon Linux 2023 (recommended): `amazonlinux-2023-x86_64`
- Ubuntu 18.04: `ubuntu-18.04-x86_64`
- Ubuntu 22.04: `ubuntu-22.04-x86_64`

SSM paths

- Amazon Linux 2: `resolve:ssm:/aws/service/cloud9/amis/amazonlinux-2-x86_64`
- Amazon Linux 2023 (recommended): `resolve:ssm:/aws/service/cloud9/amis/amazonlinux-2023-x86_64`
- Ubuntu 18.04: `resolve:ssm:/aws/service/cloud9/amis/ubuntu-18.04-x86_64`
- Ubuntu 22.04: `resolve:ssm:/aws/service/cloud9/amis/ubuntu-22.04-x86_64`

Type: String

Length Constraints: Maximum length of 512.

Required: Yes

instanceType

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

The name of the environment to create.

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

Type: String

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

Required: Yes

ownerArn

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

Type: String

Pattern: `^arn:(aws|aws-cn|aws-us-gov|aws-iso|aws-iso-b):(iam|sts)::\d+:(root|(user\/[\w+=/:,.@-]{1,64}|federated-user\/[\w+=/:,.@-]{2,32}|assumed-role\/[\w+=:,.@-]{1,64}\/[\w+=,.@-]{1,64}))$`

Required: No

subnetId

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 15. Maximum length of 24.

Pattern: `^(subnet-[0-9a-f]{8}|subnet-[0-9a-f]{17})$`

Required: No

tags

An array of key-value pairs that will be associated with the new AWS Cloud9 development environment.

Type: Array of Tag objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

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

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.

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

Example

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

Sample Request

```
POST / HTTP/1.1
```

```
Host: cloud9.<region>.amazonaws.com
Accept-Encoding: identity
Content-Type: application/x-amz-json-1.1
User-Agent: <UserAgentString>
X-Amz-Date: <Date>
Content-Length: <PayloadSizeBytes>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
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",
  "imageId": "resolve:ssm:/aws/service/cloud9/amis/amazonlinux-2023-x86_64",
  "subnetId": "subnet-6300cd1b"
}
```

Sample Response

```
HTTP/1.1 200 OK
Date: <Date>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
x-amzn-RequestId: <RequestId>
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 v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

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.

The request accepts the following data in JSON format.

environmentId

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

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

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

Type: String

Pattern: `^arn:(aws|aws-cn|aws-us-gov|aws-iso|aws-iso-b):(iam|sts)::\d+:(root|(user\/[\w+=/:,.@-]{1,64}|federated-user\/[\w+=/:,.@-]{2,32}|assumed-role\/[\w+=:,.@-]{1,64}\/[\w+=,.@-]{1,64}))$`

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

Information about the environment member that was added.

Type: EnvironmentMember object

Errors

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

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

Example

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

Sample Request

```
POST / HTTP/1.1
```

```
Host: cloud9.<region>.amazonaws.com
Accept-Encoding: identity
Content-Type: application/x-amz-json-1.1
X-Amz-Date: <Date>
User-Agent: <UserAgentString>
X-Amz-Target: AWSCloud9WorkspaceManagementService.CreateEnvironmentMembership
Content-Length: <PayloadSizeBytes>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>

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

Sample Response

```
HTTP/1.1 200 OK
Date: <Date>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
x-amzn-RequestId: <RequestId>
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 v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

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.

The request accepts the following data in JSON format.

environmentId

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.

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

Example

The following example deletes the specified AWS Cloud9 development environment.

Sample Request

```
POST / HTTP/1.1
```

```
Host: cloud9.<region>.amazonaws.com
Accept-Encoding: identity
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
X-Amz-Target: AWSCloud9WorkspaceManagementService.DeleteEnvironment
User-Agent: <UserAgentString>
X-Amz-Date: <Date>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>

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

Sample Response

```
HTTP/1.1 200 OK
Date: <Date>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
x-amzn-RequestId: <RequestId>
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 v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DeleteEnvironmentMembership

Deletes an environment member from a development environment.

Request Syntax

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

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

environmentId

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

Type: String

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

Required: Yes

userArn

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

Type: String

Pattern: `^arn:(aws|aws-cn|aws-us-gov|aws-iso|aws-iso-b):(iam|sts)::\d+:(root|(user\/[\w+=/:,.@-]{1,64}|federated-user\/[\w+=/:,.@-]{2,32}|assumed-role\/[\w+=:,.@-]{1,64}\/[\w+=,.@-]{1,64}))$`

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.

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

Example

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

Sample Request

```
POST / HTTP/1.1
Host: cloud9.<region>.amazonaws.com
Accept-Encoding: identity
X-Amz-Target: AWSCloud9WorkspaceManagementService.DeleteEnvironmentMembership
User-Agent: <UserAgentString>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
Content-Type: application/x-amz-json-1.1
X-Amz-Date: <Date>
Content-Length: <PayloadSizeBytes>

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

Sample Response

```
HTTP/1.1 200 OK
Date: <Date>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
x-amzn-RequestId: <RequestId>
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 v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

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.

The request accepts the following data in JSON format.

environmentId

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

Type: String

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

Required: No

maxResults

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

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

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

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|aws-cn|aws-us-gov|aws-iso|aws-iso-b):(iam|sts)::\d+:(root|(user\/[\w+=/:,.@-]{1,64}|federated-user\/[\w+=/:,.@-]{2,32}|assumed-role\/[\w+=:,.@-]{1,64}\/[\w+=,.@-]{1,64}))$`

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

Information about the environment members for the environment.

Type: Array of EnvironmentMember objects

nextToken

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.

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 a 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.<region>.amazonaws.com
Accept-Encoding: identity
Content-Type: application/x-amz-json-1.1
User-Agent: <UserAgentString>
X-Amz-Date: <Date>
```

```
X-Amz-Target: AWSCloud9WorkspaceManagementService.DescribeEnvironmentMemberships
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
Content-Length: <PayloadSizeBytes>

{
  "permissions": [
    "owner"
  ],
  "environmentId": "9999aaaa9999aaaa9999aaaa9999aaaa"
}
```

Sample Response

```
HTTP/1.1 200 OK
Date: <Date>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
x-amzn-RequestId: <RequestId>
Connection: Keep-alive

{
  "memberships": [
    {
      "environmentId": "9999aaaa9999aaaa9999aaaa9999aaaa",
      "permissions": "owner",
      "userArn": "arn:aws:iam::123456789012:user/MyDemoUser",
      "userId": "ABCDEFGHIJKLMNOPQRSTU"
    }
  ]
}
```

Get the owner of a 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.<region>.amazonaws.com
Accept-Encoding: identity
Content-Type: application/x-amz-json-1.1
```

```
X-Amz-Target: AWSCloud9WorkspaceManagementService.DescribeEnvironmentMemberships
X-Amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
Content-Length: <PayloadSizeBytes>
User-Agent: <UserAgentString>

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

Sample Response

```
HTTP/1.1 200 OK
Date: <Date>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
x-amzn-RequestId: <RequestId>
Connection: Keep-alive

{
  "memberships": [
    {
      "environmentId": "9999aaaa9999aaaa9999aaaa9999aaaa",
      "lastAccess": 1.516403173E9,
      "permissions": "owner",
      "userArn": "arn:aws:iam::123456789012:user/MyDemoUser",
      "userId": "XXXXXXXXXXXXXXXXXX"
    },
    {
      "environmentId": "9999aaaa9999aaaa9999aaaa9999aaaa",
      "lastAccess": 1.516405159E9,
      "permissions": "owner",
      "userArn": "arn:aws:iam::123456789012:user/MyDemoUser",
      "userId": "ABCDEFGHIJKLMNOPQRSTUV"
    }
  ]
}
```

Get 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.<region>.amazonaws.com
Accept-Encoding: identity
Content-Type: application/x-amz-json-1.1
X-Amz-Target: AWSCloud9WorkspaceManagementService.DescribeEnvironmentMemberships
X-Amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
Content-Length: <PayloadSizeBytes>
User-Agent: <UserAgentString>

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

Sample Response

```
HTTP/1.1 200 OK
Date: <Date>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
x-amzn-RequestId: <RequestId>
Connection: Keep-alive

{
  "memberships": [
    {
      "environmentId": "9999aaaa9999aaaa9999aaaa9999aaaa",
      "lastAccess": 1.516403173E9,
      "permissions": "owner",
      "userArn": "arn:aws:iam::123456789012:user/MyDemoUser",
      "userId": "XXXXXXXXXXXXXXXXXX"
    },
    {
      "environmentId": "9999aaaa9999aaaa9999aaaa9999aaaa",
      "lastAccess": 1.516405159E9,
      "permissions": "owner",
      "userArn": "arn:aws:iam::123456789012:user/MyDemoUser",
      "userId": "ABCDEFGHIJKLMNOPQRSTUV"
    }
  ]
```

```
}
```

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

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.

The request accepts the following data in JSON format.

environmentIds

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",
         "connectionType": "string",
         "description": "string",
         "id": "string",
         "lifecycle": {
            "failureResource": "string",
            "reason": "string",
```

```
            "status": "string"
         },
         "managedCredentialsStatus": "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

Information about the environments that are returned.

Type: Array of Environment objects

Errors

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

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

Example

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

Sample Request

```
POST / HTTP/1.1
Host: cloud9.<region>.amazonaws.com
Accept-Encoding: identity
X-Amz-Date: <Date>
Content-Length: <PayloadSizeBytes>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
Content-Length: <PayloadSizeBytes>
Content-Type: application/x-amz-json-1.1
X-Amz-Target: AWSCloud9WorkspaceManagementService.DescribeEnvironments
User-Agent: <UserAgentString>
```

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

Sample Response

```
HTTP/1.1 200 OK
Date: <Date>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
x-amzn-RequestId: <RequestId>
Connection: Keep-alive

{
  "environments": [
    {
      "arn": "arn:aws:cloud9:eu-
west-1:123456789012:environment:8d9967e2f0624182b74e7690ad69ebEX",
      "description": "foo",
      "id": "8d9967e2f0624182b74e7690ad69ebEX",
      "lifecycle": {
        "reasonCode": "CREATE_SUCCESS",
        "status": "CREATED"
      },
      "managedCredentialsStatus": "DISABLED_BY_COLLABORATOR",
      "name": "foo",
      "ownerArn": "arn:aws:iam::123456789012:user/MyDemoUser",
      "type": "ec2"
    },
    {
      "arn": "arn:aws:cloud9:eu-
west-1:123456789012:environment:349c86d4579e4e7298d500ff57a6b2EX",
      "description": "",
      "id": "349c86d4579e4e7298d500ff57a6b2EX",
      "lifecycle": {
        "reasonCode": "CREATE_SUCCESS",
        "status": "CREATED"
      },
      "name": "TestEnv",
```

```
      "ownerArn": "arn:aws:iam::123456789012:user/MyDemoUser",
      "managedCredentialsStatus": "ENABLED_BY_OWNER",
      "type": "ec2"
    }
  ]
}
```

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

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.

The request accepts the following data in JSON format.

environmentId

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

Any informational message about the status of the environment.

Type: String

status

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.

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

Example

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

Sample Request

```
POST / HTTP/1.1
Host: cloud9.<region>.amazonaws.com
Accept-Encoding: identity
X-Amz-Date: <Date>
X-Amz-Target: AWSCloud9WorkspaceManagementService.DescribeEnvironmentStatus
User-Agent: <UserAgentString>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
Content-Length: <PayloadSizeBytes>
Content-Type: application/x-amz-json-1.1
```

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

Sample Response

```
HTTP/1.1 200 OK
Date: <Date>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
x-amzn-RequestId: <RequestId>
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 v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

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.

The request accepts the following data in JSON format.

maxResults

The maximum number of environments to get identifiers for.

Type: Integer

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

Required: No

nextToken

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

The list of environment identifiers.

Type: Array of strings

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

nextToken

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.

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

Example

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

Sample Request

```
POST / HTTP/1.1
Host: cloud9.<region>.amazonaws.com
Accept-Encoding: identity
X-Amz-Target: AWSCloud9WorkspaceManagementService.ListEnvironments
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
X-Amz-Date: <Date>
User-Agent: <UserAgentString>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
```

```
{}
```

Sample Response

```
HTTP/1.1 200 OK
Date: <Date>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
x-amzn-RequestId: <RequestId>
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 v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

ListTagsForResource

Gets a list of the tags associated with an AWS Cloud9 development environment.

Request Syntax

```
{
   "ResourceARN": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

ResourceARN

The Amazon Resource Name (ARN) of the AWS Cloud9 development environment to get the tags for.

Type: String

Pattern: `arn:(aws|aws-cn|aws-us-gov|aws-iso|aws-iso-b):cloud9:([a-z]{2}-[a-z]+-\d{1}):[0-9]{12}:environment:[a-zA-Z0-9]{8,32}`

Required: Yes

Response Syntax

```
{
   "Tags": [
      {
         "Key": "string",
         "Value": "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.

Tags

The list of tags associated with the AWS Cloud9 development environment.

Type: Array of Tag objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Errors

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

BadRequestException

The target request is invalid.

HTTP Status Code: 400

InternalServerErrorException

An internal server error occurred.

HTTP Status Code: 500

NotFoundException

The target resource cannot be found.

HTTP Status Code: 400

Examples

Example

The following example shows now to get a list of the tags that are associated with an AWS Cloud9 development environment.

Sample Request

```
POST / HTTP/1.1
Host: cloud9.<region>.amazonaws.com
Accept-Encoding: identity
Content-Type: application/x-amz-json-1.1
X-Amz-Date: <Date>
User-Agent: <UserAgentString>
X-Amz-Target: AWSCloud9WorkspaceManagementService.ListTagsForResource
Content-Length: <PayloadSizeBytes>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>

{
  "ResourceARN": "arn:aws:cloud9:eu-
west-1:123456789012:environment:8d9967e2f0624182b74e7690ad69ebEX",
}
```

Sample Response

```
HTTP/1.1 200 OK
Date: <Date>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
x-amzn-RequestId: <RequestId>
Connection: Keep-alive

{
  "Tags": [
    {
      "Key": "key",
      "Value": "orange"
    }
  ]
}
```

See Also

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

- AWS Command Line Interface

- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

TagResource

Adds tags to an AWS Cloud9 development environment.

> **Important**
>
> Tags that you add to an AWS Cloud9 environment by using this method will NOT be automatically propagated to underlying resources.

Request Syntax

```
{
   "ResourceARN": "string",
   "Tags": [
      {
         "Key": "string",
         "Value": "string"
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

ResourceARN

The Amazon Resource Name (ARN) of the AWS Cloud9 development environment to add tags to.

Type: String

Pattern: `arn:(aws|aws-cn|aws-us-gov|aws-iso|aws-iso-b):cloud9:([a-z]{2}-[a-z]+-\d{1}):[0-9]{12}:environment:[a-zA-Z0-9]{8,32}`

Required: Yes

Tags

The list of tags to add to the given AWS Cloud9 development environment.

Type: Array of Tag objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

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.

BadRequestException

The target request is invalid.

HTTP Status Code: 400

ConcurrentAccessException

A concurrent access issue occurred.

HTTP Status Code: 400

InternalServerErrorException

An internal server error occurred.

HTTP Status Code: 500

NotFoundException

The target resource cannot be found.

HTTP Status Code: 400

Examples

Example

The following example shows how to add tags to an AWS Cloud9 development environment.

Sample Request

```
POST / HTTP/1.1
Host: cloud9.<region>.amazonaws.com
Accept-Encoding: identity
Content-Type: application/x-amz-json-1.1
X-Amz-Date: <Date>
User-Agent: <UserAgentString>
X-Amz-Target: AWSCloud9WorkspaceManagementService.TagResource
Content-Length: <PayloadSizeBytes>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>

{
  "ResourceARN": "arn:aws:cloud9:eu-
west-1:123456789012:environment:8d9967e2f0624182b74e7690ad69ebEX",
  "Tags": [
    {
      "Key": "key",
      "Value": "orange"
    }
  ]
}
```

Sample Response

```
HTTP/1.1 200 OK
Date: <Date>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
x-amzn-RequestId: <RequestId>
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 v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

UntagResource

Removes tags from an AWS Cloud9 development environment.

Request Syntax

```
{
   "ResourceARN": "string",
   "TagKeys": [ "string" ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

ResourceARN

The Amazon Resource Name (ARN) of the AWS Cloud9 development environment to remove tags from.

Type: String

Pattern: `arn:(aws|aws-cn|aws-us-gov|aws-iso|aws-iso-b):cloud9:([a-z]{2}-[a-z]+-\d{1}):[0-9]{12}:environment:[a-zA-Z0-9]{8,32}`

Required: Yes

TagKeys

The tag names of the tags to remove from the given AWS Cloud9 development environment.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Length Constraints: Minimum length of 1. Maximum length of 128.

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.

BadRequestException

The target request is invalid.

HTTP Status Code: 400

ConcurrentAccessException

A concurrent access issue occurred.

HTTP Status Code: 400

InternalServerErrorException

An internal server error occurred.

HTTP Status Code: 500

NotFoundException

The target resource cannot be found.

HTTP Status Code: 400

Examples

Example

The following example shows how to remove tags from an AWS Cloud9 development environment.

Sample Request

```
POST / HTTP/1.1
Host: cloud9.<region>.amazonaws.com
Accept-Encoding: identity
Content-Type: application/x-amz-json-1.1
```

```
X-Amz-Date: <Date>
User-Agent: <UserAgentString>
X-Amz-Target: AWSCloud9WorkspaceManagementService.UntagResource
Content-Length: <PayloadSizeBytes>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>

{
  "ResourceARN": "arn:aws:cloud9:eu-
west-1:123456789012:environment:8d9967e2f0624182b74e7690ad69ebEX",
  "TagKeys": [
    "key"
  ]
}
```

Sample Response

```
HTTP/1.1 200 OK
Date: <Date>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
x-amzn-RequestId: <RequestId>
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 v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python

- AWS SDK for Ruby V3

UpdateEnvironment

Changes the settings of an existing AWS Cloud9 development environment.

Request Syntax

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

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

description

Any new or replacement description for the environment.

Type: String

Length Constraints: Maximum length of 200.

Required: No

environmentId

The ID of the environment to change settings.

Type: String

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

Required: Yes

managedCredentialsAction

Allows the environment owner to turn on or turn off the AWS managed temporary credentials for an AWS Cloud9 environment by using one of the following values:

- ENABLE
- DISABLE

> **Note**
>
> Only the environment owner can change the status of managed temporary credentials. An AccessDeniedException is thrown if an attempt to turn on or turn off managed temporary credentials is made by an account that's not the environment owner.

Type: String

Valid Values: ENABLE | DISABLE

Required: No

name

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.

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

Example

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

Sample Request

```
POST / HTTP/1.1
Host: cloud9.<region>.amazonaws.com
Accept-Encoding: identity
```

```
Content-Length: <PayloadSizeBytes>
X-Amz-Date: <Date>
User-Agent: <UserAgentString>
X-Amz-Target: AWSCloud9WorkspaceManagementService.UpdateEnvironment
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
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: <Date>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
x-amzn-RequestId: <RequestId>
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 v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

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.

The request accepts the following data in JSON format.

environmentId

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

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

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

Type: String

Pattern: `^arn:(aws|aws-cn|aws-us-gov|aws-iso|aws-iso-b):(iam|sts)::\d+:(root|(user\/[\w+=/:,.@-]{1,64}|federated-user\/[\w+=/:,.@-]{2,32}|assumed-role\/[\w+=:,.@-]{1,64}\/[\w+=,.@-]{1,64}))$`

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

Information about the environment member whose settings were changed.

Type: EnvironmentMember object

Errors

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

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

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.<region>.amazonaws.com
Accept-Encoding: identity
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
User-Agent: <UserAgentString>
Content-Length: <PayloadSizeBytes>
X-Amz-Target: AWSCloud9WorkspaceManagementService.UpdateEnvironmentMembership
X-Amz-Date: <Date>

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

Sample Response

```
HTTP/1.1 200 OK
Date: <Date>
Content-Type: application/x-amz-json-1.1
Content-Length: <PayloadSizeBytes>
x-amzn-RequestId: <RequestId>
Connection: Keep-alive

{
  "membership": {
    "environmentId": "8d9967e2f0624182b74e7690ad69eb31",
    "permissions": "read-only",
    "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 v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

Data Types

The 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
- EnvironmentLifecycle
- EnvironmentMember
- Tag

Environment

Information about an AWS Cloud9 development environment.

Contents

arn

The Amazon Resource Name (ARN) of the environment.

Type: String

Required: Yes

ownerArn

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

Type: String

Required: Yes

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: Yes

connectionType

The connection type used for connecting to an Amazon EC2 environment. `CONNECT_SSH` is selected by default.

Type: String

Valid Values: `CONNECT_SSH | CONNECT_SSM`

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

lifecycle

The state of the environment in its creation or deletion lifecycle.

Type: EnvironmentLifecycle object

Required: No

managedCredentialsStatus

Describes the status of AWS managed temporary credentials for the AWS Cloud9 environment. Available values are:

- `ENABLED_ON_CREATE`
- `ENABLED_BY_OWNER`
- `DISABLED_BY_DEFAULT`
- `DISABLED_BY_OWNER`
- `DISABLED_BY_COLLABORATOR`
- `PENDING_REMOVAL_BY_COLLABORATOR`
- `PENDING_REMOVAL_BY_OWNER`
- `FAILED_REMOVAL_BY_COLLABORATOR`
- `ENABLED_BY_OWNER`

- DISABLED_BY_DEFAULT

Type: String

Valid Values: ENABLED_ON_CREATE | ENABLED_BY_OWNER | DISABLED_BY_DEFAULT | DISABLED_BY_OWNER | DISABLED_BY_COLLABORATOR | PENDING_REMOVAL_BY_COLLABORATOR | PENDING_START_REMOVAL_BY_COLLABORATOR | PENDING_REMOVAL_BY_OWNER | PENDING_START_REMOVAL_BY_OWNER | FAILED_REMOVAL_BY_COLLABORATOR | FAILED_REMOVAL_BY_OWNER

Required: No

name

The name of the environment.

Type: String

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

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

EnvironmentLifecycle

Information about the current creation or deletion lifecycle state of an AWS Cloud9 development environment.

Contents

failureResource

If the environment failed to delete, the Amazon Resource Name (ARN) of the related AWS resource.

Type: String

Required: No

reason

Any informational message about the lifecycle state of the environment.

Type: String

Required: No

status

The current creation or deletion lifecycle state of the environment.

- `CREATING`: The environment is in the process of being created.
- `CREATED`: The environment was successfully created.
- `CREATE_FAILED`: The environment failed to be created.
- `DELETING`: The environment is in the process of being deleted.
- `DELETE_FAILED`: The environment failed to delete.

Type: String

Valid Values: `CREATING | CREATED | CREATE_FAILED | DELETING | DELETE_FAILED`

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

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: Yes

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: Yes

userArn

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

Type: String

Pattern: `^arn:(aws|aws-cn|aws-us-gov|aws-iso|aws-iso-b):(iam|sts)::\d+:(root|(user\/[\w+=/:,.@-]{1,64}|federated-user\/[\w+=/:,.@-]{2,32}|assumed-role\/[\w+=:,.@-]{1,64}\/[\w+=,.@-]{1,64}))$`

Required: Yes

userId

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

Type: String

Required: Yes

lastAccess

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

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 Java V2
- AWS SDK for Ruby V3

Tag

Metadata that is associated with AWS resources. In particular, a name-value pair that can be associated with an AWS Cloud9 development environment. There are two types of tags: *user tags* and *system tags*. A user tag is created by the user. A system tag is automatically created by AWS services. A system tag is prefixed with `"aws:"` and cannot be modified by the user.

Contents

Key

The **name** part of a tag.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Value

The **value** part of a tag.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 256.

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 Java V2
- AWS SDK for Ruby V3

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 Signing AWS API requests in the *IAM User Guide*.

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 Create a signed AWS API request in the *IAM User Guide*.

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'T'HHMMSS'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 Elements of an AWS API request signature in the *IAM User Guide*.

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 STS, see AWS services that work with IAM in the *IAM User Guide*.

Condition: If you're using temporary security credentials from AWS STS, 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 Create a signed AWS API request in the *IAM User Guide*.

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

NotAuthorized

You do not have permission to perform this action.

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