Amazon Cloud Directory

API Reference

aws

Amazon Cloud Directory: API Reference

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Welcome to the Amazon Cloud Directory API Reference

Amazon Cloud Directory is a highly scalable, high performance, multitenant directory service in the cloud. Its web-based directories make it easy for you to organize and manage application resources such as users, groups, locations, devices, policies, and the rich relationships between them. Cloud Directory is a foundational building block for developers to create directory-based solutions easily and without having to worry about deployment, global scale, availability, and performance.

With Cloud Directory, you can organize directory objects into multiple hierarchies to support multiple organizational pivots and relationships across directory information. For example, a directory of users could provide a hierarchical view based on reporting structure, location, and project affiliation. Similarly, a directory of devices might have multiple hierarchical views based on its manufacturer, current owner, and physical location. For more information, see Amazon Cloud Directory in the *AWS Directory Service Admin Guide*.

This guide describes the Cloud Directory operations that you can call programatically and includes detailed information on data types and errors.

> **Note**
> AWS provides SDKs that consist of libraries and sample code for various programming languages and platforms (Java, Ruby, .Net, iOS, Android, etc.). The SDKs provide a convenient way to create programmatic access to AWS Directory Service and other AWS services. For more information about the AWS SDKs, including how to download and install them, see Tools for Amazon Web Services.

Actions

The following actions are supported:

AddFacetToObject

Adds a new Facet (p. 350) to an object. An object can have more than one facet applied on it.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/object/facets HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "ObjectAttributeList": [
      {
         "Key": {
            "FacetName": "string",
            "Name": "string",
            "SchemaArn": "string"
         },
         "Value": {
            "BinaryValue": blob,
            "BooleanValue": boolean,
            "DatetimeValue": number,
            "NumberValue": "string",
            "StringValue": "string"
         }
      }
   ],
   "ObjectReference": {
      "Selector": "string"
   },
   "SchemaFacet": {
      "FacetName": "string",
      "SchemaArn": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 4)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 349) where the object resides. For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

ObjectAttributeList (p. 4)

Attributes on the facet that you are adding to the object.

Type: Array of AttributeKeyAndValue (p. 271) objects

Required: No

ObjectReference (p. 4)

A reference to the object you are adding the specified facet to.

Type: ObjectReference (p. 362) object

Required: Yes

SchemaFacet (p. 4)

Identifiers for the facet that you are adding to the object. See SchemaFacet (p. 367) for details.

Type: SchemaFacet (p. 367) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

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. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of AddFacetToObject.

```
PUT /amazonclouddirectory/2017-01-11/object/facets HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 232
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171009/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=2cf0b34e6e7305c27f7ec762255196d937ef036d0e665e452a0e1bd79ae25106
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY
X-Amz-Date: 20171009T164125Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
 "ObjectReference": {
  "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWmspn1fxfQmSQaaVKSbvEiQ"
 },
 "SchemaFacet": {
  "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/org/1",
  "FacetName": "node1"
 }
}
```

Example Response

This example illustrates one usage of AddFacetToObject.

```
HTTP/1.1 200 OK
x-amzn-RequestId: b21ee371-ad10-11e7-9e13-5b6a00750e59
Date: Mon, 09 Oct 2017 16:41:26 GMT
x-amzn-RequestId: b21ee371-ad10-11e7-9e13-5b6a00750e59
Content-Type: application/json
Content-Length: 2

{}
```

See Also

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

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

ApplySchema

Copies the input published schema, at the specified version, into the Directory (p. 349) with the same name and version as that of the published schema.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/schema/apply HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
    "PublishedSchemaArn": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 8)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 349) into which the schema is copied. For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

PublishedSchemaArn (p. 8)

Published schema Amazon Resource Name (ARN) that needs to be copied. For more information, see Arn Examples (p. 378).

Type: String

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "AppliedSchemaArn": "string",
    "DirectoryArn": "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.

AppliedSchemaArn (p. 8)

The applied schema ARN that is associated with the copied schema in the Directory (p. 349). You can use this ARN to describe the schema information applied on this directory. For more information, see Arn Examples (p. 378).

Type: String

DirectoryArn (p. 8)

The ARN that is associated with the Directory (p. 349). For more information, see Arn Examples (p. 378).

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidAttachmentException

Indicates that an attempt to make an attachment was invalid. For example, attaching two nodes with a link type that is not applicable to the nodes or attempting to apply a schema to a directory a second time.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE"

consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

SchemaAlreadyExistsException

Indicates that a schema could not be created due to a naming conflict. Please select a different name and then try again.

HTTP Status Code: 400

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of ApplySchema.

```
PUT /amazonclouddirectory/2017-01-11/schema/apply HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 94
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171003/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=ac58e3d2d25b85cd1869f7a845a0e97cebfce28d15e8f8df34c0ee89a197f042
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AfMr4qym1kZTvwqOafAYfqI
X-Amz-Date: 20171003T201513Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
  "PublishedSchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:schema/published/
org/1"
}
```

Example Response

This example illustrates one usage of ApplySchema.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 90d60895-a877-11e7-81c0-7b48a7696e76
Date: Tue, 03 Oct 2017 20:15:13 GMT
x-amzn-RequestId: 90d60895-a877-11e7-81c0-7b48a7696e76
Content-Type: application/json
Content-Length: 212

{
  "AppliedSchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AfMr4qym1kZTvwqOafAYfqI/schema/org/1",
  "DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AfMr4qym1kZTvwqOafAYfqI"
```

```
}
```

See Also

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

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

AttachObject

Attaches an existing object to another object. An object can be accessed in two ways:

1. Using the path
2. Using `ObjectIdentifier`

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/object/attach HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "ChildReference": {
      "Selector": "string"
   },
   "LinkName": "string",
   "ParentReference": {
      "Selector": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 12)

Amazon Resource Name (ARN) that is associated with the Directory (p. 349) where both objects reside. For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

ChildReference (p. 12)

The child object reference to be attached to the object.

Type: ObjectReference (p. 362) object

Required: Yes

LinkName (p. 12)

The link name with which the child object is attached to the parent.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `[^\/\[\]\(\):\{\}#@!?\s\\;]+`

Required: Yes

ParentReference (p. 12)

The parent object reference.

Type: ObjectReference (p. 362) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "AttachedObjectIdentifier": "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.

AttachedObjectIdentifier (p. 13)

The attached `ObjectIdentifier`, which is the child `ObjectIdentifier`.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidAttachmentException

Indicates that an attempt to make an attachment was invalid. For example, attaching two nodes with a link type that is not applicable to the nodes or attempting to apply a schema to a directory a second time.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

LinkNameAlreadyInUseException

Indicates that a link could not be created due to a naming conflict. Choose a different name and then try again.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of AttachObject.

```
PUT /amazonclouddirectory/2017-01-11/object/attach HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 188
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171003/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=2ce97afc4ac4d1fd4826861fa366d6d8674d1399b1a666e59cc53b8310aacf6a
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY
X-Amz-Date: 20171003T195605Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
 "ParentReference": {
  "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zme1sVsw"
 },
 "LinkName": "link2",
 "ChildReference": {
  "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWSvfuEnDqTdmeCuTs6YBNUA"
 }
}
```

Example Response

This example illustrates one usage of AttachObject.

```
HTTP/1.1 200 OK
x-amzn-RequestId: e4be5146-a874-11e7-a169-c5bf0acd39f4
Date: Tue, 03 Oct 2017 19:56:06 GMT
x-amzn-RequestId: e4be5146-a874-11e7-a169-c5bf0acd39f4
Content-Type: application/json
Content-Length: 77

{
 "AttachedObjectIdentifier": "AQGG_ADlfNZBzYHY_JgDt3TWSvfuEnDqTdmeCuTs6YBNUA"
}
```

See Also

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

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

AttachPolicy

Attaches a policy object to a regular object. An object can have a limited number of attached policies.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/policy/attach HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
    "ObjectReference": {
        "Selector": "string"
    },
    "PolicyReference": {
        "Selector": "string"
    }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 16)

> The Amazon Resource Name (ARN) that is associated with the Directory (p. 349) where both objects reside. For more information, see Arn Examples (p. 378).
>
> Required: Yes

Request Body

The request accepts the following data in JSON format.

ObjectReference (p. 16)

> The reference that identifies the object to which the policy will be attached.
>
> Type: ObjectReference (p. 362) object
>
> Required: Yes

PolicyReference (p. 16)

> The reference that is associated with the policy object.
>
> Type: ObjectReference (p. 362) object
>
> Required: Yes

Response Syntax

```
HTTP/1.1 200
```

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Response Elements

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. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

NotPolicyException

Indicates that the requested operation can only operate on policy objects.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of AttachPolicy.

```
PUT /amazonclouddirectory/2017-01-11/policy/attach HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 168
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171017/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=d6ba55fbae53295150b69a92946e542ad08f7557492c5862d70d6a8c62fa24b0
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY
X-Amz-Date: 20171017T185436Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
 "PolicyReference": {
  "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWgcBsTVmcQEWs6jlygfhuew"
 },
 "ObjectReference": {
  "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWQoovm1s3Ts2v0NKrzdVnPw"
 }
}
```

Example Response

This example illustrates one usage of AttachPolicy.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 9ff9d709-b36c-11e7-843e-9fad359f817f
Date: Tue, 17 Oct 2017 18:54:37 GMT
x-amzn-RequestId: 9ff9d709-b36c-11e7-843e-9fad359f817f
Content-Type: application/json
Content-Length: 2

{}
```

See Also

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

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

- AWS SDK for Python
- AWS SDK for Ruby V3

AttachToIndex

Attaches the specified object to the specified index.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/index/attach HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "IndexReference": {
      "Selector": "string"
   },
   "TargetReference": {
      "Selector": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 20)

The Amazon Resource Name (ARN) of the directory where the object and index exist.

Required: Yes

Request Body

The request accepts the following data in JSON format.

IndexReference (p. 20)

A reference to the index that you are attaching the object to.

Type: ObjectReference (p. 362) object

Required: Yes

TargetReference (p. 20)

A reference to the object that you are attaching to the index.

Type: ObjectReference (p. 362) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "AttachedObjectIdentifier": "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.

AttachedObjectIdentifier (p. 20)

The `ObjectIdentifier` of the object that was attached to the index.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

IndexedAttributeMissingException

An object has been attempted to be attached to an object that does not have the appropriate attribute value.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidAttachmentException

Indicates that an attempt to make an attachment was invalid. For example, attaching two nodes with a link type that is not applicable to the nodes or attempting to apply a schema to a directory a second time.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

LinkNameAlreadyInUseException

Indicates that a link could not be created due to a naming conflict. Choose a different name and then try again.

HTTP Status Code: 400

NotIndexException

Indicates that the requested operation can only operate on index objects.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of AttachToIndex.

```
PUT /amazonclouddirectory/2017-01-11/index/attach HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 167
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170927/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=78d785ce666b33aa8624c62c59be1dca60c49062f91eb216909450ea214c5a56
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY
X-Amz-Date: 20170927T171118Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
 "IndexReference": {
  "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TW45F26R1HTY2z-stwKBte_Q"
 },
 "TargetReference": {
  "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zme1sVsw"
```

```
  }
}
```

Example Response

This example illustrates one usage of AttachToIndex.

```
HTTP/1.1 200 OK
x-amzn-RequestId: e1458e29-a3a6-11e7-a169-c5bf0acd39f4
Date: Wed, 27 Sep 2017 17:11:18 GMT
x-amzn-RequestId: e1458e29-a3a6-11e7-a169-c5bf0acd39f4
Content-Type: application/json
Content-Length: 77

{
 "AttachedObjectIdentifier": "AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zme1sVsw"
}
```

See Also

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

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

AttachTypedLink

Attaches a typed link to a specified source and target object. For more information, see Typed Links.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/typedlink/attach HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "Attributes": [
      {
         "AttributeName": "string",
         "Value": {
            "BinaryValue": blob,
            "BooleanValue": boolean,
            "DatetimeValue": number,
            "NumberValue": "string",
            "StringValue": "string"
         }
      }
   ],
   "SourceObjectReference": {
      "Selector": "string"
   },
   "TargetObjectReference": {
      "Selector": "string"
   },
   "TypedLinkFacet": {
      "SchemaArn": "string",
      "TypedLinkName": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 24)

The Amazon Resource Name (ARN) of the directory where you want to attach the typed link.

Required: Yes

Request Body

The request accepts the following data in JSON format.

Attributes (p. 24)

A set of attributes that are associated with the typed link.

Type: Array of AttributeNameAndValue (p. 272) objects

Required: Yes

SourceObjectReference (p. 24)

Identifies the source object that the typed link will attach to.

Type: ObjectReference (p. 362) object

Required: Yes

TargetObjectReference (p. 24)

Identifies the target object that the typed link will attach to.

Type: ObjectReference (p. 362) object

Required: Yes

TypedLinkFacet (p. 24)

Identifies the typed link facet that is associated with the typed link.

Type: TypedLinkSchemaAndFacetName (p. 376) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "TypedLinkSpecifier": {
        "IdentityAttributeValues": [
            {
                "AttributeName": "string",
                "Value": {
                    "BinaryValue": blob,
                    "BooleanValue": boolean,
                    "DatetimeValue": number,
                    "NumberValue": "string",
                    "StringValue": "string"
                }
            }
        ],
        "SourceObjectReference": {
            "Selector": "string"
        },
        "TargetObjectReference": {
            "Selector": "string"
        },
        "TypedLinkFacet": {
            "SchemaArn": "string",
            "TypedLinkName": "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.

TypedLinkSpecifier (p. 25)

Returns a typed link specifier as output.

Type: TypedLinkSpecifier (p. 377) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidAttachmentException

Indicates that an attempt to make an attachment was invalid. For example, attaching two nodes with a link type that is not applicable to the nodes or attempting to apply a schema to a directory a second time.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of AttachTypedLink.

```
PUT /amazonclouddirectory/2017-01-11/typedlink/attach HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 422
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170928/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=d1b63e72fd13cafb5af77d621891a58849c146c2654d046366d420527a659b48
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY
X-Amz-Date: 20170928T003543Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
 "SourceObjectReference": {
  "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWSvfuEnDqTdmeCuTs6YBNUA"
 },
 "Attributes": [{
  "AttributeName": "22",
  "Value": {
   "BinaryValue": "c3Ry"
  }
 }],
 "TargetObjectReference": {
  "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zme1sVsw"
 },
 "TypedLinkFacet": {
  "TypedLinkName": "exampletypedlink8",
  "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/org/1"
 }
}
```

Example Response

This example illustrates one usage of AttachTypedLink.

```
HTTP/1.1 200 OK
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Date: Thu, 28 Sep 2017 00:35:44 GMT
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Content-Type: application/json
Content-Length: 521

{
 "TypedLinkSpecifier": {
   "IdentityAttributeValues": [{
     "AttributeName": "22",
     "Value": {
      "BinaryValue": "c3Ry",
      "BooleanValue": null,
      "DatetimeValue": null,
      "NumberValue": null,
      "StringValue": null
     }
   }],
   "SourceObjectReference": {
     "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWSvfuEnDqTdmeCuTs6YBNUA"
   },
   "TargetObjectReference": {
     "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zme1sVsw"
   },
   "TypedLinkFacet": {
     "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/org/1",
     "TypedLinkName": "exampletypedlink8"
   }
 }
}
```

See Also

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

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

BatchRead

Performs all the read operations in a batch.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/batchread HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json

{
   "Operations": [
      {
         "GetLinkAttributes": {
            "AttributeNames": [ "string" ],
            "TypedLinkSpecifier": {
               "IdentityAttributeValues": [
                  {
                     "AttributeName": "string",
                     "Value": {
                        "BinaryValue": blob,
                        "BooleanValue": boolean,
                        "DatetimeValue": number,
                        "NumberValue": "string",
                        "StringValue": "string"
                     }
                  }
               ],
               "SourceObjectReference": {
                  "Selector": "string"
               },
               "TargetObjectReference": {
                  "Selector": "string"
               },
               "TypedLinkFacet": {
                  "SchemaArn": "string",
                  "TypedLinkName": "string"
               }
            }
         },
         "GetObjectAttributes": {
            "AttributeNames": [ "string" ],
            "ObjectReference": {
               "Selector": "string"
            },
            "SchemaFacet": {
               "FacetName": "string",
               "SchemaArn": "string"
            }
         },
         "GetObjectInformation": {
            "ObjectReference": {
               "Selector": "string"
            }
         },
         "ListAttachedIndices": {
            "MaxResults": number,
            "NextToken": "string",
            "TargetReference": {
               "Selector": "string"
            }
         },
```

```
        "ListIncomingTypedLinks": {
            "FilterAttributeRanges": [
                {
                    "AttributeName": "string",
                    "Range": {
                        "EndMode": "string",
                        "EndValue": {
                            "BinaryValue": blob,
                            "BooleanValue": boolean,
                            "DatetimeValue": number,
                            "NumberValue": "string",
                            "StringValue": "string"
                        },
                        "StartMode": "string",
                        "StartValue": {
                            "BinaryValue": blob,
                            "BooleanValue": boolean,
                            "DatetimeValue": number,
                            "NumberValue": "string",
                            "StringValue": "string"
                        }
                    }
                }
            ],
            "FilterTypedLink": {
                "SchemaArn": "string",
                "TypedLinkName": "string"
            },
            "MaxResults": number,
            "NextToken": "string",
            "ObjectReference": {
                "Selector": "string"
            }
        },
        "ListIndex": {
            "IndexReference": {
                "Selector": "string"
            },
            "MaxResults": number,
            "NextToken": "string",
            "RangesOnIndexedValues": [
                {
                    "AttributeKey": {
                        "FacetName": "string",
                        "Name": "string",
                        "SchemaArn": "string"
                    },
                    "Range": {
                        "EndMode": "string",
                        "EndValue": {
                            "BinaryValue": blob,
                            "BooleanValue": boolean,
                            "DatetimeValue": number,
                            "NumberValue": "string",
                            "StringValue": "string"
                        },
                        "StartMode": "string",
                        "StartValue": {
                            "BinaryValue": blob,
                            "BooleanValue": boolean,
                            "DatetimeValue": number,
                            "NumberValue": "string",
                            "StringValue": "string"
                        }
                    }
                }
```

```
            ]
        },
        "ListObjectAttributes": {
            "FacetFilter": {
                "FacetName": "string",
                "SchemaArn": "string"
            },
            "MaxResults": number,
            "NextToken": "string",
            "ObjectReference": {
                "Selector": "string"
            }
        },
        "ListObjectChildren": {
            "MaxResults": number,
            "NextToken": "string",
            "ObjectReference": {
                "Selector": "string"
            }
        },
        "ListObjectParentPaths": {
            "MaxResults": number,
            "NextToken": "string",
            "ObjectReference": {
                "Selector": "string"
            }
        },
        "ListObjectParents": {
            "MaxResults": number,
            "NextToken": "string",
            "ObjectReference": {
                "Selector": "string"
            }
        },
        "ListObjectPolicies": {
            "MaxResults": number,
            "NextToken": "string",
            "ObjectReference": {
                "Selector": "string"
            }
        },
        "ListOutgoingTypedLinks": {
            "FilterAttributeRanges": [
                {
                    "AttributeName": "string",
                    "Range": {
                        "EndMode": "string",
                        "EndValue": {
                            "BinaryValue": blob,
                            "BooleanValue": boolean,
                            "DatetimeValue": number,
                            "NumberValue": "string",
                            "StringValue": "string"
                        },
                        "StartMode": "string",
                        "StartValue": {
                            "BinaryValue": blob,
                            "BooleanValue": boolean,
                            "DatetimeValue": number,
                            "NumberValue": "string",
                            "StringValue": "string"
                        }
                    }
                }
            ],
            "FilterTypedLink": {
```

```
                    "SchemaArn": "string",
                    "TypedLinkName": "string"
                },
                "MaxResults": number,
                "NextToken": "string",
                "ObjectReference": {
                    "Selector": "string"
                }
            },
            "ListPolicyAttachments": {
                "MaxResults": number,
                "NextToken": "string",
                "PolicyReference": {
                    "Selector": "string"
                }
            },
            "LookupPolicy": {
                "MaxResults": number,
                "NextToken": "string",
                "ObjectReference": {
                    "Selector": "string"
                }
            }
        }
    ]
}
```

URI Request Parameters

The request uses the following URI parameters.

ConsistencyLevel (p. 29)

Represents the manner and timing in which the successful write or update of an object is reflected in a subsequent read operation of that same object.

Valid Values: `SERIALIZABLE | EVENTUAL`

DirectoryArn (p. 29)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 349). For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

Operations (p. 29)

A list of operations that are part of the batch.

Type: Array of BatchReadOperation (p. 330) objects

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

```
Content-type: application/json

{
    "Responses": [
        {
            "ExceptionResponse": {
                "Message": "string",
                "Type": "string"
            },
            "SuccessfulResponse": {
                "GetLinkAttributes": {
                    "Attributes": [
                        {
                            "Key": {
                                "FacetName": "string",
                                "Name": "string",
                                "SchemaArn": "string"
                            },
                            "Value": {
                                "BinaryValue": blob,
                                "BooleanValue": boolean,
                                "DatetimeValue": number,
                                "NumberValue": "string",
                                "StringValue": "string"
                            }
                        }
                    ]
                },
                "GetObjectAttributes": {
                    "Attributes": [
                        {
                            "Key": {
                                "FacetName": "string",
                                "Name": "string",
                                "SchemaArn": "string"
                            },
                            "Value": {
                                "BinaryValue": blob,
                                "BooleanValue": boolean,
                                "DatetimeValue": number,
                                "NumberValue": "string",
                                "StringValue": "string"
                            }
                        }
                    ]
                },
                "GetObjectInformation": {
                    "ObjectIdentifier": "string",
                    "SchemaFacets": [
                        {
                            "FacetName": "string",
                            "SchemaArn": "string"
                        }
                    ]
                },
                "ListAttachedIndices": {
                    "IndexAttachments": [
                        {
                            "IndexedAttributes": [
                                {
                                    "Key": {
                                        "FacetName": "string",
                                        "Name": "string",
                                        "SchemaArn": "string"
                                    },
                                    "Value": {
```

```
                        "BinaryValue": blob,
                        "BooleanValue": boolean,
                        "DatetimeValue": number,
                        "NumberValue": "string",
                        "StringValue": "string"
                    }
                }
            ],
            "ObjectIdentifier": "string"
        }
    ],
    "NextToken": "string"
},
"ListIncomingTypedLinks": {
    "LinkSpecifiers": [
        {
            "IdentityAttributeValues": [
                {
                    "AttributeName": "string",
                    "Value": {
                        "BinaryValue": blob,
                        "BooleanValue": boolean,
                        "DatetimeValue": number,
                        "NumberValue": "string",
                        "StringValue": "string"
                    }
                }
            ],
            "SourceObjectReference": {
                "Selector": "string"
            },
            "TargetObjectReference": {
                "Selector": "string"
            },
            "TypedLinkFacet": {
                "SchemaArn": "string",
                "TypedLinkName": "string"
            }
        }
    ],
    "NextToken": "string"
},
"ListIndex": {
    "IndexAttachments": [
        {
            "IndexedAttributes": [
                {
                    "Key": {
                        "FacetName": "string",
                        "Name": "string",
                        "SchemaArn": "string"
                    },
                    "Value": {
                        "BinaryValue": blob,
                        "BooleanValue": boolean,
                        "DatetimeValue": number,
                        "NumberValue": "string",
                        "StringValue": "string"
                    }
                }
            ],
            "ObjectIdentifier": "string"
        }
    ],
    "NextToken": "string"
},
```

```
        "ListObjectAttributes": {
            "Attributes": [
                {
                    "Key": {
                        "FacetName": "string",
                        "Name": "string",
                        "SchemaArn": "string"
                    },
                    "Value": {
                        "BinaryValue": blob,
                        "BooleanValue": boolean,
                        "DatetimeValue": number,
                        "NumberValue": "string",
                        "StringValue": "string"
                    }
                }
            ],
            "NextToken": "string"
        },
        "ListObjectChildren": {
            "Children": {
                "string" : "string"
            },
            "NextToken": "string"
        },
        "ListObjectParentPaths": {
            "NextToken": "string",
            "PathToObjectIdentifiersList": [
                {
                    "ObjectIdentifiers": [ "string" ],
                    "Path": "string"
                }
            ]
        },
        "ListObjectParents": {
            "NextToken": "string",
            "ParentLinks": [
                {
                    "LinkName": "string",
                    "ObjectIdentifier": "string"
                }
            ]
        },
        "ListObjectPolicies": {
            "AttachedPolicyIds": [ "string" ],
            "NextToken": "string"
        },
        "ListOutgoingTypedLinks": {
            "NextToken": "string",
            "TypedLinkSpecifiers": [
                {
                    "IdentityAttributeValues": [
                        {
                            "AttributeName": "string",
                            "Value": {
                                "BinaryValue": blob,
                                "BooleanValue": boolean,
                                "DatetimeValue": number,
                                "NumberValue": "string",
                                "StringValue": "string"
                            }
                        }
                    ],
                    "SourceObjectReference": {
                        "Selector": "string"
                    },
```

```
                        "TargetObjectReference": {
                            "Selector": "string"
                        },
                        "TypedLinkFacet": {
                            "SchemaArn": "string",
                            "TypedLinkName": "string"
                        }
                    }
                ]
            },
            "ListPolicyAttachments": {
                "NextToken": "string",
                "ObjectIdentifiers": [ "string" ]
            },
            "LookupPolicy": {
                "NextToken": "string",
                "PolicyToPathList": [
                    {
                        "Path": "string",
                        "Policies": [
                            {
                                "ObjectIdentifier": "string",
                                "PolicyId": "string",
                                "PolicyType": "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.

Responses (p. 32)

A list of all the responses for each batch read.

Type: Array of BatchReadOperationResponse (p. 333) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of BatchRead.

```
POST /amazonclouddirectory/2017-01-11/batchread HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 18
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
x-amz-consistency-level: EVENTUAL
X-Amz-Date: 20170922T233414Z
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170922/
us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-
amz-consistency-level;x-amz-data-partition;x-amz-date,
 Signature=dcf33d791a3f742d04edde6107c4795918d7e034c32f0029a49c95a9fe79cd40


{
 "Operations": []
}
```

Example Response

This example illustrates one usage of BatchRead.

```
HTTP/1.1 200 OK
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Date: Thu, 22 Sep 2017 00:35:44 GMT
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Content-Type: application/json
Content-Length: 521

{
 "Responses": []
}
```

See Also

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

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

BatchWrite

Performs all the write operations in a batch. Either all the operations succeed or none.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/batchwrite HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "Operations": [
      {
         "AddFacetToObject": {
            "ObjectAttributeList": [
               {
                  "Key": {
                     "FacetName": "string",
                     "Name": "string",
                     "SchemaArn": "string"
                  },
                  "Value": {
                     "BinaryValue": blob,
                     "BooleanValue": boolean,
                     "DatetimeValue": number,
                     "NumberValue": "string",
                     "StringValue": "string"
                  }
               }
            ],
            "ObjectReference": {
               "Selector": "string"
            },
            "SchemaFacet": {
               "FacetName": "string",
               "SchemaArn": "string"
            }
         },
         "AttachObject": {
            "ChildReference": {
               "Selector": "string"
            },
            "LinkName": "string",
            "ParentReference": {
               "Selector": "string"
            }
         },
         "AttachPolicy": {
            "ObjectReference": {
               "Selector": "string"
            },
            "PolicyReference": {
               "Selector": "string"
            }
         },
         "AttachToIndex": {
            "IndexReference": {
               "Selector": "string"
            },
            "TargetReference": {
               "Selector": "string"
            }
         }
```

```
            },
            "AttachTypedLink": {
               "Attributes": [
                  {
                     "AttributeName": "string",
                     "Value": {
                        "BinaryValue": blob,
                        "BooleanValue": boolean,
                        "DatetimeValue": number,
                        "NumberValue": "string",
                        "StringValue": "string"
                     }
                  }
               ],
               "SourceObjectReference": {
                  "Selector": "string"
               },
               "TargetObjectReference": {
                  "Selector": "string"
               },
               "TypedLinkFacet": {
                  "SchemaArn": "string",
                  "TypedLinkName": "string"
               }
            },
            "CreateIndex": {
               "BatchReferenceName": "string",
               "IsUnique": boolean,
               "LinkName": "string",
               "OrderedIndexedAttributeList": [
                  {
                     "FacetName": "string",
                     "Name": "string",
                     "SchemaArn": "string"
                  }
               ],
               "ParentReference": {
                  "Selector": "string"
               }
            },
            "CreateObject": {
               "BatchReferenceName": "string",
               "LinkName": "string",
               "ObjectAttributeList": [
                  {
                     "Key": {
                        "FacetName": "string",
                        "Name": "string",
                        "SchemaArn": "string"
                     },
                     "Value": {
                        "BinaryValue": blob,
                        "BooleanValue": boolean,
                        "DatetimeValue": number,
                        "NumberValue": "string",
                        "StringValue": "string"
                     }
                  }
               ],
               "ParentReference": {
                  "Selector": "string"
               },
               "SchemaFacet": [
                  {
                     "FacetName": "string",
                     "SchemaArn": "string"
```

```
            }
        ]
    },
    "DeleteObject": {
        "ObjectReference": {
            "Selector": "string"
        }
    },
    "DetachFromIndex": {
        "IndexReference": {
            "Selector": "string"
        },
        "TargetReference": {
            "Selector": "string"
        }
    },
    "DetachObject": {
        "BatchReferenceName": "string",
        "LinkName": "string",
        "ParentReference": {
            "Selector": "string"
        }
    },
    "DetachPolicy": {
        "ObjectReference": {
            "Selector": "string"
        },
        "PolicyReference": {
            "Selector": "string"
        }
    },
    "DetachTypedLink": {
        "TypedLinkSpecifier": {
            "IdentityAttributeValues": [
                {
                    "AttributeName": "string",
                    "Value": {
                        "BinaryValue": blob,
                        "BooleanValue": boolean,
                        "DatetimeValue": number,
                        "NumberValue": "string",
                        "StringValue": "string"
                    }
                }
            ],
            "SourceObjectReference": {
                "Selector": "string"
            },
            "TargetObjectReference": {
                "Selector": "string"
            },
            "TypedLinkFacet": {
                "SchemaArn": "string",
                "TypedLinkName": "string"
            }
        }
    },
    "RemoveFacetFromObject": {
        "ObjectReference": {
            "Selector": "string"
        },
        "SchemaFacet": {
            "FacetName": "string",
            "SchemaArn": "string"
        }
    },
```

```
        "UpdateLinkAttributes": {
           "AttributeUpdates": [
              {
                 "AttributeAction": {
                    "AttributeActionType": "string",
                    "AttributeUpdateValue": {
                       "BinaryValue": blob,
                       "BooleanValue": boolean,
                       "DatetimeValue": number,
                       "NumberValue": "string",
                       "StringValue": "string"
                    }
                 },
                 "AttributeKey": {
                    "FacetName": "string",
                    "Name": "string",
                    "SchemaArn": "string"
                 }
              }
           ],
           "TypedLinkSpecifier": {
              "IdentityAttributeValues": [
                 {
                    "AttributeName": "string",
                    "Value": {
                       "BinaryValue": blob,
                       "BooleanValue": boolean,
                       "DatetimeValue": number,
                       "NumberValue": "string",
                       "StringValue": "string"
                    }
                 }
              ],
              "SourceObjectReference": {
                 "Selector": "string"
              },
              "TargetObjectReference": {
                 "Selector": "string"
              },
              "TypedLinkFacet": {
                 "SchemaArn": "string",
                 "TypedLinkName": "string"
              }
           }
        },
        "UpdateObjectAttributes": {
           "AttributeUpdates": [
              {
                 "ObjectAttributeAction": {
                    "ObjectAttributeActionType": "string",
                    "ObjectAttributeUpdateValue": {
                       "BinaryValue": blob,
                       "BooleanValue": boolean,
                       "DatetimeValue": number,
                       "NumberValue": "string",
                       "StringValue": "string"
                    }
                 },
                 "ObjectAttributeKey": {
                    "FacetName": "string",
                    "Name": "string",
                    "SchemaArn": "string"
                 }
              }
           ],
           "ObjectReference": {
```

```
                    "Selector": "string"
                }
            }
        }
    ]
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 39)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 349). For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

Operations (p. 39)

A list of operations that are part of the batch.

Type: Array of BatchWriteOperation (p. 343) objects

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "Responses": [
        {
            "AddFacetToObject": {
            },
            "AttachObject": {
                "attachedObjectIdentifier": "string"
            },
            "AttachPolicy": {
            },
            "AttachToIndex": {
                "AttachedObjectIdentifier": "string"
            },
            "AttachTypedLink": {
                "TypedLinkSpecifier": {
                    "IdentityAttributeValues": [
                        {
                            "AttributeName": "string",
                            "Value": {
                                "BinaryValue": blob,
                                "BooleanValue": boolean,
                                "DatetimeValue": number,
```

```
                            "NumberValue": "string",
                            "StringValue": "string"
                        }
                    }
                ],
                "SourceObjectReference": {
                    "Selector": "string"
                },
                "TargetObjectReference": {
                    "Selector": "string"
                },
                "TypedLinkFacet": {
                    "SchemaArn": "string",
                    "TypedLinkName": "string"
                }
            }
        },
        "CreateIndex": {
            "ObjectIdentifier": "string"
        },
        "CreateObject": {
            "ObjectIdentifier": "string"
        },
        "DeleteObject": {
        },
        "DetachFromIndex": {
            "DetachedObjectIdentifier": "string"
        },
        "DetachObject": {
            "detachedObjectIdentifier": "string"
        },
        "DetachPolicy": {
        },
        "DetachTypedLink": {
        },
        "RemoveFacetFromObject": {
        },
        "UpdateLinkAttributes": {
        },
        "UpdateObjectAttributes": {
            "ObjectIdentifier": "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.

Responses (p. 43)

A list of all the responses for each batch write.

Type: Array of BatchWriteOperationResponse (p. 346) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

BatchWriteException

A `BatchWrite` exception has occurred.

HTTP Status Code: 400

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of BatchWrite.

```
PUT /amazonclouddirectory/2017-01-11/batchwrite HTTP/1.1
```

```
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 18
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170922/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=e539506cd67ac7a753fa37aa58272f4c7bda369fc0f6b4f7bff6bea0f0fcd4af
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY
X-Amz-Date: 20170922T232444Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
  "Operations": []
}
```

Example Response

This example illustrates one usage of BatchWrite.

```
HTTP/1.1 200 OK
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Date: Thu, 22 Sep 2017 00:35:44 GMT
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Content-Type: application/json
Content-Length: 521

{
  "Responses": []
}
```

See Also

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

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

CreateDirectory

Creates a Directory (p. 349) by copying the published schema into the directory. A directory cannot be created without a schema.

You can also quickly create a directory using a managed schema, called the `QuickStartSchema`. For more information, see Managed Schema in the *Amazon Cloud Directory Developer Guide*.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/directory/create HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
   "Name": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

SchemaArn (p. 47)

The Amazon Resource Name (ARN) of the published schema that will be copied into the data Directory (p. 349). For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

Name (p. 47)

The name of the Directory (p. 349). Should be unique per account, per region.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9._-]*$

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "AppliedSchemaArn": "string",
   "DirectoryArn": "string",
   "Name": "string",
   "ObjectIdentifier": "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.

AppliedSchemaArn (p. 47)

>The ARN of the published schema in the Directory (p. 349). Once a published schema is copied into the directory, it has its own ARN, which is referred to applied schema ARN. For more information, see Arn Examples (p. 378).

>Type: String

DirectoryArn (p. 47)

>The ARN that is associated with the Directory (p. 349). For more information, see Arn Examples (p. 378).

>Type: String

Name (p. 47)

>The name of the Directory (p. 349).

>Type: String

>Length Constraints: Minimum length of 1. Maximum length of 64.

>Pattern: `^[a-zA-Z0-9._-]*$`

ObjectIdentifier (p. 47)

>The root object node of the created directory.

>Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

>Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

>HTTP Status Code: 403

DirectoryAlreadyExistsException

>Indicates that a Directory (p. 349) could not be created due to a naming conflict. Choose a different name and try again.

>HTTP Status Code: 400

InternalServiceException

>Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of CreateDirectory.

```
PUT /amazonclouddirectory/2017-01-11/directory/create HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 22
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170922/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=f347d3f8d6ceccbfd47738ab11fe0194b5efd329b4e0431f7221ee80c672fd9a
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:schema/published/
person/1
X-Amz-Date: 20170922T220642Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8


{
 "Name": "ExampleCD"
}
```

Example Response

This example illustrates one usage of CreateDirectory.

```
HTTP/1.1 200 OK
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Date: Thu, 22 Sep 2017 00:35:44 GMT
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Content-Type: application/json
Content-Length: 521

{
 "AppliedSchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AfMr4qym1kZTvwqOafAYfqI/schema/person/1",
 "DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AfMr4qym1kZTvwqOafAYfqI",
 "Name": "ExampleCD",
 "ObjectIdentifier": "AQHzK-KsptZGU78KjmnwGH6i-4guCM3uQFOTA9_NjeHDrg"
}
```

See Also

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

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

CreateFacet

Creates a new Facet (p. 350) in a schema. Facet creation is allowed only in development or applied schemas.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/facet/create HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
    "Attributes": [
        {
            "AttributeDefinition": {
                "DefaultValue": {
                    "BinaryValue": blob,
                    "BooleanValue": boolean,
                    "DatetimeValue": number,
                    "NumberValue": "string",
                    "StringValue": "string"
                },
                "IsImmutable": boolean,
                "Rules": {
                    "string" : {
                        "Parameters": {
                            "string" : "string"
                        },
                        "Type": "string"
                    }
                },
                "Type": "string"
            },
            "AttributeReference": {
                "TargetAttributeName": "string",
                "TargetFacetName": "string"
            },
            "Name": "string",
            "RequiredBehavior": "string"
        }
    ],
    "FacetStyle": "string",
    "Name": "string",
    "ObjectType": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

SchemaArn (p. 51)

The schema ARN in which the new Facet (p. 350) will be created. For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

Attributes (p. 51)

> The attributes that are associated with the Facet (p. 350).
>
> Type: Array of FacetAttribute (p. 351) objects
>
> Required: No

FacetStyle (p. 51)

> There are two different styles that you can define on any given facet, `Static` and `Dynamic`. For static facets, all attributes must be defined in the schema. For dynamic facets, attributes can be defined during data plane operations.
>
> Type: String
>
> Valid Values: `STATIC | DYNAMIC`
>
> Required: No

Name (p. 51)

> The name of the Facet (p. 350), which is unique for a given schema.
>
> Type: String
>
> Length Constraints: Minimum length of 1. Maximum length of 64.
>
> Pattern: `^[a-zA-Z0-9._-]*$`
>
> Required: Yes

ObjectType (p. 51)

> Specifies whether a given object created from this facet is of type node, leaf node, policy or index.
> - Node: Can have multiple children but one parent.
> - Leaf node: Cannot have children but can have multiple parents.
> - Policy: Allows you to store a policy document and policy type. For more information, see Policies.
> - Index: Can be created with the Index API.
>
> Type: String
>
> Valid Values: `NODE | LEAF_NODE | POLICY | INDEX`
>
> Required: No

Response Syntax

```
HTTP/1.1 200
```

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. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

FacetAlreadyExistsException

A facet with the same name already exists.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidRuleException

Occurs when any of the rule parameter keys or values are invalid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of CreateFacet.

```
PUT /amazonclouddirectory/2017-01-11/facet/create HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 39
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170922/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=d6b41d921e64be7413abf9bd9036289cb34ace20275ed17dee45e594622ced4b
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/org/1
X-Amz-Date: 20170922T214008Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
  "Name": "node1",
  "ObjectType": "NODE"
}
```

Example Response

This example illustrates one usage of CreateFacet.

```
HTTP/1.1 200 OK
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Date: Thu, 22 Sep 2017 00:35:44 GMT
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Content-Type: application/json
Content-Length: 521

{}
```

See Also

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

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

- AWS SDK for Python
- AWS SDK for Ruby V3

CreateIndex

Creates an index object. See Indexing and search for more information.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/index HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "IsUnique": boolean,
   "LinkName": "string",
   "OrderedIndexedAttributeList": [
      {
         "FacetName": "string",
         "Name": "string",
         "SchemaArn": "string"
      }
   ],
   "ParentReference": {
      "Selector": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 56)

The ARN of the directory where the index should be created.

Required: Yes

Request Body

The request accepts the following data in JSON format.

IsUnique (p. 56)

Indicates whether the attribute that is being indexed has unique values or not.

Type: Boolean

Required: Yes

LinkName (p. 56)

The name of the link between the parent object and the index object.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: [^\/\[\]\(\)]:\{\}#@!?\s\\;]+

Required: No

OrderedIndexedAttributeList (p. 56)

Specifies the attributes that should be indexed on. Currently only a single attribute is supported.

Type: Array of AttributeKey (p. 270) objects

Required: Yes

ParentReference (p. 56)

A reference to the parent object that contains the index object.

Type: ObjectReference (p. 362) object

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "ObjectIdentifier": "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.

ObjectIdentifier (p. 57)

The `ObjectIdentifier` of the index created by this operation.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

LinkNameAlreadyInUseException

Indicates that a link could not be created due to a naming conflict. Choose a different name and then try again.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

UnsupportedIndexTypeException

Indicates that the requested index type is not supported.

HTTP Status Code: 400

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of CreateIndex.

```
PUT /amazonclouddirectory/2017-01-11/index HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 290
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170913/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=dc93fb34cd655e125aa748b8747d99bef78c7c5785e30327cf151d74accbbcf0
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AXQXDXvdgkOWktRXV4HnRa8
X-Amz-Date: 20170913T012153Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
    "ParentReference":{
        "Selector":"/"
    },
    "OrderedIndexedAttributeList":[
        {
            "SchemaArn":"arn:aws:clouddirectory:us-west-2:45132example:directory/
AXQXDXvdgkOWktRXV4HnRa8/schema/Examplepersonschema/1",
            "FacetName":"Organization_Person",
            "Name":"manager"
        }
    ],
    "IsUnique":true,
    "LinkName":"Examplelink"
}
```

Example Response

This example illustrates one usage of CreateIndex.

```
HTTP/1.1 200 OK
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Date: Thu, 13 Sep 2017 00:35:44 GMT
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Content-Type: application/json
Content-Length: 521

{
    "ObjectIdentifier":"AQF0Fw173YJDlpLUV1eB50Wv4vU99HjyQIShCCUeVob2fw"
}
```

See Also

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

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

CreateObject

Creates an object in a Directory (p. 349). Additionally attaches the object to a parent, if a parent reference and `LinkName` is specified. An object is simply a collection of Facet (p. 350) attributes. You can also use this API call to create a policy object, if the facet from which you create the object is a policy facet.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/object HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
    "LinkName": "string",
    "ObjectAttributeList": [
        {
            "Key": {
                "FacetName": "string",
                "Name": "string",
                "SchemaArn": "string"
            },
            "Value": {
                "BinaryValue": blob,
                "BooleanValue": boolean,
                "DatetimeValue": number,
                "NumberValue": "string",
                "StringValue": "string"
            }
        }
    ],
    "ParentReference": {
        "Selector": "string"
    },
    "SchemaFacets": [
        {
            "FacetName": "string",
            "SchemaArn": "string"
        }
    ]
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 61)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 349) in which the object will be created. For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

LinkName (p. 61)

The name of link that is used to attach this object to a parent.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `[^\/\[\]\(\):\{\}#@!?\s\\;]+`

Required: No

ObjectAttributeList (p. 61)

The attribute map whose attribute ARN contains the key and attribute value as the map value.

Type: Array of AttributeKeyAndValue (p. 271) objects

Required: No

ParentReference (p. 61)

If specified, the parent reference to which this object will be attached.

Type: ObjectReference (p. 362) object

Required: No

SchemaFacets (p. 61)

A list of schema facets to be associated with the object. Do not provide minor version components. See SchemaFacet (p. 367) for details.

Type: Array of SchemaFacet (p. 367) objects

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "ObjectIdentifier": "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.

ObjectIdentifier (p. 62)

The identifier that is associated with the object.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

LinkNameAlreadyInUseException

Indicates that a link could not be created due to a naming conflict. Choose a different name and then try again.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

UnsupportedIndexTypeException

Indicates that the requested index type is not supported.

HTTP Status Code: 400

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of CreateObject.

```
PUT /amazonclouddirectory/2017-01-11/object HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 196
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170912/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=af5780db69f39c02593f384e0ad70528f9c833e67d47e8e37ac456c10c994aa0
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AXQXDXvdgkOWktRXV4HnRa8
X-Amz-Date: 20170912T184134Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
    "SchemaFacets":[
        {
            "SchemaArn":"arn:aws:clouddirectory:us-west-2:45132example:directory/
AXQXDXvdgkOWktRXV4HnRa8/schema/Examplepersonschema/1",
            "FacetName":"Organization_Person"
        }
    ]
}
```

Example Response

This example illustrates one usage of CreateObject.

```
HTTP/1.1 200 OK
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Date: Thu, 12 Sep 2017 00:35:44 GMT
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Content-Type: application/json
Content-Length: 521

{
    "ObjectIdentifier": "AQF0Fw173YJDlpLUV1eB50WvP1K49muETy2xCqhXZK2s-A"
}
```

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET

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

CreateSchema

Creates a new schema in a development state. A schema can exist in three phases:

- *Development:* This is a mutable phase of the schema. All new schemas are in the development phase. Once the schema is finalized, it can be published.
- *Published:* Published schemas are immutable and have a version associated with them.
- *Applied:* Applied schemas are mutable in a way that allows you to add new schema facets. You can also add new, nonrequired attributes to existing schema facets. You can apply only published schemas to directories.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/schema/create HTTP/1.1
Content-type: application/json

{
    "Name": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

Name (p. 66)

The name that is associated with the schema. This is unique to each account and in each region.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 32.

Pattern: `^[a-zA-Z0-9._-]*$`

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "SchemaArn": "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.

SchemaArn (p. 66)

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 378).

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

SchemaAlreadyExistsException

Indicates that a schema could not be created due to a naming conflict. Please select a different name and then try again.

HTTP Status Code: 400

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of CreateSchema.

```
PUT /amazonclouddirectory/2017-01-11/schema/create HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 21
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170927/
us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-date,
 Signature=92b2be88dd90f3e789ff651f5ae897b35f601e2f6a4d08addb07993ef8399e29
X-Amz-Date: 20170927T164420Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8


{
  "Name": "Customers"
}
```

Example Response

This example illustrates one usage of CreateSchema.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 2c3050f1-a3a3-11e7-bd9d-f9e3493b0666
Date: Wed, 27 Sep 2017 16:44:47 GMT
x-amzn-RequestId: 2c3050f1-a3a3-11e7-bd9d-f9e3493b0666
Content-Type: application/json
Content-Length: 90


{
    "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:schema/development/
Customers"
}
```

See Also

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

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

- AWS SDK for Python
- AWS SDK for Ruby V3

CreateTypedLinkFacet

Creates a TypedLinkFacet (p. 374). For more information, see Typed Links.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/typedlink/facet/create HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
   "Facet": {
      "Attributes": [
         {
            "DefaultValue": {
               "BinaryValue": blob,
               "BooleanValue": boolean,
               "DatetimeValue": number,
               "NumberValue": "string",
               "StringValue": "string"
            },
            "IsImmutable": boolean,
            "Name": "string",
            "RequiredBehavior": "string",
            "Rules": {
               "string" : {
                  "Parameters": {
                     "string" : "string"
                  },
                  "Type": "string"
               }
            },
            "Type": "string"
         }
      ],
      "IdentityAttributeOrder": [ "string" ],
      "Name": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

SchemaArn (p. 70)

> The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 378).
>
> Required: Yes

Request Body

The request accepts the following data in JSON format.

Facet (p. 70)

> Facet (p. 350) structure that is associated with the typed link facet.

Type: TypedLinkFacet (p. 374) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

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. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

FacetAlreadyExistsException

A facet with the same name already exists.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidRuleException

Occurs when any of the rule parameter keys or values are invalid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of CreateTypedLinkFacet.

```
PUT /amazonclouddirectory/2017-01-11/typedlink/facet/create HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 156
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170923/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=b174c239b7f8e0ef63f16c7755d3655a16f7b812e2f93008eb0447fb611cfefa
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:schema/development/
typedlinkschema
X-Amz-Date: 20170923T004008Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
 "Facet": {
  "Attributes": [{
    "RequiredBehavior": "REQUIRED_ALWAYS",
    "Type": "BINARY",
    "Name": "1"
  }],
  "IdentityAttributeOrder": ["1"],
  "Name": "FacetExample"
 }
}
```

Example Response

This example illustrates one usage of CreateTypedLinkFacet.

```
HTTP/1.1 200 OK
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
```

```
Date: Thu, 23 Sep 2017 00:35:44 GMT
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Content-Type: application/json
Content-Length: 521

{}
```

See Also

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

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

DeleteDirectory

Deletes a directory. Only disabled directories can be deleted. A deleted directory cannot be undone. Exercise extreme caution when deleting directories.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/directory HTTP/1.1
x-amz-data-partition: DirectoryArn
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 74)

> The ARN of the directory to delete.
>
> Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "DirectoryArn": "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.

DirectoryArn (p. 74)

> The ARN of the deleted directory.
>
> Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

> Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryDeletedException

A directory that has been deleted and to which access has been attempted. Note: The requested resource will eventually cease to exist.

HTTP Status Code: 400

DirectoryNotDisabledException

An operation can only operate on a disabled directory.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of DeleteDirectory.

```
PUT /amazonclouddirectory/2017-01-11/directory HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 0
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171009/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=671e5a6db08c16becf5a59a956690cbdf3da4a089022e919d1f185ae3365c46a
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AXQXDXvdgkOWktRXV4HnRa8
X-Amz-Date: 20171009T173437Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
```

Example Response

This example illustrates one usage of DeleteDirectory.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 2061f3c0-ad18-11e7-8502-0566a31305cf
Date: Mon, 09 Oct 2017 17:34:39 GMT
x-amzn-RequestId: 2061f3c0-ad18-11e7-8502-0566a31305cf
Content-Type: application/json
Content-Length: 98

{
  "DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AXQXDXvdgkOWktRXV4HnRa8"
}
```

See Also

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

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

DeleteFacet

Deletes a given Facet (p. 350). All attributes and Rule (p. 366)s that are associated with the facet will be deleted. Only development schema facets are allowed deletion.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/facet/delete HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
    "Name": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

SchemaArn (p. 77)

The Amazon Resource Name (ARN) that is associated with the Facet (p. 350). For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

Name (p. 77)

The name of the facet to delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[a-zA-Z0-9._-]*$`

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

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. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

FacetInUseException

Occurs when deleting a facet that contains an attribute that is a target to an attribute reference in a different facet.

HTTP Status Code: 400

FacetNotFoundException

The specified Facet (p. 350) could not be found.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of DeleteFacet.

```
PUT /amazonclouddirectory/2017-01-11/facet/delete HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 24
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171009/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=67a330fb824e90451da06dd85e94ac37865044e9c933657a298457bd46660b07
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:schema/development/
exampleorgtest
X-Amz-Date: 20171009T182210Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8


{
  "Name": "Organization"
}
```

Example Response

This example illustrates one usage of DeleteFacet.

```
HTTP/1.1 200 OK
x-amzn-RequestId: c4f739ec-ad1e-11e7-a6de-b54884d62153
Date: Mon, 09 Oct 2017 18:22:11 GMT
x-amzn-RequestId: c4f739ec-ad1e-11e7-a6de-b54884d62153
Content-Type: application/json
Content-Length: 2

{}
```

See Also

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

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

DeleteObject

Deletes an object and its associated attributes. Only objects with no children and no parents can be deleted. The maximum number of attributes that can be deleted during an object deletion is 30. For more information, see Amazon Cloud Directory Limits.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/object/delete HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "ObjectReference": {
      "Selector": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 80)

> The Amazon Resource Name (ARN) that is associated with the Directory (p. 349) where the object resides. For more information, see Arn Examples (p. 378).
>
> Required: Yes

Request Body

The request accepts the following data in JSON format.

ObjectReference (p. 80)

> A reference that identifies the object.
>
> Type: ObjectReference (p. 362) object
>
> Required: Yes

Response Syntax

```
HTTP/1.1 200
```

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. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ObjectNotDetachedException

Indicates that the requested operation cannot be completed because the object has not been detached from the tree.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of DeleteObject.

```
PUT /amazonclouddirectory/2017-01-11/object/delete HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 84
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171009/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=7b16ec6d1d54f36672cb2d39f1e975925e5222208ff8c6a8cd4e1a63dd17df70
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AfMr4qym1kZTvwqOafAYfqI
X-Amz-Date: 20171009T183947Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
 "ObjectReference": {
   "Selector": "$AQHzK-KsptZGU78KjmnwGH6i8H-voMZDSNCqfx-fRUcBFg"
 }
}
```

Example Response

This example illustrates one usage of DeleteObject.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 3b1928f3-ad21-11e7-81c0-7b48a7696e76
Date: Mon, 09 Oct 2017 18:39:48 GMT
x-amzn-RequestId: 3b1928f3-ad21-11e7-81c0-7b48a7696e76
Content-Type: application/json
Content-Length: 2

{}
```

See Also

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

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

DeleteSchema

Deletes a given schema. Schemas in a development and published state can only be deleted.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/schema HTTP/1.1
x-amz-data-partition: SchemaArn
```

URI Request Parameters

The request uses the following URI parameters.

SchemaArn (p. 83)

The Amazon Resource Name (ARN) of the development schema. For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "SchemaArn": "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.

SchemaArn (p. 83)

The input ARN that is returned as part of the response. For more information, see Arn Examples (p. 378).

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

StillContainsLinksException

The object could not be deleted because links still exist. Remove the links and then try the operation again.

HTTP Status Code: 400

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of DeleteSchema.

```
PUT /amazonclouddirectory/2017-01-11/schema HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 0
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171009/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=f2ac3f0780f6e0fa9115c1a7e19353dbc607eac30420fceacba09a189d057b44
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:schema/development/
exampleorgtest
X-Amz-Date: 20171009T185055Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
```

Example Response

This example illustrates one usage of DeleteSchema.

```
HTTP/1.1 200 OK
x-amzn-RequestId: c92b705e-ad22-11e7-8502-0566a31305cf
Date: Mon, 09 Oct 2017 18:50:57 GMT
x-amzn-RequestId: c92b705e-ad22-11e7-8502-0566a31305cf
Content-Type: application/json
Content-Length: 95

{
  "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:schema/development/
exampleorgtest"
}
```

See Also

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

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

DeleteTypedLinkFacet

Deletes a   TypedLinkFacet (p. 374). For more information, see Typed Links.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/typedlink/facet/delete HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
   "Name": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

SchemaArn (p. 86)

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

Name (p. 86)

The unique name of the typed link facet.

Type: String

Pattern: ^[a-zA-Z0-9._-]*$

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

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. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the
directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

FacetNotFoundException

The specified Facet (p. 350) could not be found.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error
in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health
Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation
occurs on an object and then an attempt is made to read the object using "SERIALIZABLE"
consistency, this exception may result. This generally occurs when the previous write did not have
time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is
the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of DeleteTypedLinkFacet.

```
PUT /amazonclouddirectory/2017-01-11/typedlink/facet/delete HTTP/1.1
```

```
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 24
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171009/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=a8d2e25d4f3051fb3820effa2fc21cfe3327bea088e45c53199a5d2a2db9e1d6
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:schema/development/
typedlinkschematest
X-Amz-Date: 20171009T190948Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8


{
  "Name": "ExampleFacet"
}
```

Example Response

This example illustrates one usage of DeleteTypedLinkFacet.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 6cbc3bb3-ad25-11e7-98a0-81d6fbb0fa15
Date: Mon, 09 Oct 2017 19:09:50 GMT
x-amzn-RequestId: 6cbc3bb3-ad25-11e7-98a0-81d6fbb0fa15
Content-Type: application/json
Content-Length: 2

{}
```

See Also

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

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

DetachFromIndex

Detaches the specified object from the specified index.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/index/detach HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "IndexReference": {
      "Selector": "string"
   },
   "TargetReference": {
      "Selector": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 89)

> The Amazon Resource Name (ARN) of the directory the index and object exist in.
>
> Required: Yes

Request Body

The request accepts the following data in JSON format.

IndexReference (p. 89)

> A reference to the index object.
>
> Type: ObjectReference (p. 362) object
>
> Required: Yes

TargetReference (p. 89)

> A reference to the object being detached from the index.
>
> Type: ObjectReference (p. 362) object
>
> Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
```

```
    "DetachedObjectIdentifier": "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.

DetachedObjectIdentifier (p. 89)

The `ObjectIdentifier` of the object that was detached from the index.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

NotIndexException

Indicates that the requested operation can only operate on index objects.

HTTP Status Code: 400

ObjectAlreadyDetachedException

Indicates that the object is not attached to the index.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of DetachFromIndex.

```
PUT /amazonclouddirectory/2017-01-11/index/detach HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 167
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171009/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=78a7d77e2d49bc312be21f048fd10742dc50c838314696f2f58e99658137773b
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY
X-Amz-Date: 20171009T195357Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
 "IndexReference": {
  "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TW45F26R1HTY2z-stwKBte_Q"
 },
 "TargetReference": {
  "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zme1sVsw"
 }
}
```

Example Response

This example illustrates one usage of DetachFromIndex.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 9746ae70-ad2b-11e7-81c0-7b48a7696e76
Date: Mon, 09 Oct 2017 19:53:59 GMT
x-amzn-RequestId: 9746ae70-ad2b-11e7-81c0-7b48a7696e76
Content-Type: application/json
```

```
Content-Length: 77

{
 "DetachedObjectIdentifier": "AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zme1sVsw"
}
```

See Also

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

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

DetachObject

Detaches a given object from the parent object. The object that is to be detached from the parent is specified by the link name.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/object/detach HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "LinkName": "string",
   "ParentReference": {
      "Selector": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 93)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 349) where objects reside. For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

LinkName (p. 93)

The link name associated with the object that needs to be detached.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `[^\/\[\]\(\):\{\}#@!?\s\\;]+`

Required: Yes

ParentReference (p. 93)

The parent reference from which the object with the specified link name is detached.

Type: ObjectReference (p. 362) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

```
Content-type: application/json

{
    "DetachedObjectIdentifier": "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.

DetachedObjectIdentifier (p. 93)

The `ObjectIdentifier` that was detached from the object.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

NotNodeException

Occurs when any invalid operations are performed on an object that is not a node, such as calling `ListObjectChildren` for a leaf node object.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of DetachObject.

```
PUT /amazonclouddirectory/2017-01-11/object/detach HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 105
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171016/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=e994ca925acaa6fc6d03c9bc505e5f634fc0847563f32025ed500ea05bc5f389
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY
X-Amz-Date: 20171016T231940Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
 "ParentReference": {
  "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zme1sVsw"
 },
 "LinkName": "link2"
}
```

Example Response

This example illustrates one usage of DetachObject.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 7d42c361-b2c8-11e7-81c0-7b48a7696e76
Date: Mon, 16 Oct 2017 23:19:41 GMT
x-amzn-RequestId: 7d42c361-b2c8-11e7-81c0-7b48a7696e76
Content-Type: application/json
Content-Length: 77
```

```
{
 "DetachedObjectIdentifier": "AQGG_ADlfNZBzYHY_JgDt3TWSvfuEnDqTdmeCuTs6YBNUA"
}
```

See Also

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

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

DetachPolicy

Detaches a policy from an object.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/policy/detach HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "ObjectReference": {
      "Selector": "string"
   },
   "PolicyReference": {
      "Selector": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 97)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 349) where both objects reside. For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

ObjectReference (p. 97)

Reference that identifies the object whose policy object will be detached.

Type: ObjectReference (p. 362) object

Required: Yes

PolicyReference (p. 97)

Reference that identifies the policy object.

Type: ObjectReference (p. 362) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

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. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

NotPolicyException

Indicates that the requested operation can only operate on policy objects.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of DetachPolicy.

```
PUT /amazonclouddirectory/2017-01-11/policy/detach HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 168
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171017/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=c4e16e1a1fae26ec2a5531e95ea261c6f7255e5639438bd56af0c0ce9dafc700
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY
X-Amz-Date: 20171017T185834Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
 "PolicyReference": {
  "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWgcBsTVmcQEWs6jlygfhuew"
 },
 "ObjectReference": {
  "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWQoovm1s3Ts2v0NKrzdVnPw"
 }
}
```

Example Response

This example illustrates one usage of DetachPolicy.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 2d7a5bcf-b36d-11e7-81c0-7b48a7696e76
Date: Tue, 17 Oct 2017 18:58:34 GMT
x-amzn-RequestId: 2d7a5bcf-b36d-11e7-81c0-7b48a7696e76
Content-Type: application/json
Content-Length: 2

{}
```

See Also

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

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

- AWS SDK for Python
- AWS SDK for Ruby V3

DetachTypedLink

Detaches a typed link from a specified source and target object. For more information, see Typed Links.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/typedlink/detach HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "TypedLinkSpecifier": {
      "IdentityAttributeValues": [
         {
            "AttributeName": "string",
            "Value": {
               "BinaryValue": blob,
               "BooleanValue": boolean,
               "DatetimeValue": number,
               "NumberValue": "string",
               "StringValue": "string"
            }
         }
      ],
      "SourceObjectReference": {
         "Selector": "string"
      },
      "TargetObjectReference": {
         "Selector": "string"
      },
      "TypedLinkFacet": {
         "SchemaArn": "string",
         "TypedLinkName": "string"
      }
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 101)

The Amazon Resource Name (ARN) of the directory where you want to detach the typed link.

Required: Yes

Request Body

The request accepts the following data in JSON format.

TypedLinkSpecifier (p. 101)

Used to accept a typed link specifier as input.

Type: TypedLinkSpecifier (p. 377) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

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. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE"

consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of DetachTypedLink.

```
PUT /amazonclouddirectory/2017-01-11/typedlink/detach HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 459
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170927/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=f2b55a0895ed644a5acfa07e793f5b2d25166c91c5f3be765004cd0b1c1613c1
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY
X-Amz-Date: 20170927T191638Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
 "TypedLinkSpecifier": {
  "SourceObjectReference": {
   "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWSvfuEnDqTdmeCuTs6YBNUA"
  },
  "IdentityAttributeValues": [{
   "AttributeName": "22",
   "Value": {
    "BinaryValue": "c3Ry"
   }
  }],
  "TargetObjectReference": {
   "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zme1sVsw"
  },
  "TypedLinkFacet": {
   "TypedLinkName": "exampletypedlink8",
   "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/org/1"
  }
 }
}
```

Example Response

This example illustrates one usage of DetachTypedLink.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 6340a418-a3b8-11e7-8502-0566a31305cf
```

```
Date: Wed, 27 Sep 2017 19:16:38 GMT
x-amzn-RequestId: 6340a418-a3b8-11e7-8502-0566a31305cf
Content-Type: application/json
Content-Length: 0
```

See Also

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

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

DisableDirectory

Disables the specified directory. Disabled directories cannot be read or written to. Only enabled directories can be disabled. Disabled directories may be reenabled.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/directory/disable HTTP/1.1
x-amz-data-partition: DirectoryArn
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 105)

> The ARN of the directory to disable.
>
> Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "DirectoryArn": "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.

DirectoryArn (p. 105)

> The ARN of the directory that has been disabled.
>
> Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

> Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryDeletedException

A directory that has been deleted and to which access has been attempted. Note: The requested resource will eventually cease to exist.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of DisableDirectory.

```
PUT /amazonclouddirectory/2017-01-11/directory/disable HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 0
```

```
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171006/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=2d3c51c700aee56ce68f0c2981c6dc08a413cd771ec9349b5190519c2c2d8a87
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AXQXDXvdgkOWktRXV4HnRa8
X-Amz-Date: 20171006T011145Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
```

Example Response

This example illustrates one usage of DisableDirectory.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 51db4cc5-aa33-11e7-98a0-81d6fbb0fa15
Date: Fri, 06 Oct 2017 01:11:45 GMT
x-amzn-RequestId: 51db4cc5-aa33-11e7-98a0-81d6fbb0fa15
Content-Type: application/json
Content-Length: 98

{
 "DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AXQXDXvdgkOWktRXV4HnRa8"
}
```

See Also

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

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

EnableDirectory

Enables the specified directory. Only disabled directories can be enabled. Once enabled, the directory can then be read and written to.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/directory/enable HTTP/1.1
x-amz-data-partition: DirectoryArn
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 108)

> The ARN of the directory to enable.
>
> Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "DirectoryArn": "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.

DirectoryArn (p. 108)

> The ARN of the enabled directory.
>
> Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

> Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryDeletedException

A directory that has been deleted and to which access has been attempted. Note: The requested resource will eventually cease to exist.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of EnableDirectory.

```
PUT /amazonclouddirectory/2017-01-11/directory/enable HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 0
```

```
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171006/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=1399f0fdfbed70640c9d5f2ddd91f8722645721bb30cbd9f6487d091de54bda0
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AXQXDXvdgkOWktRXV4HnRa8
X-Amz-Date: 20171006T011313Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
```

Example Response

This example illustrates one usage of EnableDirectory.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 85ee2468-aa33-11e7-98a0-81d6fbb0fa15
Date: Fri, 06 Oct 2017 01:13:12 GMT
x-amzn-RequestId: 85ee2468-aa33-11e7-98a0-81d6fbb0fa15
Content-Type: application/json
Content-Length: 98

{
 "DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AXQXDXvdgkOWktRXV4HnRa8"
}
```

See Also

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

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

GetAppliedSchemaVersion

Returns current applied schema version ARN, including the minor version in use.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/schema/getappliedschema HTTP/1.1
Content-type: application/json

{
    "SchemaArn": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

SchemaArn (p. 111)

> The ARN of the applied schema.
>
> Type: String
>
> Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "AppliedSchemaArn": "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.

AppliedSchemaArn (p. 111)

> Current applied schema ARN, including the minor version in use if one was provided.
>
> Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

- AWS SDK for Ruby V3

GetDirectory

Retrieves metadata about a directory.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/directory/get HTTP/1.1
x-amz-data-partition: DirectoryArn
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 114)

> The ARN of the directory.

> Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "Directory": {
        "CreationDateTime": number,
        "DirectoryArn": "string",
        "Name": "string",
        "State": "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.

Directory (p. 114)

> Metadata about the directory.

> Type: Directory (p. 349) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of GetDirectory.

```
POST /amazonclouddirectory/2017-01-11/directory/get HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 0
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171005/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=255eceb681267d8e41de7eb8983269fb61aa76fe56e2b36a4d0c4f855d9ae237
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY
X-Amz-Date: 20171005T202329Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
```

Example Response

This example illustrates one usage of GetDirectory.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 0d9489ee-aa0b-11e7-a169-c5bf0acd39f4
Date: Thu, 05 Oct 2017 20:23:30 GMT
x-amzn-RequestId: 0d9489ee-aa0b-11e7-a169-c5bf0acd39f4
Content-Type: application/json
Content-Length: 185

{
 "Directory": {
  "CreationDateTime": 1.506115781186E9,
  "DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY",
  "Name": "ExampleCD",
  "State": "ENABLED"
 }
}
```

See Also

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

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

GetFacet

Gets details of the Facet (p. 350), such as facet name, attributes, Rule (p. 366)s, or `ObjectType`. You can call this on all kinds of schema facets -- published, development, or applied.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/facet HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
   "Name": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

SchemaArn (p. 117)

The Amazon Resource Name (ARN) that is associated with the Facet (p. 350). For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

Name (p. 117)

The name of the facet to retrieve.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[a-zA-Z0-9._-]*$`

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Facet": {
      "FacetStyle": "string",
      "Name": "string",
      "ObjectType": "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.

Facet (p. 117)

>   The Facet (p. 350) structure that is associated with the facet.
>
>   Type: Facet (p. 350) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

>   Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.
>
>   HTTP Status Code: 403

FacetNotFoundException

>   The specified Facet (p. 350) could not be found.
>
>   HTTP Status Code: 400

InternalServiceException

>   Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.
>
>   HTTP Status Code: 500

InvalidArnException

>   Indicates that the provided ARN value is not valid.
>
>   HTTP Status Code: 400

LimitExceededException

>   Indicates that limits are exceeded. See Limits for more information.
>
>   HTTP Status Code: 400

ResourceNotFoundException

>   The specified resource could not be found.
>
>   HTTP Status Code: 404

RetryableConflictException

>   Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of GetFacet.

```
POST /amazonclouddirectory/2017-01-11/facet HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 17
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171005/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=70251faa630aeb0c6ca6375eefddef5fb0f956289eaf4a6fbb48ad7a34926aa6
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/org/1
X-Amz-Date: 20171005T195712Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8


{
 "Name": "node2"
}
```

Example Response

This example illustrates one usage of GetFacet.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 614b09f0-aa07-11e7-843e-9fad359f817f
Date: Thu, 05 Oct 2017 19:57:13 GMT
x-amzn-RequestId: 614b09f0-aa07-11e7-843e-9fad359f817f
Content-Type: application/json
Content-Length: 46

{
 "Facet": {
  "Name": "node2",
  "ObjectType": "NODE"
 }
}
```

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++

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

GetLinkAttributes

Retrieves attributes that are associated with a typed link.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/typedlink/attributes/get HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "AttributeNames": [ "string" ],
   "ConsistencyLevel": "string",
   "TypedLinkSpecifier": {
      "IdentityAttributeValues": [
         {
            "AttributeName": "string",
            "Value": {
               "BinaryValue": blob,
               "BooleanValue": boolean,
               "DatetimeValue": number,
               "NumberValue": "string",
               "StringValue": "string"
            }
         }
      ],
      "SourceObjectReference": {
         "Selector": "string"
      },
      "TargetObjectReference": {
         "Selector": "string"
      },
      "TypedLinkFacet": {
         "SchemaArn": "string",
         "TypedLinkName": "string"
      }
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 121)

> The Amazon Resource Name (ARN) that is associated with the Directory where the typed link resides. For more information, see Arn Examples (p. 378) or Typed Links.
>
> Required: Yes

Request Body

The request accepts the following data in JSON format.

AttributeNames (p. 121)

> A list of attribute names whose values will be retrieved.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 230.

Pattern: `^[a-zA-Z0-9._:-]*$`

Required: Yes

ConsistencyLevel (p. 121)

The consistency level at which to retrieve the attributes on a typed link.

Type: String

Valid Values: `SERIALIZABLE | EVENTUAL`

Required: No

TypedLinkSpecifier (p. 121)

Allows a typed link specifier to be accepted as input.

Type: TypedLinkSpecifier (p. 377) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Attributes": [
      {
         "Key": {
            "FacetName": "string",
            "Name": "string",
            "SchemaArn": "string"
         },
         "Value": {
            "BinaryValue": blob,
            "BooleanValue": boolean,
            "DatetimeValue": number,
            "NumberValue": "string",
            "StringValue": "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.

Attributes (p. 122)

The attributes that are associated with the typed link.

Type: Array of AttributeKeyAndValue (p. 271) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

GetObjectAttributes

Retrieves attributes within a facet that are associated with an object.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/object/attributes/get HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json

{
   "AttributeNames": [ "string" ],
   "ObjectReference": {
      "Selector": "string"
   },
   "SchemaFacet": {
      "FacetName": "string",
      "SchemaArn": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

ConsistencyLevel (p. 125)

> The consistency level at which to retrieve the attributes on an object.
>
> Valid Values: `SERIALIZABLE | EVENTUAL`

DirectoryArn (p. 125)

> The Amazon Resource Name (ARN) that is associated with the Directory (p. 349) where the object resides.
>
> Required: Yes

Request Body

The request accepts the following data in JSON format.

AttributeNames (p. 125)

> List of attribute names whose values will be retrieved.
>
> Type: Array of strings
>
> Length Constraints: Minimum length of 1. Maximum length of 230.
>
> Pattern: `^[a-zA-Z0-9._:-]*$`
>
> Required: Yes

ObjectReference (p. 125)

> Reference that identifies the object whose attributes will be retrieved.

Type: ObjectReference (p. 362) object

Required: Yes

SchemaFacet (p. 125)

Identifier for the facet whose attributes will be retrieved. See SchemaFacet (p. 367) for details.

Type: SchemaFacet (p. 367) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Attributes": [
      {
         "Key": {
            "FacetName": "string",
            "Name": "string",
            "SchemaArn": "string"
         },
         "Value": {
            "BinaryValue": blob,
            "BooleanValue": boolean,
            "DatetimeValue": number,
            "NumberValue": "string",
            "StringValue": "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.

Attributes (p. 126)

The attributes that are associated with the object.

Type: Array of AttributeKeyAndValue (p. 271) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go

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

GetObjectInformation

Retrieves metadata about an object.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/object/information HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json

{
   "ObjectReference": {
      "Selector": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

ConsistencyLevel (p. 129)

> The consistency level at which to retrieve the object information.
>
> Valid Values: `SERIALIZABLE | EVENTUAL`

DirectoryArn (p. 129)

> The ARN of the directory being retrieved.
>
> Required: Yes

Request Body

The request accepts the following data in JSON format.

ObjectReference (p. 129)

> A reference to the object.
>
> Type: ObjectReference (p. 362) object
>
> Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "ObjectIdentifier": "string",
   "SchemaFacets": [
      {
         "FacetName": "string",
```

```
            "SchemaArn": "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.

ObjectIdentifier (p. 129)

The `ObjectIdentifier` of the specified object.

Type: String

SchemaFacets (p. 129)

The facets attached to the specified object. Although the response does not include minor version information, the most recently applied minor version of each Facet is in effect. See GetAppliedSchemaVersion (p. 111) for details.

Type: Array of SchemaFacet (p. 367) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of GetObjectInformation.

```
POST /amazonclouddirectory/2017-01-11/object/information HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 84
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171005/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=6afad99dfe7c5c8152ec38e7ff206dc0c6c6060ed24624ea5654f24ab1392086
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY
X-Amz-Date: 20171005T182528Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
 "ObjectReference": {
   "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWmspn1fxfQmSQaaVKSbvEiQ"
 }
}
```

Example Response

This example illustrates one usage of GetObjectInformation.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 90f2f915-a9fa-11e7-bd9d-f9e3493b0666
Date: Thu, 05 Oct 2017 18:25:29 GMT
x-amzn-RequestId: 90f2f915-a9fa-11e7-bd9d-f9e3493b0666
Content-Type: application/json
Content-Length: 215

{
```

```
 "ObjectIdentifier": "AQGG_ADlfNZBzYHY_JgDt3TWmspn1fxfQmSQaaVKSbvEiQ",
 "SchemaFacets": [{
  "FacetName": "node2",
  "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/org/1"
 }]
}
```

See Also

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

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

GetSchemaAsJson

Retrieves a JSON representation of the schema. See JSON Schema Format for more information.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/schema/json HTTP/1.1
x-amz-data-partition: SchemaArn
```

URI Request Parameters

The request uses the following URI parameters.

SchemaArn (p. 133)

> The ARN of the schema to retrieve.
>
> Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "Document": "string",
    "Name": "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.

Document (p. 133)

> The JSON representation of the schema document.
>
> Type: String

Name (p. 133)

> The name of the retrieved schema.
>
> Type: String
>
> Length Constraints: Minimum length of 1. Maximum length of 32.
>
> Pattern: ^[a-zA-Z0-9._-]*$

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of GetSchemaAsJson.

```
POST /amazonclouddirectory/2017-01-11/schema/json HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 0
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171005/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=1cac388e2c4c4fb13c1fa5d0dfceaffc827acddf559c1706168a5fd84932e4d6
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/org/1
X-Amz-Date: 20171005T204308Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
```

Example Response

This example illustrates one usage of GetSchemaAsJson.

```
HTTP/1.1 200 OK
x-amzn-RequestId: cc541a4e-aa0d-11e7-9e13-5b6a00750e59
Date: Thu, 05 Oct 2017 20:43:09 GMT
x-amzn-RequestId: cc541a4e-aa0d-11e7-9e13-5b6a00750e59
Content-Type: application/json
Content-Length: 6938

{
  "Document": "{\"sourceSchemaArn\":\"arn:aws:clouddirectory:us-west-2:45132example:schema/
published/org/1\",\"facets\":{\"node2\":{\"facetAttributes\":{},\"objectType\":\"NODE
\"},\"Organization\":{\"facetAttributes\":{\"account_id\":{\"attributeDefinition\":
{\"attributeType\":\"STRING\",\"isImmutable\":false,\"attributeRules\":{\"nameLength
\":{\"parameters\":{\"min\":\"1\",\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},
\"requiredBehavior\":\"NOT_REQUIRED\"},\"account_name\":{\"attributeDefinition\":
{\"attributeType\":\"STRING\",\"isImmutable\":false,\"attributeRules\":{\"nameLength
\":{\"parameters\":{\"min\":\"1\",\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},
\"requiredBehavior\":\"NOT_REQUIRED\"},\"telephone_number\":{\"attributeDefinition\":
{\"attributeType\":\"STRING\",\"isImmutable\":false,\"attributeRules\":{\"nameLength
\":{\"parameters\":{\"min\":\"1\",\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH
\"}}},\"requiredBehavior\":\"NOT_REQUIRED\"},\"description\":{\"attributeDefinition\":
{\"attributeType\":\"STRING\",\"isImmutable\":false,\"attributeRules\":{\"nameLength
\":{\"parameters\":{\"min\":\"1\",\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},
\"requiredBehavior\":\"NOT_REQUIRED\"},\"mailing_address (country)\":{\"attributeDefinition
\":{\"attributeType\":\"STRING\",\"isImmutable\":false,\"attributeRules\":{\"nameLength
\":{\"parameters\":{\"min\":\"1\",\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},
\"requiredBehavior\":\"NOT_REQUIRED\"},\"mailing_address (state)\":{\"attributeDefinition
\":{\"attributeType\":\"STRING\",\"isImmutable\":false,\"attributeRules\":{\"nameLength
\":{\"parameters\":{\"min\":\"1\",\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},
\"requiredBehavior\":\"NOT_REQUIRED\"},\"mailing_address (street2)\":{\"attributeDefinition
\":{\"attributeType\":\"STRING\",\"isImmutable\":false,\"attributeRules\":{\"nameLength
\":{\"parameters\":{\"min\":\"1\",\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},
\"requiredBehavior\":\"NOT_REQUIRED\"},\"mailing_address (street1)\":{\"attributeDefinition
\":{\"attributeType\":\"STRING\",\"isImmutable\":false,\"attributeRules\":{\"nameLength
\":{\"parameters\":{\"min\":\"1\",\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH
\"}}},\"requiredBehavior\":\"NOT_REQUIRED\"},\"web_site\":{\"attributeDefinition\":
{\"attributeType\":\"STRING\",\"isImmutable\":false,\"attributeRules\":{\"nameLength
\":{\"parameters\":{\"min\":\"1\",\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},
\"requiredBehavior\":\"NOT_REQUIRED\"},\"email\":{\"attributeDefinition\":{\"attributeType
\":\"STRING\",\"isImmutable\":false,\"attributeRules\":{\"nameLength\":{\"parameters\":
{\"min\":\"1\",\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},\"requiredBehavior\":
\"NOT_REQUIRED\"},\"mailing_address (city)\":{\"attributeDefinition\":{\"attributeType
```

```
\":\"STRING\",\"isImmutable\":false,\"attributeRules\":{\"nameLength\":{\"parameters\":
{\"min\":\"1\",\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},\"requiredBehavior
\":\"NOT_REQUIRED\"},\"organization_status\":{\"attributeDefinition\":{\"attributeType
\":\"STRING\",\"isImmutable\":false,\"attributeRules\":{\"nameLength\":{\"parameters\":
{\"min\":\"1\",\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},\"requiredBehavior
\":\"NOT_REQUIRED\"},\"mailing_address (postal_code)\":{\"attributeDefinition\":
{\"attributeType\":\"STRING\",\"isImmutable\":false,\"attributeRules\":{\"nameLength
\":{\"parameters\":{\"min\":\"1\",\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH
\"}}},\"requiredBehavior\":\"NOT_REQUIRED\"}},\"objectType\":\"LEAF_NODE\"},\"nodex\":
{\"facetAttributes\":{},\"objectType\":\"NODE\"},\"Legal_Entity\":{\"facetAttributes\":
{\"industry_vertical\":{\"attributeDefinition\":{\"attributeType\":\"STRING\",\"isImmutable
\":false,\"attributeRules\":{\"nameLength\":{\"parameters\":{\"min\":\"1\",\"max\":
\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},\"requiredBehavior\":\"NOT_REQUIRED\"},
\"registered_company_name\":{\"attributeDefinition\":{\"attributeType\":\"STRING\",
\"isImmutable\":false,\"attributeRules\":{\"nameLength\":{\"parameters\":{\"min\":\"1\",
\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},\"requiredBehavior\":\"NOT_REQUIRED\"},
\"billing_currency\":{\"attributeDefinition\":{\"attributeType\":\"STRING\",\"isImmutable
\":false,\"attributeRules\":{\"nameLength\":{\"parameters\":{\"min\":\"1\",\"max\":
\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},\"requiredBehavior\":\"NOT_REQUIRED\"},
\"mailing_address (country)\":{\"attributeDefinition\":{\"attributeType\":\"STRING\",
\"isImmutable\":false,\"attributeRules\":{\"nameLength\":{\"parameters\":{\"min\":\"1\",
\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},\"requiredBehavior\":\"NOT_REQUIRED
\"},\"mailing_address (state)\":{\"attributeDefinition\":{\"attributeType\":\"STRING\",
\"isImmutable\":false,\"attributeRules\":{\"nameLength\":{\"parameters\":{\"min\":\"1\",
\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},\"requiredBehavior\":\"NOT_REQUIRED
\"},\"mailing_address (street2)\":{\"attributeDefinition\":{\"attributeType\":\"STRING
\",\"isImmutable\":false,\"attributeRules\":{\"nameLength\":{\"parameters\":{\"min
\":\"1\",\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},\"requiredBehavior\":
\"NOT_REQUIRED\"},\"mailing_address (street1)\":{\"attributeDefinition\":{\"attributeType
\":\"STRING\",\"isImmutable\":false,\"attributeRules\":{\"nameLength\":{\"parameters\":
{\"min\":\"1\",\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},\"requiredBehavior
\":\"NOT_REQUIRED\"},\"tax_id\":{\"attributeDefinition\":{\"attributeType\":\"STRING
\",\"isImmutable\":false,\"attributeRules\":{\"nameLength\":{\"parameters\":{\"min
\":\"1\",\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},\"requiredBehavior\":
\"NOT_REQUIRED\"},\"mailing_address (city)\":{\"attributeDefinition\":{\"attributeType
\":\"STRING\",\"isImmutable\":false,\"attributeRules\":{\"nameLength\":{\"parameters\":
{\"min\":\"1\",\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},\"requiredBehavior
\":\"NOT_REQUIRED\"},\"mailing_address (postal_code)\":{\"attributeDefinition\":
{\"attributeType\":\"STRING\",\"isImmutable\":false,\"attributeRules\":{\"nameLength
\":{\"parameters\":{\"min\":\"1\",\"max\":\"1024\"},\"ruleType\":\"STRING_LENGTH\"}}},
\"requiredBehavior\":\"NOT_REQUIRED\"}},\"objectType\":\"LEAF_NODE\"},\"policyfacet\":
{\"facetAttributes\":{},\"objectType\":\"POLICY\"},\"node1\":{\"facetAttributes\":{},
\"objectType\":\"NODE\"}},\"typedLinkFacets\":{\"exampletypedlink\":{\"facetAttributes
\":{\"1\":{\"attributeDefinition\":{\"attributeType\":\"BINARY\",\"isImmutable\":false,
\"attributeRules\":{}},\"requiredBehavior\":\"REQUIRED_ALWAYS\"}},\"identityAttributeOrder
\":[\"1\"]},\"exampletypedlink8\":{\"facetAttributes\":{\"22\":{\"attributeDefinition
\":{\"attributeType\":\"BINARY\",\"isImmutable\":false,\"attributeRules\":{}},
\"requiredBehavior\":\"REQUIRED_ALWAYS\"}},\"identityAttributeOrder\":[\"22\"]}}}",
 "Name": "org"
}
```

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

GetTypedLinkFacetInformation

Returns the identity attribute order for a specific TypedLinkFacet (p. 374). For more information, see
Typed Links.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/typedlink/facet/get HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
    "Name": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

SchemaArn (p. 138)

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn
Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

Name (p. 138)

The unique name of the typed link facet.

Type: String

Pattern: `^[a-zA-Z0-9._-]*$`

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "IdentityAttributeOrder": [ "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.

IdentityAttributeOrder **(p. 138)**

The order of identity attributes for the facet, from most significant to least significant. The ability to filter typed links considers the order that the attributes are defined on the typed link facet. When providing ranges to typed link selection, any inexact ranges must be specified at the end. Any attributes that do not have a range specified are presumed to match the entire range. Filters are interpreted in the order of the attributes on the typed link facet, not the order in which they are supplied to any API calls. For more information about identity attributes, see Typed Links.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 230.

Pattern: `^[a-zA-Z0-9._:-]*$`

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

FacetNotFoundException

The specified Facet (p. 350) could not be found.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of GetTypedLinkFacetInformation.

```
POST /amazonclouddirectory/2017-01-11/typedlink/facet/get HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 29
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171006/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=6561b457b066c8458961d43944ad116fc7d3a8b2fdb1a07a08cb4a5273a10b14
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/org/1
X-Amz-Date: 20171006T005026Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
 "Name": "exampletypedlink8"
}
```

Example Response

This example illustrates one usage of GetTypedLinkFacetInformation.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 57471e31-aa30-11e7-8502-0566a31305cf
Date: Fri, 06 Oct 2017 00:50:25 GMT
x-amzn-RequestId: 57471e31-aa30-11e7-8502-0566a31305cf
Content-Type: application/json
Content-Length: 33

{
 "IdentityAttributeOrder": ["22"]
}
```

See Also

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

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

ListAppliedSchemaArns

Lists schema major versions applied to a directory. If `SchemaArn` is provided, lists the minor version.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/schema/applied HTTP/1.1
Content-type: application/json

{
   "DirectoryArn": "string",
   "MaxResults": number,
   "NextToken": "string",
   "SchemaArn": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

DirectoryArn (p. 142)

> The ARN of the directory you are listing.
>
> Type: String
>
> Required: Yes

MaxResults (p. 142)

> The maximum number of results to retrieve.
>
> Type: Integer
>
> Valid Range: Minimum value of 1.
>
> Required: No

NextToken (p. 142)

> The pagination token.
>
> Type: String
>
> Required: No

SchemaArn (p. 142)

> The response for `ListAppliedSchemaArns` when this parameter is used will list all minor version ARNs for a major version.
>
> Type: String
>
> Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "NextToken": "string",
    "SchemaArns": [ "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.

NextToken (p. 143)

    The pagination token.

    Type: String

SchemaArns (p. 143)

    The ARNs of schemas that are applied to the directory.

    Type: Array of strings

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

    Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

    HTTP Status Code: 403

InternalServiceException

    Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

    HTTP Status Code: 500

InvalidArnException

    Indicates that the provided ARN value is not valid.

    HTTP Status Code: 400

InvalidNextTokenException

    Indicates that the `NextToken` value is not valid.

    HTTP Status Code: 400

LimitExceededException

    Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of ListAppliedSchemaArns.

```
POST /amazonclouddirectory/2017-01-11/schema/applied HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 99
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171016/
us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-date,
 Signature=9263dc9a99c8cd1178f6305dfb28c6d95f9c273b4d7cab78aaf1d7934b1dce9f
X-Amz-Date: 20171016T225524Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
  "DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY"
}
```

Example Response

This example illustrates one usage of ListAppliedSchemaArns.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 1920f0d5-b2c5-11e7-a973-b71cf1107b43
Date: Mon, 16 Oct 2017 22:55:25 GMT
x-amzn-RequestId: 1920f0d5-b2c5-11e7-a973-b71cf1107b43
Content-Type: application/json
Content-Length: 128

{
  "NextToken": null,
```

```
 "SchemaArns": ["arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/org/1"]
}
```

See Also

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

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

ListAttachedIndices

Lists indices attached to the specified object.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/object/indices HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json

{
   "MaxResults": number,
   "NextToken": "string",
   "TargetReference": {
      "Selector": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

ConsistencyLevel (p. 146)

> The consistency level to use for this operation.

> Valid Values: `SERIALIZABLE | EVENTUAL`

DirectoryArn (p. 146)

> The ARN of the directory.

> Required: Yes

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 146)

> The maximum number of results to retrieve.

> Type: Integer

> Valid Range: Minimum value of 1.

> Required: No

NextToken (p. 146)

> The pagination token.

> Type: String

> Required: No

TargetReference (p. 146)

A reference to the object that has indices attached.

Type: ObjectReference (p. 362) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "IndexAttachments": [
      {
         "IndexedAttributes": [
            {
               "Key": {
                  "FacetName": "string",
                  "Name": "string",
                  "SchemaArn": "string"
               },
               "Value": {
                  "BinaryValue": blob,
                  "BooleanValue": boolean,
                  "DatetimeValue": number,
                  "NumberValue": "string",
                  "StringValue": "string"
               }
            }
         ],
         "ObjectIdentifier": "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.

IndexAttachments (p. 147)

The indices attached to the specified object.

Type: Array of IndexAttachment (p. 355) objects

NextToken (p. 147)

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of ListAttachedIndices.

```
POST /amazonclouddirectory/2017-01-11/object/indices HTTP/1.1
```

```
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 84
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171009/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=0dd23d46d0aa37f61649857fafdafe5a9d52305b03bcda0de2027c074efce9d1
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY
X-Amz-Date: 20171009T194908Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
 "TargetReference": {
   "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zme1sVsw"
 }
}
```

Example Response

This example illustrates one usage of ListAttachedIndices.

```
HTTP/1.1 200 OK
x-amzn-RequestId: eb40bf46-ad2a-11e7-9e13-5b6a00750e59
Date: Mon, 09 Oct 2017 19:49:10 GMT
x-amzn-RequestId: eb40bf46-ad2a-11e7-9e13-5b6a00750e59
Content-Type: application/json
Content-Length: 132

{
 "IndexAttachments": [{
   "IndexedAttributes": [],
   "ObjectIdentifier": "AQGG_ADlfNZBzYHY_JgDt3TW45F26R1HTY2z-stwKBte_Q"
 }],
 "NextToken": null
}
```

See Also

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

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

ListDevelopmentSchemaArns

Retrieves each Amazon Resource Name (ARN) of schemas in the development state.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/schema/development HTTP/1.1
Content-type: application/json

{
    "MaxResults": number,
    "NextToken": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 150)

> The maximum number of results to retrieve.
>
> Type: Integer
>
> Valid Range: Minimum value of 1.
>
> Required: No

NextToken (p. 150)

> The pagination token.
>
> Type: String
>
> Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "NextToken": "string",
    "SchemaArns": [ "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.

NextToken (p. 150)

The pagination token.

Type: String

SchemaArns (p. 150)

The ARNs of retrieved development schemas.

Type: Array of strings

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of ListDevelopmentSchemaArns.

```
POST /amazonclouddirectory/2017-01-11/schema/development HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 0
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171016/
us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-date,
 Signature=ff097f28605d8f60239f2ae4c0c3600741e772e10dfef76c61b2a16a8f36a8fe
X-Amz-Date: 20171016T233712Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
```

Example Response

This example illustrates one usage of ListDevelopmentSchemaArns.

```
HTTP/1.1 200 OK
x-amzn-RequestId: f01c6580-b2ca-11e7-81c0-7b48a7696e76
Date: Mon, 16 Oct 2017 23:37:13 GMT
x-amzn-RequestId: f01c6580-b2ca-11e7-81c0-7b48a7696e76
Content-Type: application/json
Content-Length: 510

{
 "NextToken": null,
 "SchemaArns": ["arn:aws:clouddirectory:us-west-2:45132example:schema/development/
typedlinkschematest", "arn:aws:clouddirectory:us-west-2:45132example:schema/development/
asdfsdfdf", "arn:aws:clouddirectory:us-west-2:45132example:schema/development/Customers",
 "arn:aws:clouddirectory:us-west-2:45132example:schema/development/CourseCatalog",
 "arn:aws:clouddirectory:us-west-2:45132example:schema/development/Consumers",
 "arn:aws:clouddirectory:us-west-2:45132example:schema/development/exampleorg"]
}
```

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

ListDirectories

Lists directories created within an account.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/directory/list HTTP/1.1
Content-type: application/json

{
    "MaxResults": number,
    "NextToken": "string",
    "state": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 154)

>   The maximum number of results to retrieve.

>   Type: Integer

>   Valid Range: Minimum value of 1.

>   Required: No

NextToken (p. 154)

>   The pagination token.

>   Type: String

>   Required: No

state (p. 154)

>   The state of the directories in the list. Can be either Enabled, Disabled, or Deleted.

>   Type: String

>   Valid Values: `ENABLED | DISABLED | DELETED`

>   Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
```

```
    "Directories": [
        {
            "CreationDateTime": number,
            "DirectoryArn": "string",
            "Name": "string",
            "State": "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.

Directories (p. 154)

Lists all directories that are associated with your account in pagination fashion.

Type: Array of Directory (p. 349) objects

NextToken (p. 154)

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of ListDirectories.

```
POST /amazonclouddirectory/2017-01-11/directory/list HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 0
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171016/
us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-date,
 Signature=3e25d9a79eca5d22f81ae7ef6ed3d3b1a7280201839584196e680029893b8694
X-Amz-Date: 20171016T233810Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
```

Example Response

This example illustrates one usage of ListDirectories.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 12ade21c-b2cb-11e7-bd9d-f9e3493b0666
Date: Mon, 16 Oct 2017 23:38:11 GMT
x-amzn-RequestId: 12ade21c-b2cb-11e7-bd9d-f9e3493b0666
Content-Type: application/json
Content-Length: 893

{
 "Directories": [{
  "CreationDateTime": 1.506121791167E9,
  "DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
Ae89hOKmw0bRpvYgW8EAsus",
  "Name": "ExampleCD4",
  "State": "ENABLED"
 }, {
  "CreationDateTime": 1.485473189746E9,
  "DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AXQXDXvdgkOWktRXV4HnRa8",
  "Name": "testCD",
```

```
  "State": "DELETED"
 }, {
  "CreationDateTime": 1.506115781186E9,
  "DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY",
  "Name": "ExampleCD",
  "State": "ENABLED"
 }, {
  "CreationDateTime": 1.506118003859E9,
  "DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AfMr4qym1kZTvwqOafAYfqI",
  "Name": "ExampleCD2",
  "State": "ENABLED"
 }, {
  "CreationDateTime": 1.485477107925E9,
  "DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AWeI1yjiB0SylWVTvQklCD0",
  "Name": "testCD2",
  "State": "DELETED"
 }],
 "NextToken": null
}
```

See Also

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

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

ListFacetAttributes

Retrieves attributes attached to the facet.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/facet/attributes HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
   "MaxResults": number,
   "Name": "string",
   "NextToken": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

SchemaArn (p. 158)

> The ARN of the schema where the facet resides.
>
> Required: Yes

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 158)

> The maximum number of results to retrieve.
>
> Type: Integer
>
> Valid Range: Minimum value of 1.
>
> Required: No

Name (p. 158)

> The name of the facet whose attributes will be retrieved.
>
> Type: String
>
> Length Constraints: Minimum length of 1. Maximum length of 64.
>
> Pattern: ^[a-zA-Z0-9._-]*$
>
> Required: Yes

NextToken (p. 158)

> The pagination token.
>
> Type: String
>
> Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Attributes": [
      {
         "AttributeDefinition": {
            "DefaultValue": {
               "BinaryValue": blob,
               "BooleanValue": boolean,
               "DatetimeValue": number,
               "NumberValue": "string",
               "StringValue": "string"
            },
            "IsImmutable": boolean,
            "Rules": {
               "string" : {
                  "Parameters": {
                     "string" : "string"
                  },
                  "Type": "string"
               }
            },
            "Type": "string"
         },
         "AttributeReference": {
            "TargetAttributeName": "string",
            "TargetFacetName": "string"
         },
         "Name": "string",
         "RequiredBehavior": "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.

Attributes (p. 159)

> The attributes attached to the facet.

> Type: Array of FacetAttribute (p. 351) objects

NextToken (p. 159)

> The pagination token.

> Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

FacetNotFoundException

The specified Facet (p. 350) could not be found.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of ListFacetAttributes.

```
POST /amazonclouddirectory/2017-01-11/facet/attributes HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 24
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171017/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=729cd6edffd57814ab2e2a671da29fc3c57f277c440cc331c2dfd2a3dd35f71b
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/org/1
X-Amz-Date: 20171017T202437Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8


{
  "Name": "Organization"
}
```

Example Response

This example illustrates one usage of ListFacetAttributes.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 330cefed-b379-11e7-a6de-b54884d62153
Date: Tue, 17 Oct 2017 20:24:38 GMT
x-amzn-RequestId: 330cefed-b379-11e7-a6de-b54884d62153
Content-Type: application/json
Content-Length: 2628

{
  "Attributes": [{
    "AttributeDefinition": {
      "DefaultValue": null,
      "IsImmutable": false,
      "Rules": {
        "nameLength": {
          "Parameters": {
            "max": "1024",
            "min": "1"
          },
          "Type": "STRING_LENGTH"
        }
      },
      "Type": "STRING"
    },
    "AttributeReference": null,
    "Name": "account_id",
    "RequiredBehavior": "NOT_REQUIRED"
  }, {
    "AttributeDefinition": {
      "DefaultValue": null,
      "IsImmutable": false,
      "Rules": {
        "nameLength": {
          "Parameters": {
            "max": "1024",
            "min": "1"
          },
          "Type": "STRING_LENGTH"
        }
```

```
    },
     "Type": "STRING"
   },
   "AttributeReference": null,
   "Name": "account_name",
   "RequiredBehavior": "NOT_REQUIRED"
  }, {
   "AttributeDefinition": {
    "DefaultValue": null,
    "IsImmutable": false,
    "Rules": {
     "nameLength": {
      "Parameters": {
       "max": "1024",
       "min": "1"
      },
      "Type": "STRING_LENGTH"
     }
    },
     "Type": "STRING"
   },
   "AttributeReference": null,
   "Name": "description",
   "RequiredBehavior": "NOT_REQUIRED"
  }, {
   "AttributeDefinition": {
    "DefaultValue": null,
    "IsImmutable": false,
    "Rules": {
     "nameLength": {
      "Parameters": {
       "max": "1024",
       "min": "1"
      },
      "Type": "STRING_LENGTH"
     }
    },
     "Type": "STRING"
   },
   "AttributeReference": null,
   "Name": "email",
   "RequiredBehavior": "NOT_REQUIRED"
  }, {
   "AttributeDefinition": {
    "DefaultValue": null,
    "IsImmutable": false,
    "Rules": {
     "nameLength": {
      "Parameters": {
       "max": "1024",
       "min": "1"
      },
      "Type": "STRING_LENGTH"
     }
    },
     "Type": "STRING"
   },
   "AttributeReference": null,
   "Name": "mailing_address (city)",
   "RequiredBehavior": "NOT_REQUIRED"
  }, {
   "AttributeDefinition": {
    "DefaultValue": null,
    "IsImmutable": false,
    "Rules": {
     "nameLength": {
```

```
     "Parameters": {
      "max": "1024",
      "min": "1"
     },
     "Type": "STRING_LENGTH"
    }
   },
   "Type": "STRING"
  },
  "AttributeReference": null,
  "Name": "mailing_address (country)",
  "RequiredBehavior": "NOT_REQUIRED"
 }, {
  "AttributeDefinition": {
   "DefaultValue": null,
   "IsImmutable": false,
   "Rules": {
    "nameLength": {
     "Parameters": {
      "max": "1024",
      "min": "1"
     },
     "Type": "STRING_LENGTH"
    }
   },
   "Type": "STRING"
  },
  "AttributeReference": null,
  "Name": "mailing_address (postal_code)",
  "RequiredBehavior": "NOT_REQUIRED"
 }, {
  "AttributeDefinition": {
   "DefaultValue": null,
   "IsImmutable": false,
   "Rules": {
    "nameLength": {
     "Parameters": {
      "max": "1024",
      "min": "1"
     },
     "Type": "STRING_LENGTH"
    }
   },
   "Type": "STRING"
  },
  "AttributeReference": null,
  "Name": "mailing_address (state)",
  "RequiredBehavior": "NOT_REQUIRED"
 }, {
  "AttributeDefinition": {
   "DefaultValue": null,
   "IsImmutable": false,
   "Rules": {
    "nameLength": {
     "Parameters": {
      "max": "1024",
      "min": "1"
     },
     "Type": "STRING_LENGTH"
    }
   },
   "Type": "STRING"
  },
  "AttributeReference": null,
  "Name": "mailing_address (street1)",
  "RequiredBehavior": "NOT_REQUIRED"
```

```
  }, {
   "AttributeDefinition": {
    "DefaultValue": null,
    "IsImmutable": false,
    "Rules": {
     "nameLength": {
      "Parameters": {
       "max": "1024",
       "min": "1"
      },
      "Type": "STRING_LENGTH"
     }
    },
    "Type": "STRING"
   },
   "AttributeReference": null,
   "Name": "mailing_address (street2)",
   "RequiredBehavior": "NOT_REQUIRED"
  }],
  "NextToken": "V0b3JnYW5pemF0aW9uX3N0YXR1cw=="
}
```

See Also

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

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

ListFacetNames

Retrieves the names of facets that exist in a schema.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/facet/list HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
    "MaxResults": number,
    "NextToken": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

SchemaArn (p. 165)

> The Amazon Resource Name (ARN) to retrieve facet names from.
>
> Required: Yes

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 165)

> The maximum number of results to retrieve.
>
> Type: Integer
>
> Valid Range: Minimum value of 1.
>
> Required: No

NextToken (p. 165)

> The pagination token.
>
> Type: String
>
> Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "FacetNames": [ "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.

FacetNames (p. 165)

>   The names of facets that exist within the schema.

>   Type: Array of strings

>   Length Constraints: Minimum length of 1. Maximum length of 64.

>   Pattern: `^[a-zA-Z0-9._-]*$`

NextToken (p. 165)

>   The pagination token.

>   Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

>   Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

>   HTTP Status Code: 403

InternalServiceException

>   Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

>   HTTP Status Code: 500

InvalidArnException

>   Indicates that the provided ARN value is not valid.

>   HTTP Status Code: 400

InvalidNextTokenException

>   Indicates that the `NextToken` value is not valid.

>   HTTP Status Code: 400

LimitExceededException

>   Indicates that limits are exceeded. See Limits for more information.

>   HTTP Status Code: 400

ResourceNotFoundException

>   The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of ListFacetNames.

```
POST /amazonclouddirectory/2017-01-11/facet/list HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 0
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171017/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=e29fa5e564697e1912f34bd1d1437f78be8e8ebbd4f31fce6d300f5be5c814bd
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/org/1
X-Amz-Date: 20171017T202730Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
```

Example Response

This example illustrates one usage of ListFacetNames.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 9a69f750-b379-11e7-bd9d-f9e3493b0666
Date: Tue, 17 Oct 2017 20:27:32 GMT
x-amzn-RequestId: 9a69f750-b379-11e7-bd9d-f9e3493b0666
Content-Type: application/json
Content-Length: 101

{
 "FacetNames": ["Legal_Entity", "Organization", "node1", "node2", "nodex", "policyfacet"],
 "NextToken": null
}
```

See Also

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

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

ListIncomingTypedLinks

Returns a paginated list of all the incoming TypedLinkSpecifier (p. 377) information for an object. It also supports filtering by typed link facet and identity attributes. For more information, see Typed Links.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/typedlink/incoming HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "ConsistencyLevel": "string",
   "FilterAttributeRanges": [
      {
         "AttributeName": "string",
         "Range": {
            "EndMode": "string",
            "EndValue": {
               "BinaryValue": blob,
               "BooleanValue": boolean,
               "DatetimeValue": number,
               "NumberValue": "string",
               "StringValue": "string"
            },
            "StartMode": "string",
            "StartValue": {
               "BinaryValue": blob,
               "BooleanValue": boolean,
               "DatetimeValue": number,
               "NumberValue": "string",
               "StringValue": "string"
            }
         }
      }
   ],
   "FilterTypedLink": {
      "SchemaArn": "string",
      "TypedLinkName": "string"
   },
   "MaxResults": number,
   "NextToken": "string",
   "ObjectReference": {
      "Selector": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 169)

The Amazon Resource Name (ARN) of the directory where you want to list the typed links.

Required: Yes

Request Body

The request accepts the following data in JSON format.

ConsistencyLevel (p. 169)

> The consistency level to execute the request at.

> Type: String

> Valid Values: `SERIALIZABLE | EVENTUAL`

> Required: No

FilterAttributeRanges (p. 169)

> Provides range filters for multiple attributes. When providing ranges to typed link selection, any inexact ranges must be specified at the end. Any attributes that do not have a range specified are presumed to match the entire range.

> Type: Array of TypedLinkAttributeRange (p. 373) objects

> Required: No

FilterTypedLink (p. 169)

> Filters are interpreted in the order of the attributes on the typed link facet, not the order in which they are supplied to any API calls.

> Type: TypedLinkSchemaAndFacetName (p. 376) object

> Required: No

MaxResults (p. 169)

> The maximum number of results to retrieve.

> Type: Integer

> Valid Range: Minimum value of 1.

> Required: No

NextToken (p. 169)

> The pagination token.

> Type: String

> Required: No

ObjectReference (p. 169)

> Reference that identifies the object whose attributes will be listed.

> Type: ObjectReference (p. 362) object

> Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json
```

```
{
    "LinkSpecifiers": [
        {
            "IdentityAttributeValues": [
                {
                    "AttributeName": "string",
                    "Value": {
                        "BinaryValue": blob,
                        "BooleanValue": boolean,
                        "DatetimeValue": number,
                        "NumberValue": "string",
                        "StringValue": "string"
                    }
                }
            ],
            "SourceObjectReference": {
                "Selector": "string"
            },
            "TargetObjectReference": {
                "Selector": "string"
            },
            "TypedLinkFacet": {
                "SchemaArn": "string",
                "TypedLinkName": "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.

LinkSpecifiers (p. 170)

Returns one or more typed link specifiers as output.

Type: Array of TypedLinkSpecifier (p. 377) objects

NextToken (p. 170)

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of ListIncomingTypedLinks.

```
POST /amazonclouddirectory/2017-01-11/typedlink/incoming HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 84
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171017/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=fc13e2c9fb358918b87ada72c9dca32938fc33cf83e7774394fce55d755001dc
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY
X-Amz-Date: 20171017T204458Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
 "ObjectReference": {
  "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zme1sVsw"
 }
}
```

Example Response

This example illustrates one usage of ListIncomingTypedLinks.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 0b1ebdf5-b37c-11e7-9e13-5b6a00750e59
Date: Tue, 17 Oct 2017 20:45:00 GMT
x-amzn-RequestId: 0b1ebdf5-b37c-11e7-9e13-5b6a00750e59
Content-Type: application/json
Content-Length: 1530

{
 "LinkSpecifiers": [{
  "IdentityAttributeValues": [{
   "AttributeName": "22",
   "Value": {
    "BinaryValue": "",
    "BooleanValue": null,
    "DatetimeValue": null,
    "NumberValue": null,
    "StringValue": null
   }
  }],
  "SourceObjectReference": {
   "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWSvfuEnDqTdmeCuTs6YBNUA"
  },
  "TargetObjectReference": {
   "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zme1sVsw"
  },
  "TypedLinkFacet": {
   "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/org/1",
   "TypedLinkName": "exampletypedlink8"
  }
 }, {
  "IdentityAttributeValues": [{
   "AttributeName": "22",
   "Value": {
    "BinaryValue": "MA==",
    "BooleanValue": null,
    "DatetimeValue": null,
    "NumberValue": null,
    "StringValue": null
   }
  }],
```

```
   "SourceObjectReference": {
    "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWSvfuEnDqTdmeCuTs6YBNUA"
   },
   "TargetObjectReference": {
    "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zme1sVsw"
   },
   "TypedLinkFacet": {
    "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/org/1",
    "TypedLinkName": "exampletypedlink8"
   }
 }, {
   "IdentityAttributeValues": [{
    "AttributeName": "22",
    "Value": {
     "BinaryValue": "c3Ry",
     "BooleanValue": null,
     "DatetimeValue": null,
     "NumberValue": null,
     "StringValue": null
    }
   }],
   "SourceObjectReference": {
    "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWSvfuEnDqTdmeCuTs6YBNUA"
   },
   "TargetObjectReference": {
    "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zme1sVsw"
   },
   "TypedLinkFacet": {
    "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/org/1",
    "TypedLinkName": "exampletypedlink8"
   }
 }],
 "NextToken": null
}
```

See Also

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

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

ListIndex

Lists objects attached to the specified index.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/index/targets HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json

{
   "IndexReference": {
      "Selector": "string"
   },
   "MaxResults": number,
   "NextToken": "string",
   "RangesOnIndexedValues": [
      {
         "AttributeKey": {
            "FacetName": "string",
            "Name": "string",
            "SchemaArn": "string"
         },
         "Range": {
            "EndMode": "string",
            "EndValue": {
               "BinaryValue": blob,
               "BooleanValue": boolean,
               "DatetimeValue": number,
               "NumberValue": "string",
               "StringValue": "string"
            },
            "StartMode": "string",
            "StartValue": {
               "BinaryValue": blob,
               "BooleanValue": boolean,
               "DatetimeValue": number,
               "NumberValue": "string",
               "StringValue": "string"
            }
         }
      }
   ]
}
```

URI Request Parameters

The request uses the following URI parameters.

ConsistencyLevel (p. 175)

The consistency level to execute the request at.

Valid Values: `SERIALIZABLE | EVENTUAL`

DirectoryArn (p. 175)

The ARN of the directory that the index exists in.

Required: Yes

Request Body

The request accepts the following data in JSON format.

IndexReference (p. 175)

> The reference to the index to list.
>
> Type: ObjectReference (p. 362) object
>
> Required: Yes

MaxResults (p. 175)

> The maximum number of objects in a single page to retrieve from the index during a request. For more information, see Amazon Cloud Directory Limits.
>
> Type: Integer
>
> Valid Range: Minimum value of 1.
>
> Required: No

NextToken (p. 175)

> The pagination token.
>
> Type: String
>
> Required: No

RangesOnIndexedValues (p. 175)

> Specifies the ranges of indexed values that you want to query.
>
> Type: Array of ObjectAttributeRange (p. 359) objects
>
> Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "IndexAttachments": [
      {
         "IndexedAttributes": [
            {
               "Key": {
                  "FacetName": "string",
                  "Name": "string",
                  "SchemaArn": "string"
               },
               "Value": {
                  "BinaryValue": blob,
                  "BooleanValue": boolean,
                  "DatetimeValue": number,
                  "NumberValue": "string",
                  "StringValue": "string"
               }
            }
```

```
        ],
        "ObjectIdentifier": "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.

IndexAttachments (p. 176)

The objects and indexed values attached to the index.

Type: Array of IndexAttachment (p. 355) objects

NextToken (p. 176)

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

NotIndexException

Indicates that the requested operation can only operate on index objects.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of ListIndex.

```
POST /amazonclouddirectory/2017-01-11/index/targets HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 83
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171017/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=e10557e84c0fb9fd30e6a018a02b51ecbac72a389e2dd20090e516d3023872e4
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY
X-Amz-Date: 20171017T221341Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
  "IndexReference": {
    "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TW45F26R1HTY2z-stwKBte_Q"
```

```
  }
}
```

Example Response

This example illustrates one usage of ListIndex.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 2920690c-b38d-11e7-bd9d-f9e3493b0666
Date: Tue, 17 Oct 2017 22:47:31 GMT
x-amzn-RequestId: 2920690c-b38d-11e7-bd9d-f9e3493b0666
Content-Type: application/json
Content-Length: 404

{
 "IndexAttachments": [{
   "IndexedAttributes": [{
    "Key": {
     "FacetName": "Organization",
     "Name": "description",
     "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/org/1"
    },
    "Value": {
     "BinaryValue": null,
     "BooleanValue": null,
     "DatetimeValue": null,
     "NumberValue": null,
     "StringValue": null
    }
   }],
   "ObjectIdentifier": "AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zme1sVsw"
 }],
 "NextToken": null
}
```

See Also

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

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

ListManagedSchemaArns

Lists the major version families of each managed schema. If a major version ARN is provided as SchemaArn, the minor version revisions in that family are listed instead.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/schema/managed HTTP/1.1
Content-type: application/json

{
    "MaxResults": number,
    "NextToken": "string",
    "SchemaArn": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 180)

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 180)

The pagination token.

Type: String

Required: No

SchemaArn (p. 180)

The response for ListManagedSchemaArns. When this parameter is used, all minor version ARNs for a major version are listed.

Type: String

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json
```

```
{
    "NextToken": "string",
    "SchemaArns": [ "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.

NextToken (p. 180)

The pagination token.

Type: String

SchemaArns (p. 180)

The ARNs for all AWS managed schemas.

Type: Array of strings

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

ListObjectAttributes

Lists all attributes that are associated with an object.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/object/attributes HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json

{
   "FacetFilter": {
      "FacetName": "string",
      "SchemaArn": "string"
   },
   "MaxResults": number,
   "NextToken": "string",
   "ObjectReference": {
      "Selector": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

ConsistencyLevel (p. 183)

Represents the manner and timing in which the successful write or update of an object is reflected in a subsequent read operation of that same object.

Valid Values: `SERIALIZABLE | EVENTUAL`

DirectoryArn (p. 183)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 349) where the object resides. For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

FacetFilter (p. 183)

Used to filter the list of object attributes that are associated with a certain facet.

Type: SchemaFacet (p. 367) object

Required: No

MaxResults (p. 183)

The maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 183)

The pagination token.

Type: String

Required: No

ObjectReference (p. 183)

The reference that identifies the object whose attributes will be listed.

Type: ObjectReference (p. 362) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Attributes": [
      {
         "Key": {
            "FacetName": "string",
            "Name": "string",
            "SchemaArn": "string"
         },
         "Value": {
            "BinaryValue": blob,
            "BooleanValue": boolean,
            "DatetimeValue": number,
            "NumberValue": "string",
            "StringValue": "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.

Attributes (p. 184)

Attributes map that is associated with the object. `AttributeArn` is the key, and attribute value is the value.

Type: Array of AttributeKeyAndValue (p. 271) objects

NextToken (p. 184)

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of ListObjectAttributes.

```
POST /amazonclouddirectory/2017-01-11/object/attributes HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 84
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171017/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=192bfef84370989cc0ccc0760a138e2e49e4454e467f2247d98112507bee7ed7
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY
X-Amz-Date: 20171017T221819Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
 "ObjectReference": {
   "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TW45F26R1HTY2z-stwKBte_Q"
 }
}
```

Example Response

This example illustrates one usage of ListObjectAttributes.

```
HTTP/1.1 200 OK
x-amzn-RequestId: 151ad236-b389-11e7-a6de-b54884d62153
Date: Tue, 17 Oct 2017 22:18:19 GMT
x-amzn-RequestId: 151ad236-b389-11e7-a6de-b54884d62153
Content-Type: application/json
Content-Length: 725

{
 "Attributes": [{
   "Key": {
     "FacetName": "INDEX",
     "Name": "index_is_unique",
     "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/CloudDirectory/1.0"
   },
   "Value": {
     "BinaryValue": null,
     "BooleanValue": true,
     "DatetimeValue": null,
     "NumberValue": null,
     "StringValue": null
   }
```

```
 }, {
  "Key": {
   "FacetName": "INDEX",
   "Name": "ordered_indexed_attributes",
   "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/CloudDirectory/1.0"
  },
  "Value": {
   "BinaryValue": null,
   "BooleanValue": null,
   "DatetimeValue": null,
   "NumberValue": null,
   "StringValue": "arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY/schema/org/1*Organization*description"
  }
 }],
 "NextToken": null
}
```

See Also

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

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

ListObjectChildren

Returns a paginated list of child objects that are associated with a given object.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/object/children HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json

{
    "MaxResults": number,
    "NextToken": "string",
    "ObjectReference": {
        "Selector": "string"
    }
}
```

URI Request Parameters

The request uses the following URI parameters.

ConsistencyLevel (p. 188)

Represents the manner and timing in which the successful write or update of an object is reflected in a subsequent read operation of that same object.

Valid Values: `SERIALIZABLE | EVENTUAL`

DirectoryArn (p. 188)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 349) where the object resides. For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 188)

The maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 188)

The pagination token.

Type: String

Required: No

ObjectReference (p. 188)

The reference that identifies the object for which child objects are being listed.

Type: ObjectReference (p. 362) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Children": {
      "string" : "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.

Children (p. 189)

Children structure, which is a map with key as the `LinkName` and `ObjectIdentifier` as the value.

Type: String to string map

Key Length Constraints: Minimum length of 1. Maximum length of 64.

Key Pattern: `[^\/\[\]\(\):\{\}#@!?\s\\;]+`

NextToken (p. 189)

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

NotNodeException

Occurs when any invalid operations are performed on an object that is not a node, such as calling `ListObjectChildren` for a leaf node object.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

This example illustrates one usage of ListObjectChildren.

```
POST /amazonclouddirectory/2017-01-11/object/children HTTP/1.1
```

```
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 84
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171017/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
 Signature=8c56f415f53f259c6c7a7ba5c5d8b9924ba5341dbb17eb84e23235f5fd3eca0e
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/
AYb8AOV81kHNgdj8mAO3dNY
X-Amz-Date: 20171017T223103Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
 "ObjectReference": {
   "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zme1sVsw"
 }
}
```

Example Response

This example illustrates one usage of ListObjectChildren.

```
HTTP/1.1 200 OK
x-amzn-RequestId: dcafb249-b38a-11e7-a973-b71cf1107b43
Date: Tue, 17 Oct 2017 22:31:04 GMT
x-amzn-RequestId: dcafb249-b38a-11e7-a973-b71cf1107b43
Content-Type: application/json
Content-Length: 88

{
 "Children": {
   "link2": "AQGG_ADlfNZBzYHY_JgDt3TWSvfuEnDqTdmeCuTs6YBNUA"
 },
 "NextToken": null
}
```

See Also

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

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

ListObjectParentPaths

Retrieves all available parent paths for any object type such as node, leaf node, policy node, and index node objects. For more information about objects, see Directory Structure.

Use this API to evaluate all parents for an object. The call returns all objects from the root of the directory up to the requested object. The API returns the number of paths based on user-defined `MaxResults`, in case there are multiple paths to the parent. The order of the paths and nodes returned is consistent among multiple API calls unless the objects are deleted or moved. Paths not leading to the directory root are ignored from the target object.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/object/parentpaths HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "MaxResults": number,
   "NextToken": "string",
   "ObjectReference": {
      "Selector": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 192)

The ARN of the directory to which the parent path applies.

Required: Yes

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 192)

The maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 192)

The pagination token.

Type: String

Required: No

ObjectReference (p. 192)

The reference that identifies the object whose parent paths are listed.

Type: ObjectReference (p. 362) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "NextToken": "string",
   "PathToObjectIdentifiersList": [
      {
         "ObjectIdentifiers": [ "string" ],
         "Path": "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.

NextToken (p. 193)

The pagination token.

Type: String

PathToObjectIdentifiersList (p. 193)

Returns the path to the `ObjectIdentifiers` that are associated with the directory.

Type: Array of PathToObjectIdentifiers (p. 363) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

ListObjectParents

Lists parent objects that are associated with a given object in pagination fashion.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/object/parent HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json

{
   "IncludeAllLinksToEachParent": boolean,
   "MaxResults": number,
   "NextToken": "string",
   "ObjectReference": {
      "Selector": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

ConsistencyLevel (p. 196)

Represents the manner and timing in which the successful write or update of an object is reflected in a subsequent read operation of that same object.

Valid Values: `SERIALIZABLE | EVENTUAL`

DirectoryArn (p. 196)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 349) where the object resides. For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

IncludeAllLinksToEachParent (p. 196)

When set to True, returns all ListObjectParents:ParentLinks (p. 197). There could be multiple links between a parent-child pair.

Type: Boolean

Required: No

MaxResults (p. 196)

The maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 196)

The pagination token.

Type: String

Required: No

ObjectReference (p. 196)

The reference that identifies the object for which parent objects are being listed.

Type: ObjectReference (p. 362) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "NextToken": "string",
   "ParentLinks": [
      {
         "LinkName": "string",
         "ObjectIdentifier": "string"
      }
   ],
   "Parents": {
      "string" : "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.

NextToken (p. 197)

The pagination token.

Type: String

ParentLinks (p. 197)

Returns a list of parent reference and LinkName Tuples.

Type: Array of ObjectIdentifierAndLinkNameTuple (p. 361) objects

Parents (p. 197)

The parent structure, which is a map with key as the `ObjectIdentifier` and LinkName as the value.

Type: String to string map

Value Length Constraints: Minimum length of 1. Maximum length of 64.

Value Pattern: `[^\/\[\]\(\):\{\}#@!?\s\\;]+`

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

CannotListParentOfRootException

Cannot list the parents of a Directory (p. 349) root.

HTTP Status Code: 400

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

ListObjectPolicies

Returns policies attached to an object in pagination fashion.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/object/policy HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json

{
   "MaxResults": number,
   "NextToken": "string",
   "ObjectReference": {
      "Selector": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

ConsistencyLevel (p. 200)

Represents the manner and timing in which the successful write or update of an object is reflected in a subsequent read operation of that same object.

Valid Values: `SERIALIZABLE | EVENTUAL`

DirectoryArn (p. 200)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 349) where objects reside. For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 200)

The maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 200)

The pagination token.

Type: String

Required: No

ObjectReference (p. 200)

Reference that identifies the object for which policies will be listed.

Type: ObjectReference (p. 362) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "AttachedPolicyIds": [ "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.

AttachedPolicyIds (p. 201)

A list of policy `ObjectIdentifiers`, that are attached to the object.

Type: Array of strings

NextToken (p. 201)

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

ListOutgoingTypedLinks

Returns a paginated list of all the outgoing TypedLinkSpecifier (p. 377) information for an object. It also supports filtering by typed link facet and identity attributes. For more information, see Typed Links.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/typedlink/outgoing HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "ConsistencyLevel": "string",
   "FilterAttributeRanges": [
      {
         "AttributeName": "string",
         "Range": {
            "EndMode": "string",
            "EndValue": {
               "BinaryValue": blob,
               "BooleanValue": boolean,
               "DatetimeValue": number,
               "NumberValue": "string",
               "StringValue": "string"
            },
            "StartMode": "string",
            "StartValue": {
               "BinaryValue": blob,
               "BooleanValue": boolean,
               "DatetimeValue": number,
               "NumberValue": "string",
               "StringValue": "string"
            }
         }
      }
   ],
   "FilterTypedLink": {
      "SchemaArn": "string",
      "TypedLinkName": "string"
   },
   "MaxResults": number,
   "NextToken": "string",
   "ObjectReference": {
      "Selector": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 203)

The Amazon Resource Name (ARN) of the directory where you want to list the typed links.

Required: Yes

Request Body

The request accepts the following data in JSON format.

ConsistencyLevel (p. 203)

> The consistency level to execute the request at.
>
> Type: String
>
> Valid Values: `SERIALIZABLE | EVENTUAL`
>
> Required: No

FilterAttributeRanges (p. 203)

> Provides range filters for multiple attributes. When providing ranges to typed link selection, any
> inexact ranges must be specified at the end. Any attributes that do not have a range specified are
> presumed to match the entire range.
>
> Type: Array of TypedLinkAttributeRange (p. 373) objects
>
> Required: No

FilterTypedLink (p. 203)

> Filters are interpreted in the order of the attributes defined on the typed link facet, not the order
> they are supplied to any API calls.
>
> Type: TypedLinkSchemaAndFacetName (p. 376) object
>
> Required: No

MaxResults (p. 203)

> The maximum number of results to retrieve.
>
> Type: Integer
>
> Valid Range: Minimum value of 1.
>
> Required: No

NextToken (p. 203)

> The pagination token.
>
> Type: String
>
> Required: No

ObjectReference (p. 203)

> A reference that identifies the object whose attributes will be listed.
>
> Type: ObjectReference (p. 362) object
>
> Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json
```

```
{
    "NextToken": "string",
    "TypedLinkSpecifiers": [
        {
            "IdentityAttributeValues": [
                {
                    "AttributeName": "string",
                    "Value": {
                        "BinaryValue": blob,
                        "BooleanValue": boolean,
                        "DatetimeValue": number,
                        "NumberValue": "string",
                        "StringValue": "string"
                    }
                }
            ],
            "SourceObjectReference": {
                "Selector": "string"
            },
            "TargetObjectReference": {
                "Selector": "string"
            },
            "TypedLinkFacet": {
                "SchemaArn": "string",
                "TypedLinkName": "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.

NextToken (p. 204)

> The pagination token.

> Type: String

TypedLinkSpecifiers (p. 204)

> Returns a typed link specifier as output.

> Type: Array of TypedLinkSpecifier (p. 377) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

> Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

> HTTP Status Code: 403

DirectoryNotEnabledException

> Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++

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

ListPolicyAttachments

Returns all of the `ObjectIdentifiers` to which a given policy is attached.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/policy/attachment HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json

{
    "MaxResults": number,
    "NextToken": "string",
    "PolicyReference": {
        "Selector": "string"
    }
}
```

URI Request Parameters

The request uses the following URI parameters.

ConsistencyLevel (p. 208)

Represents the manner and timing in which the successful write or update of an object is reflected in a subsequent read operation of that same object.

Valid Values: `SERIALIZABLE | EVENTUAL`

DirectoryArn (p. 208)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 349) where objects reside. For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 208)

The maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 208)

The pagination token.

Type: String

Required: No

PolicyReference (p. 208)

The reference that identifies the policy object.

Type: ObjectReference (p. 362) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "NextToken": "string",
   "ObjectIdentifiers": [ "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.

NextToken (p. 209)

The pagination token.

Type: String

ObjectIdentifiers (p. 209)

A list of `ObjectIdentifiers` to which the policy is attached.

Type: Array of strings

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

NotPolicyException

Indicates that the requested operation can only operate on policy objects.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

ListPublishedSchemaArns

Lists the major version families of each published schema. If a major version ARN is provided as `SchemaArn`, the minor version revisions in that family are listed instead.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/schema/published HTTP/1.1
Content-type: application/json

{
    "MaxResults": number,
    "NextToken": "string",
    "SchemaArn": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 212)

> The maximum number of results to retrieve.
>
> Type: Integer
>
> Valid Range: Minimum value of 1.
>
> Required: No

NextToken (p. 212)

> The pagination token.
>
> Type: String
>
> Required: No

SchemaArn (p. 212)

> The response for `ListPublishedSchemaArns` when this parameter is used will list all minor version ARNs for a major version.
>
> Type: String
>
> Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json
```

```
{
    "NextToken": "string",
    "SchemaArns": [ "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.

NextToken (p. 212)

The pagination token.

Type: String

SchemaArns (p. 212)

The ARNs of published schemas.

Type: Array of strings

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

ListTagsForResource

Returns tags for a resource. Tagging is currently supported only for directories with a limit of 50 tags per directory. All 50 tags are returned for a given directory with this API call.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/tags HTTP/1.1
Content-type: application/json

{
    "MaxResults": number,
    "NextToken": "string",
    "ResourceArn": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 215)

> The `MaxResults` parameter sets the maximum number of results returned in a single page. This is for future use and is not supported currently.
>
> Type: Integer
>
> Valid Range: Minimum value of 50.
>
> Required: No

NextToken (p. 215)

> The pagination token. This is for future use. Currently pagination is not supported for tagging.
>
> Type: String
>
> Required: No

ResourceArn (p. 215)

> The Amazon Resource Name (ARN) of the resource. Tagging is only supported for directories.
>
> Type: String
>
> Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
```

```
    "NextToken": "string",
    "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.

NextToken (p. 215)

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

Tags (p. 215)

A list of tag key value pairs that are associated with the response.

Type: Array of Tag (p. 368) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidTaggingRequestException

Can occur for multiple reasons such as when you tag a resource that doesn't exist or if you specify a higher number of tags for a resource than the allowed limit. Allowed limit is 50 tags per resource.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

ListTypedLinkFacetAttributes

Returns a paginated list of all attribute definitions for a particular TypedLinkFacet (p. 374). For more information, see Typed Links.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/typedlink/facet/attributes HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
   "MaxResults": number,
   "Name": "string",
   "NextToken": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

SchemaArn (p. 218)

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 218)

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

Name (p. 218)

The unique name of the typed link facet.

Type: String

Pattern: ^[a-zA-Z0-9._-]*$

Required: Yes

NextToken (p. 218)

The pagination token.

Type: String

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Attributes": [
      {
         "DefaultValue": {
            "BinaryValue": blob,
            "BooleanValue": boolean,
            "DatetimeValue": number,
            "NumberValue": "string",
            "StringValue": "string"
         },
         "IsImmutable": boolean,
         "Name": "string",
         "RequiredBehavior": "string",
         "Rules": {
            "string" : {
               "Parameters": {
                  "string" : "string"
               },
               "Type": "string"
            }
         },
         "Type": "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.

Attributes (p. 219)

An ordered set of attributes associate with the typed link.

Type: Array of TypedLinkAttributeDefinition (p. 371) objects

NextToken (p. 219)

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

FacetNotFoundException

The specified Facet (p. 350) could not be found.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2

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

ListTypedLinkFacetNames

Returns a paginated list of `TypedLink` facet names for a particular schema. For more information, see
Typed Links.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/typedlink/facet/list HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
    "MaxResults": number,
    "NextToken": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

SchemaArn (p. 222)

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn
Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 222)

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 222)

The pagination token.

Type: String

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json
```

```
{
    "FacetNames": [ "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.

FacetNames (p. 222)

The names of typed link facets that exist within the schema.

Type: Array of strings

Pattern: `^[a-zA-Z0-9._-]*$`

NextToken (p. 222)

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

LookupPolicy

Lists all policies from the root of the Directory (p. 349) to the object specified. If there are no policies present, an empty list is returned. If policies are present, and if some objects don't have the policies attached, it returns the `ObjectIdentifier` for such objects. If policies are present, it returns `ObjectIdentifier`, `policyId`, and `policyType`. Paths that don't lead to the root from the target object are ignored. For more information, see Policies.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/policy/lookup HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "MaxResults": number,
   "NextToken": "string",
   "ObjectReference": {
      "Selector": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 225)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 349). For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 225)

The maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 225)

The token to request the next page of results.

Type: String

Required: No

ObjectReference (p. 225)

Reference that identifies the object whose policies will be looked up.

Type: ObjectReference (p. 362) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "NextToken": "string",
   "PolicyToPathList": [
      {
         "Path": "string",
         "Policies": [
            {
               "ObjectIdentifier": "string",
               "PolicyId": "string",
               "PolicyType": "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.

NextToken (p. 226)

The pagination token.

Type: String

PolicyToPathList (p. 226)

Provides list of path to policies. Policies contain `PolicyId`, `ObjectIdentifier`, and `PolicyType`. For more information, see Policies.

Type: Array of PolicyToPath (p. 365) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

- AWS SDK for Ruby V3

PublishSchema

Publishes a development schema with a major version and a recommended minor version.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/schema/publish HTTP/1.1
x-amz-data-partition: DevelopmentSchemaArn
Content-type: application/json

{
    "MinorVersion": "string",
    "Name": "string",
    "Version": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

DevelopmentSchemaArn (p. 229)

The Amazon Resource Name (ARN) that is associated with the development schema. For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

MinorVersion (p. 229)

The minor version under which the schema will be published. This parameter is recommended. Schemas have both a major and minor version associated with them.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 10.

Pattern: ^[a-zA-Z0-9._-]*$

Required: No

Name (p. 229)

The new name under which the schema will be published. If this is not provided, the development schema is considered.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 32.

Pattern: ^[a-zA-Z0-9._-]*$

Required: No

Version (p. 229)

The major version under which the schema will be published. Schemas have both a major and minor version associated with them.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 10.

Pattern: `^[a-zA-Z0-9._-]*$`

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "PublishedSchemaArn": "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.

PublishedSchemaArn (p. 230)

The ARN that is associated with the published schema. For more information, see Arn Examples (p. 378).

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

SchemaAlreadyPublishedException

Indicates that a schema is already published.

HTTP Status Code: 400

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

PutSchemaFromJson

Allows a schema to be updated using JSON upload. Only available for development schemas. See JSON Schema Format for more information.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/schema/json HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
    "Document": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

SchemaArn (p. 232)

> The ARN of the schema to update.

> Required: Yes

Request Body

The request accepts the following data in JSON format.

Document (p. 232)

> The replacement JSON schema.

> Type: String

> Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "Arn": "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.

Arn (p. 232)

The ARN of the schema to update.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidRuleException

Occurs when any of the rule parameter keys or values are invalid.

HTTP Status Code: 400

InvalidSchemaDocException

Indicates that the provided `SchemaDoc` value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

RemoveFacetFromObject

Removes the specified facet from the specified object.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/object/facets/delete HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "ObjectReference": {
      "Selector": "string"
   },
   "SchemaFacet": {
      "FacetName": "string",
      "SchemaArn": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 235)

The ARN of the directory in which the object resides.

Required: Yes

Request Body

The request accepts the following data in JSON format.

ObjectReference (p. 235)

A reference to the object to remove the facet from.

Type: ObjectReference (p. 362) object

Required: Yes

SchemaFacet (p. 235)

The facet to remove. See SchemaFacet (p. 367) for details.

Type: SchemaFacet (p. 367) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

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. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

TagResource

An API operation for adding tags to a resource.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/tags/add HTTP/1.1
Content-type: application/json

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

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

ResourceArn (p. 238)

The Amazon Resource Name (ARN) of the resource. Tagging is only supported for directories.

Type: String

Required: Yes

Tags (p. 238)

A list of tag key-value pairs.

Type: Array of Tag (p. 368) objects

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

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. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidTaggingRequestException

Can occur for multiple reasons such as when you tag a resource that doesn't exist or if you specify a higher number of tags for a resource than the allowed limit. Allowed limit is 50 tags per resource.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++

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

UntagResource

An API operation for removing tags from a resource.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/tags/remove HTTP/1.1
Content-type: application/json

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

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

ResourceArn (p. 241)

> The Amazon Resource Name (ARN) of the resource. Tagging is only supported for directories.
>
> Type: String
>
> Required: Yes

TagKeys (p. 241)

> Keys of the tag that need to be removed from the resource.
>
> Type: Array of strings
>
> Required: Yes

Response Syntax

```
HTTP/1.1 200
```

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. 386).

AccessDeniedException

> Access denied or directory not found. Either you don't have permissions for this directory or the
> directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidTaggingRequestException

Can occur for multiple reasons such as when you tag a resource that doesn't exist or if you specify a higher number of tags for a resource than the allowed limit. Allowed limit is 50 tags per resource.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

- AWS SDK for Python
- AWS SDK for Ruby V3

UpdateFacet

Does the following:

1. Adds new `Attributes`, `Rules`, or `ObjectTypes`.
2. Updates existing `Attributes`, `Rules`, or `ObjectTypes`.
3. Deletes existing `Attributes`, `Rules`, or `ObjectTypes`.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/facet HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
   "AttributeUpdates": [
      {
         "Action": "string",
         "Attribute": {
            "AttributeDefinition": {
               "DefaultValue": {
                  "BinaryValue": blob,
                  "BooleanValue": boolean,
                  "DatetimeValue": number,
                  "NumberValue": "string",
                  "StringValue": "string"
               },
               "IsImmutable": boolean,
               "Rules": {
                  "string" : {
                     "Parameters": {
                        "string" : "string"
                     },
                     "Type": "string"
                  }
               },
               "Type": "string"
            },
            "AttributeReference": {
               "TargetAttributeName": "string",
               "TargetFacetName": "string"
            },
            "Name": "string",
            "RequiredBehavior": "string"
         }
      }
   ],
   "Name": "string",
   "ObjectType": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

SchemaArn (p. 244)

> The Amazon Resource Name (ARN) that is associated with the Facet (p. 350). For more
> information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

AttributeUpdates (p. 244)

List of attributes that need to be updated in a given schema Facet (p. 350). Each attribute is followed by `AttributeAction`, which specifies the type of update operation to perform.

Type: Array of FacetAttributeUpdate (p. 354) objects

Required: No

Name (p. 244)

The name of the facet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[a-zA-Z0-9._-]*$`

Required: Yes

ObjectType (p. 244)

The object type that is associated with the facet. See CreateFacet:ObjectType (p. 52) for more details.

Type: String

Valid Values: `NODE | LEAF_NODE | POLICY | INDEX`

Required: No

Response Syntax

```
HTTP/1.1 200
```

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. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

FacetNotFoundException

The specified Facet (p. 350) could not be found.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidFacetUpdateException

An attempt to modify a Facet (p. 350) resulted in an invalid schema exception.

HTTP Status Code: 400

InvalidRuleException

Occurs when any of the rule parameter keys or values are invalid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

UpdateLinkAttributes

Updates a given typed link's attributes. Attributes to be updated must not contribute to the typed link's identity, as defined by its `IdentityAttributeOrder`.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/typedlink/attributes/update HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "AttributeUpdates": [
      {
         "AttributeAction": {
            "AttributeActionType": "string",
            "AttributeUpdateValue": {
               "BinaryValue": blob,
               "BooleanValue": boolean,
               "DatetimeValue": number,
               "NumberValue": "string",
               "StringValue": "string"
            }
         },
         "AttributeKey": {
            "FacetName": "string",
            "Name": "string",
            "SchemaArn": "string"
         }
      }
   ],
   "TypedLinkSpecifier": {
      "IdentityAttributeValues": [
         {
            "AttributeName": "string",
            "Value": {
               "BinaryValue": blob,
               "BooleanValue": boolean,
               "DatetimeValue": number,
               "NumberValue": "string",
               "StringValue": "string"
            }
         }
      ],
      "SourceObjectReference": {
         "Selector": "string"
      },
      "TargetObjectReference": {
         "Selector": "string"
      },
      "TypedLinkFacet": {
         "SchemaArn": "string",
         "TypedLinkName": "string"
      }
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 248)

The Amazon Resource Name (ARN) that is associated with the Directory where the updated typed link resides. For more information, see Arn Examples (p. 378) or Typed Links.

Required: Yes

Request Body

The request accepts the following data in JSON format.

AttributeUpdates (p. 248)

The attributes update structure.

Type: Array of LinkAttributeUpdate (p. 357) objects

Required: Yes

TypedLinkSpecifier (p. 248)

Allows a typed link specifier to be accepted as input.

Type: TypedLinkSpecifier (p. 377) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

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. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

UpdateObjectAttributes

Updates a given object's attributes.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/object/update HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "AttributeUpdates": [
      {
         "ObjectAttributeAction": {
            "ObjectAttributeActionType": "string",
            "ObjectAttributeUpdateValue": {
               "BinaryValue": blob,
               "BooleanValue": boolean,
               "DatetimeValue": number,
               "NumberValue": "string",
               "StringValue": "string"
            }
         },
         "ObjectAttributeKey": {
            "FacetName": "string",
            "Name": "string",
            "SchemaArn": "string"
         }
      }
   ],
   "ObjectReference": {
      "Selector": "string"
   }
}
```

URI Request Parameters

The request uses the following URI parameters.

DirectoryArn (p. 251)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 349) where the object resides. For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

AttributeUpdates (p. 251)

The attributes update structure.

Type: Array of ObjectAttributeUpdate (p. 360) objects

Required: Yes

ObjectReference (p. 251)

>The reference that identifies the object.

>Type: ObjectReference (p. 362) object

>Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "ObjectIdentifier": "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.

ObjectIdentifier (p. 252)

>The ObjectIdentifier of the updated object.

>Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

>Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

>HTTP Status Code: 403

DirectoryNotEnabledException

>Operations are only permitted on enabled directories.

>HTTP Status Code: 400

FacetValidationException

>The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

>HTTP Status Code: 400

InternalServiceException

>Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

LinkNameAlreadyInUseException

Indicates that a link could not be created due to a naming conflict. Choose a different name and then try again.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

UpdateSchema

Updates the schema name with a new name. Only development schema names can be updated.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/schema/update HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
    "Name": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

SchemaArn (p. 254)

The Amazon Resource Name (ARN) of the development schema. For more information, see Arn
Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

Name (p. 254)

The name of the schema.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 32.

Pattern: ^[a-zA-Z0-9._-]*$

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "SchemaArn": "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.

SchemaArn (p. 254)

The ARN that is associated with the updated schema. For more information, see Arn
Examples (p. 378).

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the
directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error
in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health
Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation
occurs on an object and then an attempt is made to read the object using "SERIALIZABLE"
consistency, this exception may result. This generally occurs when the previous write did not have
time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is
the recommended response to this exception.

HTTP Status Code: 409

SchemaAlreadyExistsException

Indicates that a schema could not be created due to a naming conflict. Please select a different name
and then try again.

HTTP Status Code: 400

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

UpdateTypedLinkFacet

Updates a TypedLinkFacet (p. 374). For more information, see Typed Links.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/typedlink/facet HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
   "AttributeUpdates": [
      {
         "Action": "string",
         "Attribute": {
            "DefaultValue": {
               "BinaryValue": blob,
               "BooleanValue": boolean,
               "DatetimeValue": number,
               "NumberValue": "string",
               "StringValue": "string"
            },
            "IsImmutable": boolean,
            "Name": "string",
            "RequiredBehavior": "string",
            "Rules": {
               "string" : {
                  "Parameters": {
                     "string" : "string"
                  },
                  "Type": "string"
               }
            },
            "Type": "string"
         }
      }
   ],
   "IdentityAttributeOrder": [ "string" ],
   "Name": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

SchemaArn (p. 257)

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 378).

Required: Yes

Request Body

The request accepts the following data in JSON format.

AttributeUpdates (p. 257)

Attributes update structure.

Type: Array of TypedLinkFacetAttributeUpdate (p. 375) objects

Required: Yes

IdentityAttributeOrder (p. 257)

The order of identity attributes for the facet, from most significant to least significant. The ability to filter typed links considers the order that the attributes are defined on the typed link facet. When providing ranges to a typed link selection, any inexact ranges must be specified at the end. Any attributes that do not have a range specified are presumed to match the entire range. Filters are interpreted in the order of the attributes on the typed link facet, not the order in which they are supplied to any API calls. For more information about identity attributes, see Typed Links.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 230.

Pattern: `^[a-zA-Z0-9._:-]*$`

Required: Yes

Name (p. 257)

The unique name of the typed link facet.

Type: String

Pattern: `^[a-zA-Z0-9._-]*$`

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

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. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

FacetNotFoundException

The specified Facet (p. 350) could not be found.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 350) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidFacetUpdateException

An attempt to modify a Facet (p. 350) resulted in an invalid schema exception.

HTTP Status Code: 400

InvalidRuleException

Occurs when any of the rule parameter keys or values are invalid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go

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

UpgradeAppliedSchema

Upgrades a single directory in-place using the `PublishedSchemaArn` with schema updates found in `MinorVersion`. Backwards-compatible minor version upgrades are instantaneously available for readers on all objects in the directory. Note: This is a synchronous API call and upgrades only one schema on a given directory per call. To upgrade multiple directories from one schema, you would need to call this API on each directory.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/schema/upgradeapplied HTTP/1.1
Content-type: application/json

{
   "DirectoryArn": "string",
   "DryRun": boolean,
   "PublishedSchemaArn": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

DirectoryArn (p. 261)

The ARN for the directory to which the upgraded schema will be applied.

Type: String

Required: Yes

DryRun (p. 261)

Used for testing whether the major version schemas are backward compatible or not. If schema compatibility fails, an exception would be thrown else the call would succeed but no changes will be saved. This parameter is optional.

Type: Boolean

Required: No

PublishedSchemaArn (p. 261)

The revision of the published schema to upgrade the directory to.

Type: String

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

```
Content-type: application/json

{
    "DirectoryArn": "string",
    "UpgradedSchemaArn": "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.

DirectoryArn (p. 261)

The ARN of the directory that is returned as part of the response.

Type: String

UpgradedSchemaArn (p. 261)

The ARN of the upgraded schema that is returned as part of the response.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

IncompatibleSchemaException

Indicates a failure occurred while performing a check for backward compatibility between the specified schema and the schema that is currently applied to the directory.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidAttachmentException

Indicates that an attempt to make an attachment was invalid. For example, attaching two nodes with a link type that is not applicable to the nodes or attempting to apply a schema to a directory a second time.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

SchemaAlreadyExistsException

Indicates that a schema could not be created due to a naming conflict. Please select a different name and then try again.

HTTP Status Code: 400

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

UpgradePublishedSchema

Upgrades a published schema under a new minor version revision using the current contents of `DevelopmentSchemaArn`.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/schema/upgradepublished HTTP/1.1
Content-type: application/json

{
    "DevelopmentSchemaArn": "string",
    "DryRun": boolean,
    "MinorVersion": "string",
    "PublishedSchemaArn": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

DevelopmentSchemaArn (p. 264)

The ARN of the development schema with the changes used for the upgrade.

Type: String

Required: Yes

DryRun (p. 264)

Used for testing whether the Development schema provided is backwards compatible, or not, with the publish schema provided by the user to be upgraded. If schema compatibility fails, an exception would be thrown else the call would succeed. This parameter is optional and defaults to false.

Type: Boolean

Required: No

MinorVersion (p. 264)

Identifies the minor version of the published schema that will be created. This parameter is NOT optional.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 10.

Pattern: `^[a-zA-Z0-9._-]*$`

Required: Yes

PublishedSchemaArn (p. 264)

The ARN of the published schema to be upgraded.

Type: String

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "UpgradedSchemaArn": "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.

UpgradedSchemaArn (p. 265)

The ARN of the upgraded schema that is returned as part of the response.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 386).

AccessDeniedException

Access denied or directory not found. Either you don't have permissions for this directory or the directory does not exist. Try calling ListDirectories (p. 154) and check your permissions.

HTTP Status Code: 403

IncompatibleSchemaException

Indicates a failure occurred while performing a check for backward compatibility between the specified schema and the schema that is currently applied to the directory.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidAttachmentException

Indicates that an attempt to make an attachment was invalid. For example, attaching two nodes with a link type that is not applicable to the nodes or attempting to apply a schema to a directory a second time.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

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

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

Data Types

The Amazon CloudDirectory 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:

AttributeKey

A unique identifier for an attribute.

Contents

FacetName

The name of the facet that the attribute exists within.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[a-zA-Z0-9._-]*$`

Required: Yes

Name

The name of the attribute.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 230.

Pattern: `^[a-zA-Z0-9._:-]*$`

Required: Yes

SchemaArn

The Amazon Resource Name (ARN) of the schema that contains the facet and attribute.

Type: String

Required: Yes

See Also

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

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

AttributeKeyAndValue

The combination of an attribute key and an attribute value.

Contents

Key

The key of the attribute.

Type: AttributeKey (p. 270) object

Required: Yes

Value

The value of the attribute.

Type: TypedAttributeValue (p. 369) object

Required: Yes

See Also

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

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

AttributeNameAndValue

Identifies the attribute name and value for a typed link.

Contents

AttributeName

The attribute name of the typed link.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 230.

Pattern: `^[a-zA-Z0-9._:-]*$`

Required: Yes

Value

The value for the typed link.

Type: TypedAttributeValue (p. 369) object

Required: Yes

See Also

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

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

BatchAddFacetToObject

Represents the output of a batch add facet to object operation.

Contents

ObjectAttributeList

The attributes to set on the object.

Type: Array of AttributeKeyAndValue (p. 271) objects

Required: Yes

ObjectReference

A reference to the object being mutated.

Type: ObjectReference (p. 362) object

Required: Yes

SchemaFacet

Represents the facet being added to the object.

Type: SchemaFacet (p. 367) object

Required: Yes

See Also

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

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

BatchAddFacetToObjectResponse

The result of a batch add facet to object operation.

Contents

The members of this structure are context-dependent.

See Also

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

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

BatchAttachObject

Represents the output of an AttachObject (p. 12) operation.

Contents

ChildReference

The child object reference that is to be attached to the object.

Type: ObjectReference (p. 362) object

Required: Yes

LinkName

The name of the link.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `[^\/\[\]\(\):\{\}#@!?\s\\;]+`

Required: Yes

ParentReference

The parent object reference.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

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

BatchAttachObjectResponse

Represents the output batch AttachObject (p. 12) response operation.

Contents

attachedObjectIdentifier

The `ObjectIdentifier` of the object that has been attached.

Type: String

Required: No

See Also

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

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

BatchAttachPolicy

Attaches a policy object to a regular object inside a BatchRead (p. 29) operation. For more information, see AttachPolicy (p. 16) and BatchRead:Operations (p. 32).

Contents

ObjectReference

The reference that identifies the object to which the policy will be attached.

Type: ObjectReference (p. 362) object

Required: Yes

PolicyReference

The reference that is associated with the policy object.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

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

BatchAttachPolicyResponse

Represents the output of an AttachPolicy (p. 16) response operation.

Contents

The members of this structure are context-dependent.

See Also

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

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

BatchAttachToIndex

Attaches the specified object to the specified index inside a BatchRead (p. 29) operation. For more information, see AttachToIndex (p. 20) and BatchRead:Operations (p. 32).

Contents

IndexReference

A reference to the index that you are attaching the object to.

Type: ObjectReference (p. 362) object

Required: Yes

TargetReference

A reference to the object that you are attaching to the index.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

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

BatchAttachToIndexResponse

Represents the output of a AttachToIndex (p. 20) response operation.

Contents

AttachedObjectIdentifier

The `ObjectIdentifier` of the object that was attached to the index.

Type: String

Required: No

See Also

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

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

BatchAttachTypedLink

Attaches a typed link to a specified source and target object inside a BatchRead (p. 29) operation. For more information, see AttachTypedLink (p. 24) and BatchRead:Operations (p. 32).

Contents

Attributes

A set of attributes that are associated with the typed link.

Type: Array of AttributeNameAndValue (p. 272) objects

Required: Yes

SourceObjectReference

Identifies the source object that the typed link will attach to.

Type: ObjectReference (p. 362) object

Required: Yes

TargetObjectReference

Identifies the target object that the typed link will attach to.

Type: ObjectReference (p. 362) object

Required: Yes

TypedLinkFacet

Identifies the typed link facet that is associated with the typed link.

Type: TypedLinkSchemaAndFacetName (p. 376) object

Required: Yes

See Also

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

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

BatchAttachTypedLinkResponse

Represents the output of a AttachTypedLink (p. 24) response operation.

Contents

TypedLinkSpecifier

Returns a typed link specifier as output.

Type: TypedLinkSpecifier (p. 377) object

Required: No

See Also

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

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

BatchCreateIndex

Creates an index object inside of a BatchRead (p. 29) operation. For more information, see CreateIndex (p. 56) and BatchRead:Operations (p. 32).

Contents

BatchReferenceName

The batch reference name. See Transaction Support for more information.

Type: String

Required: No

IsUnique

Indicates whether the attribute that is being indexed has unique values or not.

Type: Boolean

Required: Yes

LinkName

The name of the link between the parent object and the index object.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `[^\/\[\]\(\):\{\}#@!?\s\\;]+`

Required: No

OrderedIndexedAttributeList

Specifies the attributes that should be indexed on. Currently only a single attribute is supported.

Type: Array of AttributeKey (p. 270) objects

Required: Yes

ParentReference

A reference to the parent object that contains the index object.

Type: ObjectReference (p. 362) object

Required: No

See Also

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

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

BatchCreateIndexResponse

Represents the output of a response operation.

Contents

ObjectIdentifier

The `ObjectIdentifier` of the index created by this operation.

Type: String

Required: No

See Also

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

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

BatchCreateObject

Represents the output of a CreateObject (p. 61) operation.

Contents

BatchReferenceName

The batch reference name. See Transaction Support for more information.

Type: String

Required: No

LinkName

The name of the link.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `[^\/\[\]\(\):\{\}#@!?\s\\;]+`

Required: No

ObjectAttributeList

An attribute map, which contains an attribute ARN as the key and attribute value as the map value.

Type: Array of AttributeKeyAndValue (p. 271) objects

Required: Yes

ParentReference

If specified, the parent reference to which this object will be attached.

Type: ObjectReference (p. 362) object

Required: No

SchemaFacet

A list of `FacetArns` that will be associated with the object. For more information, see Arn Examples (p. 378).

Type: Array of SchemaFacet (p. 367) objects

Required: Yes

See Also

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

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

BatchCreateObjectResponse

Represents the output of a CreateObject (p. 61) response operation.

Contents

ObjectIdentifier

The ID that is associated with the object.

Type: String

Required: No

See Also

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

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

BatchDeleteObject

Represents the output of a DeleteObject (p. 80) operation.

Contents

ObjectReference

The reference that identifies the object.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

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

BatchDeleteObjectResponse

Represents the output of a DeleteObject (p. 80) response operation.

Contents

The members of this structure are context-dependent.

See Also

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

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

BatchDetachFromIndex

Detaches the specified object from the specified index inside a BatchRead (p. 29) operation. For more information, see DetachFromIndex (p. 89) and BatchRead:Operations (p. 32).

Contents

IndexReference

A reference to the index object.

Type: ObjectReference (p. 362) object

Required: Yes

TargetReference

A reference to the object being detached from the index.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

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

BatchDetachFromIndexResponse

Represents the output of a DetachFromIndex (p. 89) response operation.

Contents

DetachedObjectIdentifier

The `ObjectIdentifier` of the object that was detached from the index.

Type: String

Required: No

See Also

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

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

BatchDetachObject

Represents the output of a DetachObject (p. 93) operation.

Contents

BatchReferenceName

The batch reference name. See Transaction Support for more information.

Type: String

Required: No

LinkName

The name of the link.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `[^\/\[\]\(\):\{\}#@!?\s\\;]+`

Required: Yes

ParentReference

Parent reference from which the object with the specified link name is detached.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

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

BatchDetachObjectResponse

Represents the output of a DetachObject (p. 93) response operation.

Contents

detachedObjectIdentifier

The `ObjectIdentifier` of the detached object.

Type: String

Required: No

See Also

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

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

BatchDetachPolicy

Detaches the specified policy from the specified directory inside a BatchWrite (p. 39) operation. For
more information, see DetachPolicy (p. 97) and BatchWrite:Operations (p. 43).

Contents

ObjectReference

Reference that identifies the object whose policy object will be detached.

Type: ObjectReference (p. 362) object

Required: Yes

PolicyReference

Reference that identifies the policy object.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

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

BatchDetachPolicyResponse

Represents the output of a DetachPolicy (p. 97) response operation.

Contents

The members of this structure are context-dependent.

See Also

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

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

BatchDetachTypedLink

Detaches a typed link from a specified source and target object inside a BatchRead (p. 29) operation. For more information, see DetachTypedLink (p. 101) and BatchRead:Operations (p. 32).

Contents

TypedLinkSpecifier

Used to accept a typed link specifier as input.

Type: TypedLinkSpecifier (p. 377) object

Required: Yes

See Also

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

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

BatchDetachTypedLinkResponse

Represents the output of a DetachTypedLink (p. 101) response operation.

Contents

The members of this structure are context-dependent.

See Also

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

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

BatchGetLinkAttributes

Retrieves attributes that are associated with a typed link inside a BatchRead (p. 29) operation. For more information, see GetLinkAttributes (p. 121) and BatchRead:Operations (p. 32).

Contents

AttributeNames

A list of attribute names whose values will be retrieved.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 230.

Pattern: `^[a-zA-Z0-9._:-]*$`

Required: Yes

TypedLinkSpecifier

Allows a typed link specifier to be accepted as input.

Type: TypedLinkSpecifier (p. 377) object

Required: Yes

See Also

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

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

BatchGetLinkAttributesResponse

Represents the output of a GetLinkAttributes (p. 121) response operation.

Contents

Attributes

The attributes that are associated with the typed link.

Type: Array of AttributeKeyAndValue (p. 271) objects

Required: No

See Also

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

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

BatchGetObjectAttributes

Retrieves attributes within a facet that are associated with an object inside an BatchRead (p. 29)
operation. For more information, see GetObjectAttributes (p. 125) and BatchRead:Operations (p. 32).

Contents

AttributeNames

List of attribute names whose values will be retrieved.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 230.

Pattern: `^[a-zA-Z0-9._:-]*$`

Required: Yes

ObjectReference

Reference that identifies the object whose attributes will be retrieved.

Type: ObjectReference (p. 362) object

Required: Yes

SchemaFacet

Identifier for the facet whose attributes will be retrieved. See SchemaFacet (p. 367) for details.

Type: SchemaFacet (p. 367) object

Required: Yes

See Also

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

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

BatchGetObjectAttributesResponse

Represents the output of a GetObjectAttributes (p. 125) response operation.

Contents

Attributes

The attribute values that are associated with an object.

Type: Array of AttributeKeyAndValue (p. 271) objects

Required: No

See Also

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

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

BatchGetObjectInformation

Retrieves metadata about an object inside a BatchRead (p. 29) operation. For more information, see
GetObjectInformation (p. 129) and BatchRead:Operations (p. 32).

Contents

ObjectReference

A reference to the object.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

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

BatchGetObjectInformationResponse

Represents the output of a GetObjectInformation (p. 129) response operation.

Contents

ObjectIdentifier

The `ObjectIdentifier` of the specified object.

Type: String

Required: No

SchemaFacets

The facets attached to the specified object.

Type: Array of SchemaFacet (p. 367) objects

Required: No

See Also

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

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

BatchListAttachedIndices

Lists indices attached to an object inside a BatchRead (p. 29) operation. For more information, see ListAttachedIndices (p. 146) and BatchRead:Operations (p. 32).

Contents

MaxResults

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken

The pagination token.

Type: String

Required: No

TargetReference

A reference to the object that has indices attached.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

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

BatchListAttachedIndicesResponse

Represents the output of a ListAttachedIndices (p. 146) response operation.

Contents

IndexAttachments

The indices attached to the specified object.

Type: Array of IndexAttachment (p. 355) objects

Required: No

NextToken

The pagination token.

Type: String

Required: No

See Also

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

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

BatchListIncomingTypedLinks

Returns a paginated list of all the incoming TypedLinkSpecifier (p. 377) information for an object
inside a BatchRead (p. 29) operation. For more information, see ListIncomingTypedLinks (p. 169) and
BatchRead:Operations (p. 32).

Contents

FilterAttributeRanges

Provides range filters for multiple attributes. When providing ranges to typed link selection, any
inexact ranges must be specified at the end. Any attributes that do not have a range specified are
presumed to match the entire range.

Type: Array of TypedLinkAttributeRange (p. 373) objects

Required: No

FilterTypedLink

Filters are interpreted in the order of the attributes on the typed link facet, not the order in which
they are supplied to any API calls.

Type: TypedLinkSchemaAndFacetName (p. 376) object

Required: No

MaxResults

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken

The pagination token.

Type: String

Required: No

ObjectReference

The reference that identifies the object whose attributes will be listed.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2

- AWS SDK for Ruby V3

BatchListIncomingTypedLinksResponse

Represents the output of a ListIncomingTypedLinks (p. 169) response operation.

Contents

LinkSpecifiers

Returns one or more typed link specifiers as output.

Type: Array of TypedLinkSpecifier (p. 377) objects

Required: No

NextToken

The pagination token.

Type: String

Required: No

See Also

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

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

BatchListIndex

Lists objects attached to the specified index inside a BatchRead (p. 29) operation. For more information,
see ListIndex (p. 175) and BatchRead:Operations (p. 32).

Contents

IndexReference

The reference to the index to list.

Type: ObjectReference (p. 362) object

Required: Yes

MaxResults

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken

The pagination token.

Type: String

Required: No

RangesOnIndexedValues

Specifies the ranges of indexed values that you want to query.

Type: Array of ObjectAttributeRange (p. 359) objects

Required: No

See Also

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

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

BatchListIndexResponse

Represents the output of a ListIndex (p. 175) response operation.

Contents

IndexAttachments

The objects and indexed values attached to the index.

Type: Array of IndexAttachment (p. 355) objects

Required: No

NextToken

The pagination token.

Type: String

Required: No

See Also

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

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

BatchListObjectAttributes

Represents the output of a ListObjectAttributes (p. 183) operation.

Contents

FacetFilter

Used to filter the list of object attributes that are associated with a certain facet.

Type: SchemaFacet (p. 367) object

Required: No

MaxResults

The maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken

The pagination token.

Type: String

Required: No

ObjectReference

Reference of the object whose attributes need to be listed.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

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

BatchListObjectAttributesResponse

Represents the output of a ListObjectAttributes (p. 183) response operation.

Contents

Attributes

The attributes map that is associated with the object. `AttributeArn` is the key; attribute value is the value.

Type: Array of AttributeKeyAndValue (p. 271) objects

Required: No

NextToken

The pagination token.

Type: String

Required: No

See Also

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

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

BatchListObjectChildren

Represents the output of a ListObjectChildren (p. 188) operation.

Contents

MaxResults

Maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken

The pagination token.

Type: String

Required: No

ObjectReference

Reference of the object for which child objects are being listed.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

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

BatchListObjectChildrenResponse

Represents the output of a response operation.

Contents

Children

The children structure, which is a map with the key as the `LinkName` and `ObjectIdentifier` as the value.

Type: String to string map

Key Length Constraints: Minimum length of 1. Maximum length of 64.

Key Pattern: `[^\/\[\]\(\):\{\}#@!?\s\\;]+`

Required: No

NextToken

The pagination token.

Type: String

Required: No

See Also

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

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

BatchListObjectParentPaths

Retrieves all available parent paths for any object type such as node, leaf node, policy node, and index node objects inside a BatchRead (p. 29) operation. For more information, see ListObjectParentPaths (p. 192) and BatchRead:Operations (p. 32).

Contents

MaxResults

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken

The pagination token.

Type: String

Required: No

ObjectReference

The reference that identifies the object whose attributes will be listed.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

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

BatchListObjectParentPathsResponse

Represents the output of a ListObjectParentPaths (p. 192) response operation.

Contents

NextToken

The pagination token.

Type: String

Required: No

PathToObjectIdentifiersList

Returns the path to the `ObjectIdentifiers` that are associated with the directory.

Type: Array of PathToObjectIdentifiers (p. 363) objects

Required: No

See Also

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

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

BatchListObjectParents

Lists parent objects that are associated with a given object in pagination fashion.

Contents

MaxResults

The maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken

The pagination token.

Type: String

Required: No

ObjectReference

The reference that identifies an object.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

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

BatchListObjectParentsResponse

Represents the output of a ListObjectParents (p. 196) response operation.

Contents

NextToken

The pagination token.

Type: String

Required: No

ParentLinks

Returns a list of parent reference and LinkName Tuples.

Type: Array of ObjectIdentifierAndLinkNameTuple (p. 361) objects

Required: No

See Also

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

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

BatchListObjectPolicies

Returns policies attached to an object in pagination fashion inside a BatchRead (p. 29) operation. For more information, see ListObjectPolicies (p. 200) and BatchRead:Operations (p. 32).

Contents

MaxResults

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken

The pagination token.

Type: String

Required: No

ObjectReference

The reference that identifies the object whose attributes will be listed.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

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

BatchListObjectPoliciesResponse

Represents the output of a ListObjectPolicies (p. 200) response operation.

Contents

AttachedPolicyIds

A list of policy `ObjectIdentifiers`, that are attached to the object.

Type: Array of strings

Required: No

NextToken

The pagination token.

Type: String

Required: No

See Also

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

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

BatchListOutgoingTypedLinks

Returns a paginated list of all the outgoing TypedLinkSpecifier (p. 377) information for an object inside a BatchRead (p. 29) operation. For more information, see ListOutgoingTypedLinks (p. 203) and BatchRead:Operations (p. 32).

Contents

FilterAttributeRanges

Provides range filters for multiple attributes. When providing ranges to typed link selection, any inexact ranges must be specified at the end. Any attributes that do not have a range specified are presumed to match the entire range.

Type: Array of TypedLinkAttributeRange (p. 373) objects

Required: No

FilterTypedLink

Filters are interpreted in the order of the attributes defined on the typed link facet, not the order they are supplied to any API calls.

Type: TypedLinkSchemaAndFacetName (p. 376) object

Required: No

MaxResults

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken

The pagination token.

Type: String

Required: No

ObjectReference

The reference that identifies the object whose attributes will be listed.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2

- AWS SDK for Ruby V3

BatchListOutgoingTypedLinksResponse

Represents the output of a ListOutgoingTypedLinks (p. 203) response operation.

Contents

NextToken

The pagination token.

Type: String

Required: No

TypedLinkSpecifiers

Returns a typed link specifier as output.

Type: Array of TypedLinkSpecifier (p. 377) objects

Required: No

See Also

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

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

BatchListPolicyAttachments

Returns all of the `ObjectIdentifiers` to which a given policy is attached inside a BatchRead (p. 29) operation. For more information, see ListPolicyAttachments (p. 208) and BatchRead:Operations (p. 32).

Contents

MaxResults

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken

The pagination token.

Type: String

Required: No

PolicyReference

The reference that identifies the policy object.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

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

BatchListPolicyAttachmentsResponse

Represents the output of a ListPolicyAttachments (p. 208) response operation.

Contents

NextToken

The pagination token.

Type: String

Required: No

ObjectIdentifiers

A list of `ObjectIdentifiers` to which the policy is attached.

Type: Array of strings

Required: No

See Also

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

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

BatchLookupPolicy

Lists all policies from the root of the Directory to the object specified inside a BatchRead (p. 29)
operation. For more information, see LookupPolicy (p. 225) and BatchRead:Operations (p. 32).

Contents

MaxResults

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken

The pagination token.

Type: String

Required: No

ObjectReference

Reference that identifies the object whose policies will be looked up.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

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

BatchLookupPolicyResponse

Represents the output of a LookupPolicy (p. 225) response operation.

Contents

NextToken

The pagination token.

Type: String

Required: No

PolicyToPathList

Provides list of path to policies. Policies contain `PolicyId`, `ObjectIdentifier`, and `PolicyType`. For more information, see Policies.

Type: Array of PolicyToPath (p. 365) objects

Required: No

See Also

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

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

BatchReadException

The batch read exception structure, which contains the exception type and message.

Contents

Message

An exception message that is associated with the failure.

Type: String

Required: No

Type

A type of exception, such as `InvalidArnException`.

Type: String

Valid Values: `ValidationException` | `InvalidArnException` |
`ResourceNotFoundException` | `InvalidNextTokenException` |
`AccessDeniedException` | `NotNodeException` | `FacetValidationException` |
`CannotListParentOfRootException` | `NotIndexException` | `NotPolicyException`
| `DirectoryNotEnabledException` | `LimitExceededException` |
`InternalServiceException`

Required: No

See Also

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

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

BatchReadOperation

Represents the output of a `BatchRead` operation.

Contents

GetLinkAttributes

Retrieves attributes that are associated with a typed link.

Type: BatchGetLinkAttributes (p. 299) object

Required: No

GetObjectAttributes

Retrieves attributes within a facet that are associated with an object.

Type: BatchGetObjectAttributes (p. 301) object

Required: No

GetObjectInformation

Retrieves metadata about an object.

Type: BatchGetObjectInformation (p. 303) object

Required: No

ListAttachedIndices

Lists indices attached to an object.

Type: BatchListAttachedIndices (p. 305) object

Required: No

ListIncomingTypedLinks

Returns a paginated list of all the incoming TypedLinkSpecifier (p. 377) information for an object. It also supports filtering by typed link facet and identity attributes. For more information, see Typed Links.

Type: BatchListIncomingTypedLinks (p. 307) object

Required: No

ListIndex

Lists objects attached to the specified index.

Type: BatchListIndex (p. 310) object

Required: No

ListObjectAttributes

Lists all attributes that are associated with an object.

Type: BatchListObjectAttributes (p. 312) object

Required: No

ListObjectChildren

Returns a paginated list of child objects that are associated with a given object.

Type: BatchListObjectChildren (p. 314) object

Required: No

ListObjectParentPaths

Retrieves all available parent paths for any object type such as node, leaf node, policy node, and index node objects. For more information about objects, see Directory Structure.

Type: BatchListObjectParentPaths (p. 316) object

Required: No

ListObjectParents

Lists parent objects that are associated with a given object in pagination fashion.

Type: BatchListObjectParents (p. 318) object

Required: No

ListObjectPolicies

Returns policies attached to an object in pagination fashion.

Type: BatchListObjectPolicies (p. 320) object

Required: No

ListOutgoingTypedLinks

Returns a paginated list of all the outgoing TypedLinkSpecifier (p. 377) information for an object. It also supports filtering by typed link facet and identity attributes. For more information, see Typed Links.

Type: BatchListOutgoingTypedLinks (p. 322) object

Required: No

ListPolicyAttachments

Returns all of the `ObjectIdentifiers` to which a given policy is attached.

Type: BatchListPolicyAttachments (p. 325) object

Required: No

LookupPolicy

Lists all policies from the root of the Directory (p. 349) to the object specified. If there are no policies present, an empty list is returned. If policies are present, and if some objects don't have the policies attached, it returns the `ObjectIdentifier` for such objects. If policies are present, it returns `ObjectIdentifier`, `policyId`, and `policyType`. Paths that don't lead to the root from the target object are ignored. For more information, see Policies.

Type: BatchLookupPolicy (p. 327) object

Required: No

See Also

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

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

BatchReadOperationResponse

Represents the output of a `BatchRead` response operation.

Contents

ExceptionResponse

Identifies which operation in a batch has failed.

Type: BatchReadException (p. 329) object

Required: No

SuccessfulResponse

Identifies which operation in a batch has succeeded.

Type: BatchReadSuccessfulResponse (p. 334) object

Required: No

See Also

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

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

BatchReadSuccessfulResponse

Represents the output of a `BatchRead` success response operation.

Contents

GetLinkAttributes

The list of attributes to retrieve from the typed link.

Type: BatchGetLinkAttributesResponse (p. 300) object

Required: No

GetObjectAttributes

Retrieves attributes within a facet that are associated with an object.

Type: BatchGetObjectAttributesResponse (p. 302) object

Required: No

GetObjectInformation

Retrieves metadata about an object.

Type: BatchGetObjectInformationResponse (p. 304) object

Required: No

ListAttachedIndices

Lists indices attached to an object.

Type: BatchListAttachedIndicesResponse (p. 306) object

Required: No

ListIncomingTypedLinks

Returns a paginated list of all the incoming TypedLinkSpecifier (p. 377) information for an object. It also supports filtering by typed link facet and identity attributes. For more information, see Typed Links.

Type: BatchListIncomingTypedLinksResponse (p. 309) object

Required: No

ListIndex

Lists objects attached to the specified index.

Type: BatchListIndexResponse (p. 311) object

Required: No

ListObjectAttributes

Lists all attributes that are associated with an object.

Type: BatchListObjectAttributesResponse (p. 313) object

Required: No

ListObjectChildren

Returns a paginated list of child objects that are associated with a given object.

Type: BatchListObjectChildrenResponse (p. 315) object

Required: No

ListObjectParentPaths

Retrieves all available parent paths for any object type such as node, leaf node, policy node, and index node objects. For more information about objects, see Directory Structure.

Type: BatchListObjectParentPathsResponse (p. 317) object

Required: No

ListObjectParents

The list of parent objects to retrieve.

Type: BatchListObjectParentsResponse (p. 319) object

Required: No

ListObjectPolicies

Returns policies attached to an object in pagination fashion.

Type: BatchListObjectPoliciesResponse (p. 321) object

Required: No

ListOutgoingTypedLinks

Returns a paginated list of all the outgoing TypedLinkSpecifier (p. 377) information for an object. It also supports filtering by typed link facet and identity attributes. For more information, see Typed Links.

Type: BatchListOutgoingTypedLinksResponse (p. 324) object

Required: No

ListPolicyAttachments

Returns all of the `ObjectIdentifiers` to which a given policy is attached.

Type: BatchListPolicyAttachmentsResponse (p. 326) object

Required: No

LookupPolicy

Lists all policies from the root of the Directory (p. 349) to the object specified. If there are no policies present, an empty list is returned. If policies are present, and if some objects don't have the policies attached, it returns the `ObjectIdentifier` for such objects. If policies are present, it returns `ObjectIdentifier`, `policyId`, and `policyType`. Paths that don't lead to the root from the target object are ignored. For more information, see Policies.

Type: BatchLookupPolicyResponse (p. 328) object

Required: No

See Also

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

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

BatchRemoveFacetFromObject

A batch operation to remove a facet from an object.

Contents

ObjectReference

A reference to the object whose facet will be removed.

Type: ObjectReference (p. 362) object

Required: Yes

SchemaFacet

The facet to remove from the object.

Type: SchemaFacet (p. 367) object

Required: Yes

See Also

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

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

BatchRemoveFacetFromObjectResponse

An empty result that represents success.

Contents

The members of this structure are context-dependent.

See Also

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

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

BatchUpdateLinkAttributes

Updates a given typed link's attributes inside a BatchRead (p. 29) operation. Attributes to be updated must not contribute to the typed link's identity, as defined by its `IdentityAttributeOrder`. For more information, see UpdateLinkAttributes (p. 248) and BatchRead:Operations (p. 32).

Contents

AttributeUpdates

The attributes update structure.

Type: Array of LinkAttributeUpdate (p. 357) objects

Required: Yes

TypedLinkSpecifier

Allows a typed link specifier to be accepted as input.

Type: TypedLinkSpecifier (p. 377) object

Required: Yes

See Also

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

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

BatchUpdateLinkAttributesResponse

Represents the output of a UpdateLinkAttributes (p. 248) response operation.

Contents

The members of this structure are context-dependent.

See Also

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

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

BatchUpdateObjectAttributes

Represents the output of a `BatchUpdate` operation.

Contents

AttributeUpdates

Attributes update structure.

Type: Array of ObjectAttributeUpdate (p. 360) objects

Required: Yes

ObjectReference

Reference that identifies the object.

Type: ObjectReference (p. 362) object

Required: Yes

See Also

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

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

BatchUpdateObjectAttributesResponse

Represents the output of a `BatchUpdate` response operation.

Contents

ObjectIdentifier

ID that is associated with the object.

Type: String

Required: No

See Also

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

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

BatchWriteOperation

Represents the output of a `BatchWrite` operation.

Contents

AddFacetToObject

A batch operation that adds a facet to an object.

Type: BatchAddFacetToObject (p. 273) object

Required: No

AttachObject

Attaches an object to a Directory (p. 349).

Type: BatchAttachObject (p. 275) object

Required: No

AttachPolicy

Attaches a policy object to a regular object. An object can have a limited number of attached policies.

Type: BatchAttachPolicy (p. 277) object

Required: No

AttachToIndex

Attaches the specified object to the specified index.

Type: BatchAttachToIndex (p. 279) object

Required: No

AttachTypedLink

Attaches a typed link to a specified source and target object. For more information, see Typed Links.

Type: BatchAttachTypedLink (p. 281) object

Required: No

CreateIndex

Creates an index object. See Indexing and search for more information.

Type: BatchCreateIndex (p. 283) object

Required: No

CreateObject

Creates an object.

Type: BatchCreateObject (p. 286) object

Required: No

DeleteObject

Deletes an object in a Directory (p. 349).

Type: BatchDeleteObject (p. 289) object

Required: No

DetachFromIndex

Detaches the specified object from the specified index.

Type: BatchDetachFromIndex (p. 291) object

Required: No

DetachObject

Detaches an object from a Directory (p. 349).

Type: BatchDetachObject (p. 293) object

Required: No

DetachPolicy

Detaches a policy from a Directory (p. 349).

Type: BatchDetachPolicy (p. 295) object

Required: No

DetachTypedLink

Detaches a typed link from a specified source and target object. For more information, see Typed Links.

Type: BatchDetachTypedLink (p. 297) object

Required: No

RemoveFacetFromObject

A batch operation that removes a facet from an object.

Type: BatchRemoveFacetFromObject (p. 337) object

Required: No

UpdateLinkAttributes

Updates a given object's attributes.

Type: BatchUpdateLinkAttributes (p. 339) object

Required: No

UpdateObjectAttributes

Updates a given object's attributes.

Type: BatchUpdateObjectAttributes (p. 341) object

Required: No

See Also

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

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

BatchWriteOperationResponse

Represents the output of a `BatchWrite` response operation.

Contents

AddFacetToObject

The result of an add facet to object batch operation.

Type: BatchAddFacetToObjectResponse (p. 274) object

Required: No

AttachObject

Attaches an object to a Directory (p. 349).

Type: BatchAttachObjectResponse (p. 276) object

Required: No

AttachPolicy

Attaches a policy object to a regular object. An object can have a limited number of attached policies.

Type: BatchAttachPolicyResponse (p. 278) object

Required: No

AttachToIndex

Attaches the specified object to the specified index.

Type: BatchAttachToIndexResponse (p. 280) object

Required: No

AttachTypedLink

Attaches a typed link to a specified source and target object. For more information, see Typed Links.

Type: BatchAttachTypedLinkResponse (p. 282) object

Required: No

CreateIndex

Creates an index object. See Indexing and search for more information.

Type: BatchCreateIndexResponse (p. 285) object

Required: No

CreateObject

Creates an object in a Directory (p. 349).

Type: BatchCreateObjectResponse (p. 288) object

Required: No

DeleteObject

Deletes an object in a Directory (p. 349).

Type: BatchDeleteObjectResponse (p. 290) object

Required: No

DetachFromIndex

Detaches the specified object from the specified index.

Type: BatchDetachFromIndexResponse (p. 292) object

Required: No

DetachObject

Detaches an object from a Directory (p. 349).

Type: BatchDetachObjectResponse (p. 294) object

Required: No

DetachPolicy

Detaches a policy from a Directory (p. 349).

Type: BatchDetachPolicyResponse (p. 296) object

Required: No

DetachTypedLink

Detaches a typed link from a specified source and target object. For more information, see Typed Links.

Type: BatchDetachTypedLinkResponse (p. 298) object

Required: No

RemoveFacetFromObject

The result of a batch remove facet from object operation.

Type: BatchRemoveFacetFromObjectResponse (p. 338) object

Required: No

UpdateLinkAttributes

Represents the output of a `BatchWrite` response operation.

Type: BatchUpdateLinkAttributesResponse (p. 340) object

Required: No

UpdateObjectAttributes

Updates a given object's attributes.

Type: BatchUpdateObjectAttributesResponse (p. 342) object

Required: No

See Also

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

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

Directory

Directory structure that includes the directory name and directory ARN.

Contents

CreationDateTime

The date and time when the directory was created.

Type: Timestamp

Required: No

DirectoryArn

The Amazon Resource Name (ARN) that is associated with the directory. For more information, see Arn Examples (p. 378).

Type: String

Required: No

Name

The name of the directory.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[a-zA-Z0-9._-]*$`

Required: No

State

The state of the directory. Can be either `Enabled`, `Disabled`, or `Deleted`.

Type: String

Valid Values: `ENABLED | DISABLED | DELETED`

Required: No

See Also

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

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

Facet

A structure that contains `Name`, `ARN`, `Attributes`, `Rule (p. 366)`s, and `ObjectTypes`. See Facets for more information.

Contents

FacetStyle

There are two different styles that you can define on any given facet, `Static` and `Dynamic`. For static facets, all attributes must be defined in the schema. For dynamic facets, attributes can be defined during data plane operations.

Type: String

Valid Values: `STATIC | DYNAMIC`

Required: No

Name

The name of the Facet (p. 350).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[a-zA-Z0-9._-]*$`

Required: No

ObjectType

The object type that is associated with the facet. See CreateFacet:ObjectType (p. 52) for more details.

Type: String

Valid Values: `NODE | LEAF_NODE | POLICY | INDEX`

Required: No

See Also

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

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

FacetAttribute

An attribute that is associated with the .

Contents

AttributeDefinition

A facet attribute consists of either a definition or a reference. This structure contains the attribute definition. See Attribute References for more information.

Type: object

Required: No

AttributeReference

An attribute reference that is associated with the attribute. See Attribute References for more information.

Type: object

Required: No

Name

The name of the facet attribute.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 230.

Pattern: `^[a-zA-Z0-9._:-]*$`

Required: Yes

RequiredBehavior

The required behavior of the `FacetAttribute`.

Type: String

Valid Values: `REQUIRED_ALWAYS | NOT_REQUIRED`

Required: No

See Also

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

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

FacetAttributeDefinition

A facet attribute definition. See Attribute References for more information.

Contents

DefaultValue

The default value of the attribute (if configured).

Type: TypedAttributeValue (p. 369) object

Required: No

IsImmutable

Whether the attribute is mutable or not.

Type: Boolean

Required: No

Rules

Validation rules attached to the attribute definition.

Type: String to Rule (p. 366) object map

Key Length Constraints: Minimum length of 1. Maximum length of 64.

Key Pattern: `^[a-zA-Z0-9._-]*$`

Required: No

Type

The type of the attribute.

Type: String

Valid Values: `STRING | BINARY | BOOLEAN | NUMBER | DATETIME | VARIANT`

Required: Yes

See Also

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

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

FacetAttributeReference

The facet attribute reference that specifies the attribute definition that contains the attribute facet name and attribute name.

Contents

TargetAttributeName

The target attribute name that is associated with the facet reference. See Attribute References for more information.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 230.

Pattern: `^[a-zA-Z0-9._:-]*$`

Required: Yes

TargetFacetName

The target facet name that is associated with the facet reference. See Attribute References for more information.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[a-zA-Z0-9._-]*$`

Required: Yes

See Also

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

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

FacetAttributeUpdate

A structure that contains information used to update an attribute.

Contents

Action

The action to perform when updating the attribute.

Type: String

Valid Values: `CREATE_OR_UPDATE | DELETE`

Required: No

Attribute

The attribute to update.

Type: FacetAttribute (p. 351) object

Required: No

See Also

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

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

IndexAttachment

Represents an index and an attached object.

Contents

IndexedAttributes

The indexed attribute values.

Type: Array of AttributeKeyAndValue (p. 271) objects

Required: No

ObjectIdentifier

In response to ListIndex (p. 175), the `ObjectIdentifier` of the object attached to the index. In response to ListAttachedIndices (p. 146), the `ObjectIdentifier` of the index attached to the object. This field will always contain the `ObjectIdentifier` of the object on the opposite side of the attachment specified in the query.

Type: String

Required: No

See Also

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

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

LinkAttributeAction

The action to take on a typed link attribute value. Updates are only supported for attributes which don't contribute to link identity.

Contents

AttributeActionType

A type that can be either `UPDATE_OR_CREATE` or `DELETE`.

Type: String

Valid Values: `CREATE_OR_UPDATE | DELETE`

Required: No

AttributeUpdateValue

The value that you want to update to.

Type: TypedAttributeValue (p. 369) object

Required: No

See Also

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

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

LinkAttributeUpdate

Structure that contains attribute update information.

Contents

AttributeAction

The action to perform as part of the attribute update.

Type: LinkAttributeAction (p. 356) object

Required: No

AttributeKey

The key of the attribute being updated.

Type: AttributeKey (p. 270) object

Required: No

See Also

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

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

ObjectAttributeAction

The action to take on the object attribute.

Contents

ObjectAttributeActionType

A type that can be either `Update` or `Delete`.

Type: String

Valid Values: `CREATE_OR_UPDATE` | `DELETE`

Required: No

ObjectAttributeUpdateValue

The value that you want to update to.

Type: TypedAttributeValue (p. 369) object

Required: No

See Also

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

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

ObjectAttributeRange

A range of attributes.

Contents

AttributeKey

The key of the attribute that the attribute range covers.

Type: AttributeKey (p. 270) object

Required: No

Range

The range of attribute values being selected.

Type: TypedAttributeValueRange (p. 370) object

Required: No

See Also

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

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

ObjectAttributeUpdate

Structure that contains attribute update information.

Contents

ObjectAttributeAction

The action to perform as part of the attribute update.

Type: ObjectAttributeAction (p. 358) object

Required: No

ObjectAttributeKey

The key of the attribute being updated.

Type: AttributeKey (p. 270) object

Required: No

See Also

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

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

ObjectIdentifierAndLinkNameTuple

A pair of ObjectIdentifier and LinkName.

Contents

LinkName

The name of the link between the parent and the child object.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `[^\/\[\]\(\):\{\}#@!?\s\\;]+`

Required: No

ObjectIdentifier

The ID that is associated with the object.

Type: String

Required: No

See Also

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

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

ObjectReference

The reference that identifies an object.

Contents

Selector

A path selector supports easy selection of an object by the parent/child links leading to it from the directory root. Use the link names from each parent/child link to construct the path. Path selectors start with a slash (/) and link names are separated by slashes. For more information about paths, see Access Objects. You can identify an object in one of the following ways:

- *$ObjectIdentifier* - An object identifier is an opaque string provided by Amazon Cloud Directory. When creating objects, the system will provide you with the identifier of the created object. An object's identifier is immutable and no two objects will ever share the same object identifier
- */some/path* - Identifies the object based on path
- *#SomeBatchReference* - Identifies the object in a batch call

Type: String

Required: No

See Also

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

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

PathToObjectIdentifiers

Returns the path to the `ObjectIdentifiers` that is associated with the directory.

Contents

ObjectIdentifiers

Lists `ObjectIdentifiers` starting from directory root to the object in the request.

Type: Array of strings

Required: No

Path

The path that is used to identify the object starting from directory root.

Type: String

Required: No

See Also

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

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

PolicyAttachment

Contains the `PolicyType`, `PolicyId`, and the `ObjectIdentifier` to which it is attached. For more information, see Policies.

Contents

ObjectIdentifier

The `ObjectIdentifier` that is associated with `PolicyAttachment`.

Type: String

Required: No

PolicyId

The ID of `PolicyAttachment`.

Type: String

Required: No

PolicyType

The type of policy that can be associated with `PolicyAttachment`.

Type: String

Required: No

See Also

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

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

PolicyToPath

Used when a regular object exists in a Directory (p. 349) and you want to find all of the policies that are associated with that object and the parent to that object.

Contents

Path

The path that is referenced from the root.

Type: String

Required: No

Policies

List of policy objects.

Type: Array of PolicyAttachment (p. 364) objects

Required: No

See Also

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

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

Rule

Contains an Amazon Resource Name (ARN) and parameters that are associated with the rule.

Contents

Parameters

The minimum and maximum parameters that are associated with the rule.

Type: String to string map

Required: No

Type

The type of attribute validation rule.

Type: String

Valid Values: `BINARY_LENGTH` | `NUMBER_COMPARISON` | `STRING_FROM_SET` | `STRING_LENGTH`

Required: No

See Also

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

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

SchemaFacet

A facet.

Contents

FacetName

The name of the facet. If this value is set, SchemaArn must also be set.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[a-zA-Z0-9._-]*$`

Required: No

SchemaArn

The ARN of the schema that contains the facet with no minor component. See Arn
Examples (p. 378) and In-Place Schema Upgrade for a description of when to provide minor
versions. If this value is set, FacetName must also be set.

Type: String

Required: No

See Also

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

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

Tag

The tag structure that contains a tag key and value.

Contents

Key

The key that is associated with the tag.

Type: String

Required: Yes

Value

The value that is associated with the tag.

Type: String

Required: No

See Also

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

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

TypedAttributeValue

Represents the data for a typed attribute. You can set one, and only one, of the elements. Each attribute in an item is a name-value pair. Attributes have a single value.

Contents

BinaryValue

A binary data value.

Type: Base64-encoded binary data object

Required: No

BooleanValue

A Boolean data value.

Type: Boolean

Required: No

DatetimeValue

A date and time value.

Type: Timestamp

Required: No

NumberValue

A number data value.

Type: String

Required: No

StringValue

A string data value.

Type: String

Required: No

See Also

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

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

TypedAttributeValueRange

A range of attribute values. For more information, see Range Filters.

Contents

EndMode

The inclusive or exclusive range end.

Type: String

Valid Values: `FIRST | LAST | LAST_BEFORE_MISSING_VALUES | INCLUSIVE | EXCLUSIVE`

Required: Yes

EndValue

The attribute value to terminate the range at.

Type: TypedAttributeValue (p. 369) object

Required: No

StartMode

The inclusive or exclusive range start.

Type: String

Valid Values: `FIRST | LAST | LAST_BEFORE_MISSING_VALUES | INCLUSIVE | EXCLUSIVE`

Required: Yes

StartValue

The value to start the range at.

Type: TypedAttributeValue (p. 369) object

Required: No

See Also

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

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

TypedLinkAttributeDefinition

A typed link attribute definition.

Contents

DefaultValue

The default value of the attribute (if configured).

Type: TypedAttributeValue (p. 369) object

Required: No

IsImmutable

Whether the attribute is mutable or not.

Type: Boolean

Required: No

Name

The unique name of the typed link attribute.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 230.

Pattern: `^[a-zA-Z0-9._:-]*$`

Required: Yes

RequiredBehavior

The required behavior of the `TypedLinkAttributeDefinition`.

Type: String

Valid Values: `REQUIRED_ALWAYS | NOT_REQUIRED`

Required: Yes

Rules

Validation rules that are attached to the attribute definition.

Type: String to Rule (p. 366) object map

Key Length Constraints: Minimum length of 1. Maximum length of 64.

Key Pattern: `^[a-zA-Z0-9._-]*$`

Required: No

Type

The type of the attribute.

Type: String

Valid Values: `STRING | BINARY | BOOLEAN | NUMBER | DATETIME | VARIANT`

Required: Yes

See Also

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

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

TypedLinkAttributeRange

Identifies the range of attributes that are used by a specified filter.

Contents

AttributeName

The unique name of the typed link attribute.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 230.

Pattern: `^[a-zA-Z0-9._:-]*$`

Required: No

Range

The range of attribute values that are being selected.

Type: TypedAttributeValueRange (p. 370) object

Required: Yes

See Also

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

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

TypedLinkFacet

Defines the typed links structure and its attributes. To create a typed link facet, use the
CreateTypedLinkFacet (p. 70) API.

Contents

Attributes

A set of key-value pairs associated with the typed link. Typed link attributes are used when you have
data values that are related to the link itself, and not to one of the two objects being linked. Identity
attributes also serve to distinguish the link from others of the same type between the same objects.

Type: Array of TypedLinkAttributeDefinition (p. 371) objects

Required: Yes

IdentityAttributeOrder

The set of attributes that distinguish links made from this facet from each other, in the
order of significance. Listing typed links can filter on the values of these attributes. See
ListOutgoingTypedLinks (p. 203) and ListIncomingTypedLinks (p. 169) for details.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 230.

Pattern: `^[a-zA-Z0-9._:-]*$`

Required: Yes

Name

The unique name of the typed link facet.

Type: String

Pattern: `^[a-zA-Z0-9._-]*$`

Required: Yes

See Also

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

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

TypedLinkFacetAttributeUpdate

A typed link facet attribute update.

Contents

Action

The action to perform when updating the attribute.

Type: String

Valid Values: `CREATE_OR_UPDATE` | `DELETE`

Required: Yes

Attribute

The attribute to update.

Type: TypedLinkAttributeDefinition (p. 371) object

Required: Yes

See Also

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

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

TypedLinkSchemaAndFacetName

Identifies the schema Amazon Resource Name (ARN) and facet name for the typed link.

Contents

SchemaArn

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 378).

Type: String

Required: Yes

TypedLinkName

The unique name of the typed link facet.

Type: String

Pattern: `^[a-zA-Z0-9._-]*$`

Required: Yes

See Also

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

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

TypedLinkSpecifier

Contains all the information that is used to uniquely identify a typed link. The parameters discussed in this topic are used to uniquely specify the typed link being operated on. The AttachTypedLink (p. 24) API returns a typed link specifier while the DetachTypedLink (p. 101) API accepts one as input. Similarly, the ListIncomingTypedLinks (p. 169) and ListOutgoingTypedLinks (p. 203) API operations provide typed link specifiers as output. You can also construct a typed link specifier from scratch.

Contents

IdentityAttributeValues

Identifies the attribute value to update.

Type: Array of AttributeNameAndValue (p. 272) objects

Required: Yes

SourceObjectReference

Identifies the source object that the typed link will attach to.

Type: ObjectReference (p. 362) object

Required: Yes

TargetObjectReference

Identifies the target object that the typed link will attach to.

Type: ObjectReference (p. 362) object

Required: Yes

TypedLinkFacet

Identifies the typed link facet that is associated with the typed link.

Type: TypedLinkSchemaAndFacetName (p. 376) object

Required: Yes

See Also

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

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

Arn Examples

The following examples are separated by ARN types and show how they can be constructed for each schema state (where applicable). A schema can exist in three states:

- *Development:* This is a mutable state of the schema. All new schemas are in the development state. Once the schema is finalized, it can be published. All development schemas are under the development sub root of the schema metadata container.
- *Published:* Published schemas are immutable and have a version associated with them. All published schemas are under the published sub root of the schema container.
- *Applied:* Applied schemas are mutable in a way that allows you to add new schema facets. However, existing schema facets cannot be changed. You can apply only published schemas to directories. You can't apply schemas at the node level, but only at the directory root level.

Schema Arns

State	Format or Example	Schema Arn
Development	Format	`arn:aws:clouddirectory:us-west-2:`*`accountId`*`:schema/development/`*`SchemaName`*
	Example	`arn:aws:clouddirectory:us-west-2:12345678910:schema/development/cognito`
Published	Format	`arn:aws:clouddirectory:us-west-2:`*`accountId`*`:schema/published/`*`SchemaName`*`/`*`SchemaVersion`*
	Example	`arn:aws:clouddirectory:us-west-2:12345678910:schema/published/cognito/1.0`
	Format	`arn:aws:clouddirectory:us-west-2:`*`accountId`*`:schema/published/`*`SchemaName`*`/`*`SchemaVersion`*`/`*`SchemaMinorVersion`*
	Example	`arn:aws:clouddirectory:us-west-2:12345678910:schema/published/cognito/1.0/XYZ`
Applied	Format	`arn:aws:clouddirectory:us-west-2:`*`accountId`*`:directory/`*`directoryId`*`/`*`SchemaName`*`/`*`SchemaVersion`*
	Example	`arn:aws:clouddirectory:us-west-2:12345678910:directory/ARIqk1HD-UjdtmcIrJHEvPI/schema/cognito/1.0`
	Format	`arn:aws:clouddirectory:us-west-2:`*`accountId`*`:directory/`*`directoryId`*`/`*`SchemaName`*`/`*`SchemaVersion`*`/`*`SchemaMinorVersion`*

State	Format or Example	Schema Arn
	Example	`arn:aws:clouddirectory:us-west-2:12345678910:directory/ARIqk1HD-UjdtmcIrJHEvPI/schema/cognito/1.0/XYZ`

Directory Arns

Arn Type	Format or example	Arn
Directory Arn	Format	`arn:aws:clouddirectory:us-west-2:`*`Directory owner accountId`*`:directory/`*`directoryId`*
	Example	`arn:aws:clouddirectory:us-west-2:12345678910:directory/ARIqk1HD-UjdtmcIrJHEvPI`

Logging Cloud Directory API Calls with CloudTrail

Amazon Cloud Directory is integrated with AWS CloudTrail, a service that captures all of the Cloud Directory API calls and delivers the log files to an Amazon S3 bucket that you specify. CloudTrail captures API calls from the Cloud Directory section of the AWS Directory Service console or from your code to the Cloud Directory APIs. Using the information collected by CloudTrail, you can determine the request that was made to Cloud Directory, the source IP address from which the request was made, who made the request, when it was made, and so on. To learn more about CloudTrail, see the AWS CloudTrail User Guide.

Cloud Directory Information in CloudTrail

CloudTrail is enabled on your AWS account when you create the account. When supported event activity occurs in Cloud Directory, that activity is recorded in a CloudTrail event along with other AWS service events in **Event history**. You can view, search, and download recent events in your AWS account. For more information, see Viewing Events with CloudTrail Event History.

For an ongoing record of events in your AWS account, including events for Cloud Directory, create a trail. A *trail* enables CloudTrail to deliver log files to an Amazon S3 bucket. By default, when you create a trail in the console, the trail applies to all AWS Regions. The trail logs events from all Regions in the AWS partition and delivers the log files to the Amazon S3 bucket that you specify. Additionally, you can configure other AWS services to further analyze and act upon the event data collected in CloudTrail logs. For more information, see the following:

- Overview for Creating a Trail
- CloudTrail Supported Services and Integrations
- Configuring Amazon SNS Notifications for CloudTrail
- Receiving CloudTrail Log Files from Multiple Regions and Receiving CloudTrail Log Files from Multiple Accounts

When CloudTrail logging is enabled in your AWS account, API calls made to Cloud Directory actions are tracked in CloudTrail log files, where they are written with other AWS service records. CloudTrail determines when to create and write to a new file based on a time period and file size.

The following Cloud Directory actions are logged by CloudTrail and are documented in this API Reference guide.

For example, calls to the **ApplySchema**, **ListDirectories** and **CreateSchema** sections generate entries in the CloudTrail log files.

Every log entry contains information about who generated the request. The user identity information in the log entry helps you determine the following:

- Whether the request was made with root or IAM user credentials
- Whether the request was made with temporary security credentials for a role or federated user
- Whether the request was made by another AWS service

For more information, see the CloudTrail userIdentity Element.

You can store your log files in your Amazon S3 bucket for as long as you want, but you can also define Amazon S3 lifecycle rules to archive or delete log files automatically. By default, your log files are encrypted with Amazon S3 server-side encryption (SSE).

If you want to be notified upon log file delivery, you can configure CloudTrail to publish Amazon SNS notifications when new log files are delivered. For more information, see Configuring Amazon SNS Notifications for CloudTrail.

You can also aggregate Cloud Directory log files from multiple AWS regions and multiple AWS accounts into a single Amazon S3 bucket. For more information, see Receiving CloudTrail Log Files from Multiple Regions and Receiving CloudTrail Log Files from Multiple Accounts.

Understanding Cloud Directory Log File Entries

CloudTrail log files can contain one or more log entries. Each entry lists multiple JSON-formatted events. A log entry represents a single request from any source and includes information about the requested action, the date and time of the action, request parameters, and so on. Log entries are not an ordered stack trace of the public API calls, so they do not appear in any specific order.

Sensitive information, such as passwords, authentication tokens, file comments, and file contents are redacted in the log entries.

The following example shows a CloudTrail log entry that demonstrates the following Cloud Directory actions:

- `ApplySchema`
- `ListDirectories`
- `CreateSchema`

```
ApplySchema:
{
    "eventVersion": "1.05",
    "userIdentity": {
        "type": "IAMUser",
        "principalId": "ASDFLKJHEXAMPLE1QWERT",
        "arn": "arn:aws:iam::11223Example:user/nickpi",
        "accountId": "11223Example",
        "accessKeyId": "ALSKDJFHGQPWOExample",
        "userName": "nickpi"
    },
    "eventTime": "2017-01-06T00:09:08Z",
    "eventSource": "clouddirectory.amazonaws.com",
    "eventName": "ApplySchema",
    "awsRegion": "us-east-1",
    "sourceIPAddress": "192.0.2.92",
    "userAgent": "Apache-HttpClient/4.3 (java 1.5)",
    "requestParameters": {
        "directoryArn": "arn:aws:clouddirectory:us-east-1:11223Example:directory/
AsCGClGIlkIqweR836u9pyU",
        "publishedSchemaArn": "arn:aws:clouddirectory:us-east-1:11223Example:schema/
published/simple_org-123456/1.0"
    },
    "responseElements": {
        "directoryArn": "arn:aws:clouddirectory:us-east-1:11223Example:directory/
AsCGClGIlkIqweR836u9pyU",
        "appliedSchemaArn": "arn:aws:clouddirectory:us-east-1:11223Example:directory/
AsCGClGIlkIqweR836u9pyU/schema/simple_org-123456/1.0"
    },
    "requestID": "12j45lk0-a1s2-00ie-b180-2b70510bd66f",
    "eventID": "733409ba-a869-4e7b-95a1-4d5d204e697c",
    "eventType": "AwsApiCall",
    "recipientAccountId": "11223Example"
}

ListDirectories:
{
    "eventVersion": "1.05",
    "userIdentity": {
        "type": "IAMUser",
        "principalId": "ASDFLKJHEXAMPLE1QWERT",
        "arn": "arn:aws:iam::11223Example:user/nickpi",
        "accountId": "11223Example",
        "accessKeyId": "ALSKDJFHGQPWOExample",
        "userName": "nickpi"
    },
    "eventTime": "2017-01-06T00:09:54Z",
    "eventSource": "clouddirectory.amazonaws.com",
    "eventName": "ListDirectories",
    "awsRegion": "us-east-1",
    "sourceIPAddress": "192.0.2.92",
    "userAgent": "Apache-HttpClient/4.3 (java 1.5)",
    "requestParameters": {
        "maxResults": 10
    },
    "responseElements": null,
```

```
        "requestID": "56j45l00-a1s2-00ie-b180-2b70660bd66f",
        "eventID": "uwjdf8-f003-4ef7-b15d-8a34149479ac",
        "eventType": "AwsApiCall",
        "recipientAccountId": "11223Example"
}

CreateSchema:
{
        "eventVersion": "1.05",
        "userIdentity": {
            "type": "IAMUser",
            "principalId": "ASDFLKJHEXAMPLE1QWERT",
            "arn": "arn:aws:iam::11223Example:user/nickpi",
            "accountId": "11223Example",
            "accessKeyId": "ALSKDJFHGQPWOExample",
            "userName": "nickpi"
        },
        "eventTime": "2017-01-06T00:08:54Z",
        "eventSource": "clouddirectory.amazonaws.com",
        "eventName": "CreateSchema",
        "awsRegion": "us-east-1",
        "sourceIPAddress": "192.0.2.92",
        "userAgent": "Apache-HttpClient/4.3 (java 1.5)",
        "requestParameters": {
            "name": "newName-111"
        },
        "responseElements": {
            "schemaArn": "arn:aws:clouddirectory:us-east-1:11223Example:schema/development/
newName-111"
        },
        "requestID": "4jshkjsg-d3a4-11e6-b180-dfhkasdh",
        "eventID": "skdjf-0acb-426c-b64b-fsaj",
        "eventType": "AwsApiCall",
        "recipientAccountId": "11223Example"
}
```

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'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 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

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

Document History

The following table describes the important changes to the documentation in this release of the Amazon Cloud Directory API Reference.

- **Latest documentation update:** May 23, 2018

Change	Description	Release Date
Typed links	Added the GetLinkAttributes (p. 121) and UpdateLinkAttributes (p. 248) APIs for Typed Links.	May 23, 2018
New API	Added the GetObjectAttributes (p. 125) API.	April 10, 2018
In-Place Schema Upgrade	Added new APIs to support In-Place Schema Upgrade feature.	December 6, 2017
Batch updates	Added several new Read and Write batch operation APIs	July 25, 2017
Typed links	Additional APIs for new Typed Links feature	May 31, 2017
New guide	This is the first release of the Amazon Cloud Directory API Reference Guide.	January 26, 2017