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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 (p. 4)
- ApplySchema (p. 8)
- AttachObject (p. 12)
- AttachPolicy (p. 16)
- AttachToIndex (p. 19)
- AttachTypedLink (p. 23)
- BatchRead (p. 28)
- BatchWrite (p. 38)
- CreateDirectory (p. 46)
- CreateFacet (p. 50)
- CreateIndex (p. 54)
- CreateObject (p. 58)
- CreateSchema (p. 63)
- CreateTypedLinkFacet (p. 66)
- DeleteDirectory (p. 70)
- DeleteFacet (p. 73)
- DeleteObject (p. 76)
- DeleteSchema (p. 79)
- DeleteTypedLinkFacet (p. 82)
- DetachFromIndex (p. 85)
- DetachObject (p. 89)
- DetachPolicy (p. 93)
- DetachTypedLink (p. 96)
- DisableDirectory (p. 100)
- EnableDirectory (p. 103)
- GetAppliedSchemaVersion (p. 106)
- GetDirectory (p. 109)
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- GetSchemaAsJson (p. 128)
- GetTypedLinkFacetInformation (p. 132)
- ListAppliedSchemaArns (p. 136)
- ListAttachedIndices (p. 140)
- ListDevelopmentSchemaArns (p. 144)
- ListDirectories (p. 148)
- ListFacetAttributes (p. 152)
- ListFacetNames (p. 159)
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• PublishSchema (p. 222)
• PutSchemaFromJson (p. 225)
• RemoveFacetFromObject (p. 228)
• TagResource (p. 231)
• UntagResource (p. 234)
• UpdateFacet (p. 237)
• UpdateLinkAttributes (p. 241)
• UpdateObjectAttributes (p. 244)
• UpdateSchema (p. 247)
• UpdateTypedLinkFacet (p. 250)
• UpgradeAppliedSchema (p. 254)
• UpgradePublishedSchema (p. 257)
AddFacetToObject

Adds a new Facet (p. 343) to an object. An object can have more than one facet applied on it.

Request Syntax

```json
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 requires the following URI parameters.

**DirectoryArn (p. 4)**

The Amazon Resource Name (ARN) that is associated with the Directory (p. 342) where the object resides. For more information, see Arn Examples (p. 371).

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. 264) objects

Required: No
ObjectReference (p. 4)

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

Type: ObjectReference (p. 355) object

Required: Yes

SchemaFacet (p. 4)

Identifiers for the facet that you are adding to the object. See SchemaFacet (p. 360) for details.

Type: SchemaFacet (p. 360) 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. 379).

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. 148) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 343) 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

```plaintext
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
AYb8ROV81kHNdj8maO3dNY
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_JgDt3TWmspx1xfQm5SQAaVK5bV8EiQ"
    },
    "SchemaFacet": {
AYb8ROV81kHNdj8maO3dNY/schema/org/1",
        "FacetName": "node1"
    }
}
```

Example Response

```
HTTP/1.1 200 OK
```
See Also

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

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

Copies the input published schema, at the specified version, into the Directory (p. 342) with the same name and version as that of the published schema.

Request Syntax

```plaintext
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 requires the following URI parameters.

**DirectoryArn (p. 8)**

The Amazon Resource Name (ARN) that is associated with the Directory (p. 342) into which the schema is copied. For more information, see Arn Examples (p. 371).

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. 371).

- Type: String
- Required: Yes

Response Syntax

```plaintext
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. 342). You can use this ARN to describe the schema information applied on this directory. For more information, see Arn Examples (p. 371).

Type: String

DirectoryArn (p. 8)

The ARN that is associated with the Directory (p. 342). For more information, see Arn Examples (p. 371).

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

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. 148) 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**

```
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=ac58e3d2d25b85cd1869f7a845a0e97cebfc28d15e8f8df34c0ee89a197f042
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**

```
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
{
  "DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/AfMr4qymkZTvwqOafAYfqI"
}
```

**See Also**

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

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

```plaintext
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 requires the following URI parameters.

**DirectoryArn (p. 12)**

Amazon Resource Name (ARN) that is associated with the Directory (p. 342) where both objects reside. For more information, see Arn Examples (p. 371).

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. 355) 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: /^[^\/[\]\(\)\:\\{\}\#@\!\?\$\%\^\&\*]+$/

Required: Yes
ParentReference (p. 12)

The parent object reference.

Type: ObjectReference (p. 355) 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. 379).

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. 148) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 343) 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

```bash
PUT /amazonclouddirectory/2017-01-11/object/attach HTTP/1.1
```
Example Response

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

{
   "AttachedObjectIdentifier": "AQGG_ADlfNZBzYHY_JgDt3TW5vfuEnDqTdmeCuTs6YBNUA"
}

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby 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 requires the following URI parameters.

**DirectoryArn (p. 16)**

The Amazon Resource Name (ARN) that is associated with the Directory (p. 342) where both objects reside. For more information, see Arn Examples (p. 371).

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. 355) object

Required: Yes

**PolicyReference (p. 16)**

The reference that is associated with the policy object.

Type: ObjectReference (p. 355) 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. 379).

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. 148) 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

```plaintext
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=d6ba55fbae53295150b69a929466e542ad08f7557492c5862d70d6a8c62fa24b0
   AYb8AOV81kHNrgdj8moAO34NY
   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_JgDt3TWgcBtVmcQW8jlyyquw"
   },
   "ObjectReference": {
      "Selector": "#AQGG_ADlfNZBzYHY_JgDt3TWqooom1s3Ts2v0NKrzdVnPw"
   }
}
```

Example Response

```plaintext
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
- 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**

```plaintext
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 requires the following URI parameters.

**DirectoryArn (p. 19)**

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

**Request Body**

The request accepts the following data in JSON format.

**IndexReference (p. 19)**

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

Type: `ObjectReference (p. 355)` object

Required: Yes

**TargetReference (p. 19)**

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

Type: `ObjectReference (p. 355)` 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. 19)**

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. 379).

**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. 148) 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

**LimitExceededRuntimeException**

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

NotFoundException

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

```plaintext
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/AYb8AQV81kHNgdj8mA03dNY
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_JgDt3TWcU7lARvOTeaR09zme1sVsw"
  }
}
```
Example Response

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_JgDt3TWCu7JARvOTeaR09zme1sVsw"
}

See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby 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 requires the following URI parameters.

DirectoryArn (p. 23)

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

Request Body

The request accepts the following data in JSON format.

Attributes (p. 23)

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

Type: Array of AttributeNameAndValue (p. 265) objects

Required: Yes

SourceObjectReference (p. 23)

Identifies the source object that the typed link will attach to.
Type: **ObjectReference** (p. 355) object

Required: Yes

**TargetObjectReference** (p. 23)

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

Type: **ObjectReference** (p. 355) object

Required: Yes

**TypedLinkFacet** (p. 23)

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

Type: **TypedLinkSchemaAndFacetName** (p. 369) object

Required: Yes

---

**Response Syntax**

HTTP/1.1 200
Content-Type: application/json

```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. 24)

Returns a typed link specifier as output.
Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

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. 148) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 343) 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

```
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=d1b63e72fdd13cafb5af77d621891a58849c416c2654d046366d420527a659b48 x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/ AYb8AOV81kHNgdj8mA03dNY
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_JgDt3TWSVfuEnDqTds6YeBNUA"
  },
  "Attributes": [{
    "AttributeName": "22",
    "Value": {
      "BinaryValue": "c3Ry"
    }
  }],
  "TargetObjectReference": {
    "Selector": "#AQGG_ADlfNZBzYHY_JgDt3TWCu71ARvOTeaR09zme1sVsw"
  },
  "TypedLinkFacet": {
    "TypedLinkName": "exampletypedlink8",
    "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/ AYb8AOV81kHNgdj8mA03dNY/schemas/org/1"
  }
}
```

Example Response

```
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
```
See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby 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": {
      
    }
  }
}
```
URI Request Parameters

The request requires the following URI parameters.

ConsistencyLevel (p. 28)

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. 28)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 342). For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

Operations (p. 28)

A list of operations that are part of the batch.

Type: Array of BatchReadOperation (p. 323) 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",
      "TypedLinksSpecifiers": [
        {
          "IdentityAttributeValues": [
            {
              "AttributeName": "string",
              "Value": {
                "BinaryValue": blob,
                "BooleanValue": boolean,
                "DatetimeValue": number,
                "NumberValue": "string",
                "StringValue": "string"
              }
            }
          ],
          "SourceObjectReference": {
            "Selector": "string"
          },
          "TargetObjectReference": {
            "Selector": "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. 31)

A list of all the responses for each batch read.

Type: Array of BatchReadOperationResponse (p. 326) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

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. 148) 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

```
POST /amazonclouddirectory/2017-01-11/batchread HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 18
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
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
- 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"
    }
  },
  {
    "IdentityAttributeValues": [\n      {
        "AttributeName": "string",
        "Value": {
          "BinaryValue": "blob",
          "BooleanValue": "boolean",
          "DatetimeValue": "number",
          "NumberValue": "string",
          "StringValue": "string"
        }
      }\n    ],
    "SourceObjectReference": {
      "Selector": "string"
    },
    "TargetObjectReference": {
      "Selector": "string"
    },
    "TypedLinkFacet": {
      "SchemaArn": "string",
      "TypedLinkName": "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 requires the following URI parameters.

DirectoryArn (p. 38)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 342). For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

Operations (p. 38)

A list of operations that are part of the batch.

Type: Array of BatchWriteOperation (p. 336) objects

Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json

```json
{
  "Responses": [
    {
      "AddFacetToObject": {
      },
      "AttachObject": {
        "attachedObjectIdentifier": "string"
      },
      "AttachPolicy": {
      },
      "AttachToObject": {
        "attachedObjectIdentifier": "string"
      },
      "AttachTypedLink": {
        "TypedLinkSpecifier": {
          "IdentityAttributeValues": [
            {
              "AttributeName": "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.

**Responses (p. 42)**

A list of all the responses for each batch write.

Type: Array of BatchWriteOperationResponse (p. 339) objects

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 379).

**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. 148) 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**

```plaintext
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=e539506cd67ac7a753fa37aa58272ef47bd4369fc0f6e4f7bffa6e0f0f0f4af
```


Example Response

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

Creates a Directory (p. 342) 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 requires the following URI parameters.

SchemaArn (p. 46)

The Amazon Resource Name (ARN) of the published schema that will be copied into the data Directory (p. 342). For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

Name (p. 46)

The name of the Directory (p. 342). 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. 46)**

The ARN of the published schema in the Directory (p. 342). 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. 371).

Type: String

**DirectoryArn (p. 46)**

The ARN that is associated with the Directory (p. 342). For more information, see Arn Examples (p. 371).

Type: String

**Name (p. 46)**

The name of the Directory (p. 342).

Type: String

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

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

**ObjectIdentifier (p. 46)**

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. 379).

**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. 148) and check your permissions.

HTTP Status Code: 403

**DirectoryAlreadyExistsException**

Indicates that a Directory (p. 342) 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

```
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=f347d3f8d6eccecbf8d47738ab11fe0194b5efd329b4e0431f7221ee80c672fd9a
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

```
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/AfMr4qym1kZTwqOafAYfqQI/schema/person/1",
  "DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/AfMr4qym1kZTwqOafAYfqQI",
  "Name": "ExampleCD",
  "ObjectIdentifier": "AQHzK-KspztZGU78KjmnwGH6i-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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateFacet

Creates a new Facet (p. 343) 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 requires the following URI parameters.

SchemaArn (p. 50)

The schema ARN in which the new Facet (p. 343) will be created. For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.
**Attributes (p. 50)**

The attributes that are associated with the [Facet (p. 343)](p. 343).

Type: Array of [FacetAttribute (p. 344)](p. 344) objects

Required: No

**FacetStyle (p. 50)**

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. 50)**

The name of the [Facet (p. 343)](p. 343), 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. 50)**

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](p. 343).
- 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. 379)](p. 379).
### 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. 148) 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. 343) 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

### LimitExceedededException

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

```plaintext
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=d6b41d9d21e64be7413abf9bd9036289cb34ace20275ed17dee45e594622ced4b
AYbd8AOV8lkHNgdj8mAO3dNY/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

```
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
- 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 requires the following URI parameters.

**DirectoryArn (p. 54)**

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

Request Body

The request accepts the following data in JSON format.

**IsUnique (p. 54)**

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

Type: Boolean

Required: Yes

**LinkName (p. 54)**

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. 54)

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

Type: Array of AttributeKey (p. 263) objects

Required: Yes

ParentReference (p. 54)

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

Type: ObjectReference (p. 355) 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. 55)

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. 379).

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. 148) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 343) 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**

```
PUT /amazonclouddirectory/2017-01-11/index HTTP/1.1
```
Example Response

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
- 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. 342). Additionally attaches the object to a parent, if a parent reference and LinkName is specified. An object is simply a collection of Facet (p. 343) 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 requires the following URI parameters.

**DirectoryArn (p. 58)**

The Amazon Resource Name (ARN) that is associated with the Directory (p. 342) in which the object will be created. For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

**LinkName (p. 58)**

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

Required: No

**ObjectAttributeList (p. 58)**

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

Type: Array of AttributeKeyAndValue (p. 264) objects

Required: No

**ParentReference (p. 58)**

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

Type: ObjectReference (p. 355) object

Required: No

**SchemaFacets (p. 58)**

A list of schema facets to be associated with the object. Do not provide minor version components. See SchemaFacet (p. 360) for details.

Type: Array of SchemaFacet (p. 360) objects

Required: Yes

---

**Response Syntax**

```json
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. 59)**

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. 379).
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. 148) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 343) 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

LimitExceededRuntimeException

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

```
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-Date: 20170912T184134Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
{
    "SchemaFacets": [
        {
            "FacetName": "Organization_Person"
        }
    ]
}
```

Example Response

```
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
See Also

- 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. 63)**

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

Type: String


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. 63)**

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 371).

Type: String

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 379).

**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. 148) 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. 148) 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

```plaintext
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=92b2be88dd90f3e789ff651f5ae897b35f601e2f6ad08ad0b07993ef8399e29
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

```plaintext
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
{
}
```

See Also

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

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

Creates a TypedLinkFacet (p. 367). 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 requires the following URI parameters.

SchemaArn (p. 66)

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

Facet (p. 66)

Facet (p. 343) structure that is associated with the typed link facet.

Type: TypedLinkFacet (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. 379).

**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. 148) 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. 343) 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

```
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=b174c239b7f8e0e6f63f16c7755d3655a16f7b812e2f93008eb0447fb611cfefa
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

```
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
- 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

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

URI Request Parameters

The request requires the following URI parameters.

**DirectoryArn (p. 70)**

The ARN of the directory to delete.

Request Body

The request does not have a request body.

Response Syntax

```markdown
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. 70)**

The ARN of the deleted directory.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

**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. 148) 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**

```
PUT /amazonclouddirectory/2017-01-11/directory HTTP/1.1
```
Example Response

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/AXQXDXvdgKOWktRXYv4HnRa8"
}

See Also

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

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

Deletes a given Facet (p. 343). All attributes and Rule (p. 359)s that are associated with the facet will be deleted. Only development schema facets are allowed deletion.

Request Syntax

```plaintext
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 requires the following URI parameters.

**SchemaArn (p. 73)**

The Amazon Resource Name (ARN) that is associated with the Facet (p. 343). For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

**Name (p. 73)**

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. 379).
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. 148) 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. 343) 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

PUT /amazonclouddirectory/2017-01-11/facet/delete HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 24
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

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
- 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

```plaintext
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 requires the following URI parameters.

**DirectoryArn (p. 76)**

The Amazon Resource Name (ARN) that is associated with the Directory (p. 342) where the object resides. For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

**ObjectReference (p. 76)**

A reference that identifies the object.

Type: ObjectReference (p. 355) 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. 379).
**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. 148) 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

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
AfMr4gymkEZtwqOafAYfqi
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

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
- 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 requires the following URI parameters.

**SchemaArn (p. 79)**

The Amazon Resource Name (ARN) of the development schema. For more information, see Arn Examples (p. 371).

**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. 79)**

The input ARN that is returned as part of the response. For more information, see Arn Examples (p. 371).

Type: String

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 379).

**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. 148) 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

```
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=f2ac3f0780f6e0fa9115c1a7e19353dbcc607eac30420fceacba09a189d057b44
```
Example Response

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

{
}

See Also

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

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

Deletes a TypedLinkFacet (p. 367). 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 requires the following URI parameters.

SchemaArn (p. 82)

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

Name (p. 82)

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. 379).

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. 148) and check your permissions.
HTTP Status Code: 403
FacetNotFoundException

The specified Facet (p. 343) 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

```
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/ clamdirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=a8d2e25d4f3051fb3820effa2fc21cfe3327bea088e45c53199a5d2a2db9e1d6
```
Example Response

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
- 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 requires the following URI parameters.

**DirectoryArn (p. 85)**

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

Request Body

The request accepts the following data in JSON format.

**IndexReference (p. 85)**

A reference to the index object.

Type: ObjectReference (p. 355) object

Required: Yes

**TargetReference (p. 85)**

A reference to the object being detached from the index.

Type: ObjectReference (p. 355) 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. 85)

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. 379).

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. 148) 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

LimitExceedededException

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

```plaintext
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
AYb8AOV81kHNgdj8maAO3dNY
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_JgDt3TWcU71ARvOTeaR092mehsVsw"
}}
```

Example Response

```plaintext
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_JgDt3TWcU71ARvOTeaR092mehsVsw"}
```
See Also

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

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

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

### URI Request Parameters

The request requires the following URI parameters.

**DirectoryArn (p. 89)**

The Amazon Resource Name (ARN) that is associated with the Directory (p. 342) where objects reside. For more information, see Arn Examples (p. 371).

### Request Body

The request accepts the following data in JSON format.

**LinkName (p. 89)**

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. 89)**

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

Type: ObjectReference (p. 355) object

Required: Yes

### Response Syntax

HTTP/1.1 200
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` that was detached from the object.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

**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. 148) 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

```plaintext
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
AYbAoAV81kHSgdj8ma03dNY
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_JgDt3TWCuU7IARvOTeaR092me1sVsw"
    },
    "LinkName": "link2"
}
```

Example Response

```plaintext
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_JgDt3TWSvfuEnDqTdmeCuT6sYBNUA"
}
```
See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby 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 requires the following URI parameters.

DirectoryArn (p. 93)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 342) where both objects reside. For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

ObjectReference (p. 93)

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

Type: ObjectReference (p. 355) object

Required: Yes

PolicyReference (p. 93)

Reference that identifies the policy object.

Type: ObjectReference (p. 355) 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. 379).

**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. 148) 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

```
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=c4e166e1a1fae26ec2a5531e95e261c6f7255e5639438bd56af0c0ce9dacf700
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/AYb9A0V81kHNgdj8mAO3dNY
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_JgDt3TWgcBsTVmcQEWSdxygfuuew"
  },
  "ObjectReference": {
    "Selector": "#AQGG_ADlfNZBzYHY_JgDt3TWQoovmls3Ts2v0NKrzdVnPuW"  
  }
}
```

Example Response

```
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
- 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 requires the following URI parameters.

DirectoryArn (p. 96)

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

Request Body

The request accepts the following data in JSON format.

TypedLinkSpecifier (p. 96)

Used to accept a typed link specifier as input.

Type: TypedLinkSpecifier (p. 370) 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. 379).

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. 148) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 343) 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

LimitExceeded Exception

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

```
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=f2b55a0895ed644a5acfa07e793f5b2d25166c91c5f3be765004dc0b1c1613c1
AYb8AOV81kHNq5dj8mAO3dNY
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_JgDt3TWCvOTeaR09zme1sVsw"
        },
        "TypedLinkFacet": {
            "TypedLinkName": "exampletypedlink8",
AYb8AOV81kHNq5dj8mAO3dNY/schema/org/1"
        }
    }
}
```

Example Response

```
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
- 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 requires the following URI parameters.

DirectoryArn (p. 100)

The ARN of the directory to disable.

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. 100)

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. 379).

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. 148) 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

LimitExceeded Exception

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

```
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=2d3c51c700ae566ce68f0c2981c6dc08a413cd771ec9349b5190519c2c2d8a87
```
Example Response

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

{
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
- 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 requires the following URI parameters.

**DirectoryArn (p. 103)**

The ARN of the directory to enable.

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. 103)**

The ARN of the enabled directory.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

**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. 148) 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

```
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/
cloouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=1399f0dfced7a40c95f23dd9f1f822645721bb30cd9f6487d091de54bda0
```
AXQXDXvdgkOWktRXV4HnRa8
X-Amz-Date: 20171006T011313Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

Example Response

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

{
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
- 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. 106)

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. 106)

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. 379).
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. 148) 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

LimitExceedededException

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
- 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 requires the following URI parameters.

DirectoryArn (p. 109)

The ARN of the directory.

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. 109)

Metadata about the directory.

Type: Directory (p. 342) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).
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. 148) 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

```
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=255eceb681267d8e41de7eb8903269fb61aa756e56e2b36aad0c4f855d9a237
AYb8AV8lKHndjIaMO3dNY
X-Amz-Date: 20171005T202329Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
```
Example Response

```
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/aYb8AOV81kHNgdj8ma03dNY",
    "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
- 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. 343), such as facet name, attributes, Rule (p. 359)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 requires the following URI parameters.

SchemaArn (p. 112)

The Amazon Resource Name (ARN) that is associated with the Facet (p. 343). For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

Name (p. 112)

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. 112)**

The Facet (p. 343) structure that is associated with the facet.

Type: Facet (p. 343) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

**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. 148) and check your permissions.

HTTP Status Code: 403

**FacetNotFoundException**

The specified Facet (p. 343) 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**

```plaintext
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=70251faa630aeb0c6ca6375ef8ddef5bf0f956289eaf4a6fbb48ad7a34926aa6
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**

```
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
- 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 requires the following URI parameters.

DirectoryArn (p. 116)

The Amazon Resource Name (ARN) that is associated with the Directory where the typed link resides. For more information, see Arn Examples (p. 371) or Typed Links.

Request Body

The request accepts the following data in JSON format.

AttributeNames (p. 116)

A list of attribute names whose values will be retrieved.

Type: Array of strings

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

Required: Yes

ConsistencyLevel (p. 116)

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

Type: String

Valid Values: SERIALIZABLE | EVENTUAL

Required: No

TypedLinkSpecifier (p. 116)

Allows a typed link specifier to be accepted as input.

Type: TypedLinkSpecifier (p. 370) 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. 117)

The attributes that are associated with the typed link.

Type: Array of AttributeKeyAndValue (p. 264) objects
Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

**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. 148) and check your permissions.

HTTP Status Code: 403

**DirectoryNotEnabledException**

Operations are only permitted on enabled directories.

HTTP Status Code: 400

**FacetValidationException**

The Facet (p. 343) 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
- 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

```plaintext
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 requires the following URI parameters.

**ConsistencyLevel (p. 120)**

The consistency level at which to retrieve the attributes on an object.

Valid Values: SERIALIZABLE | EVENTUAL

**DirectoryArn (p. 120)**

The Amazon Resource Name (ARN) that is associated with the Directory (p. 342) where the object resides.

Request Body

The request accepts the following data in JSON format.

**AttributeNames (p. 120)**

List of attribute names whose values will be retrieved.

Type: Array of strings


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

Required: Yes

**ObjectReference (p. 120)**

Reference that identifies the object whose attributes will be retrieved.

Type: ObjectReference (p. 355) object
Required: Yes

**SchemaFacet (p. 120)**

Identifier for the facet whose attributes will be retrieved. See *SchemaFacet (p. 360)* for details.

Type: *SchemaFacet (p. 360)* object

Required: Yes

---

### Response Syntax

HTTP/1.1 200
Content-type: application/json

```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. 121)**

The attributes that are associated with the object.

Type: Array of *AttributeKeyAndValue (p. 264)* objects

### Errors

For information about the errors that are common to all actions, see *Common Errors (p. 379).*

**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. 148)* and check your permissions.

HTTP Status Code: 403

**DirectoryNotEnabledException**

Operations are only permitted on enabled directories.

---

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HTTP Status Code: 400

**FacetValidationException**

The [Facet](p. 343) 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](https://aws.amazon.com/service-portfolio/) 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](https://aws.amazon.com/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
- 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 requires the following URI parameters.

**ConsistencyLevel (p. 124)**

The consistency level at which to retrieve the object information.

Valid Values: SERIALIZABLE | EVENTUAL

**DirectoryArn (p. 124)**

The ARN of the directory being retrieved.

Request Body

The request accepts the following data in JSON format.

**ObjectReference (p. 124)**

A reference to the object.

Type: ObjectReference (p. 355) 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. 124)**

The `ObjectIdentifier` of the specified object.

Type: String

**SchemaFacets (p. 124)**

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. 106) for details.

Type: Array of `SchemaFacet` (p. 360) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

**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. 148) 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

**LimitExceeded Exception**

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**

```
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=6afad99df7e7c5c8152ec38e7ff206dc0c6c6060ed24624ea5654f24ab192086
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/AYb8AOV81kHNgdj8mA03dNY
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**

```
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/AYb8AOV81kHNgdj8mA03dNY/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
- 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 requires the following URI parameters.

**SchemaArn (p. 128)**

The ARN of the schema to retrieve.

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. 128)**

The JSON representation of the schema document.

Type: String

**Name (p. 128)**

The name of the retrieved schema.

Type: String


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

For information about the errors that are common to all actions, see Common Errors (p. 379).

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. 148) 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
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=AKIAI7E3BYXK3example/20171005/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date, Signature=1aca388e2c4c6b13c1fa5d0dfceafa8c827ac0df559c1706168a55fd4932e4d6
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/AYbAOGV81KHNqdj8mAO3dNY/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

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": {
        "facets": {
            "node2": {
                "facetAttributes": {},
                "objectType": "NODE"
            },
            "Organization": {
                "facetAttributes": {},
                "objectType": "NODE"
            }
        },
        "attributes": {
            "name": "NOT_REQUIRED",
            "objectType": "STRING",
            "isImmutable": false,
            "attributeRules": {
                "nameLength": {
                    "parameters": {
                        "min": 1,
                        "max": 1024
                    },
                    "ruleType": "STRING_LENGTH"
                }
            },
            "account_id": {
                "attributeDefinition": {
                    "attributeType": "STRING",
                    "isImmutable": false,
                    "attributeRules": {
                        "nameLength": {
                            "parameters": {
                                "min": 1,
                                "max": 1024
                            },
                            "ruleType": "STRING_LENGTH"
                        }
                    },
                    "requiredBehavior": "NOT_REQUIRED"
                },
                "objectType": "NODE"
            },
            "account_name": {
                "attributeDefinition": {
                    "attributeType": "STRING",
                    "isImmutable": false,
                    "attributeRules": {
                        "nameLength": {
                            "parameters": {
                                "min": 1,
                                "max": 1024
                            },
                            "ruleType": "STRING_LENGTH"
                        }
                    },
                    "requiredBehavior": "NOT_REQUIRED"
                },
                "objectType": "NODE"
            },
            "telephone_number": {
                "attributeDefinition": {
                    "attributeType": "STRING",
                    "isImmutable": false,
                    "attributeRules": {
                        "nameLength": {
                            "parameters": {
                                "min": 1,
                                "max": 1024
                            },
                            "ruleType": "STRING_LENGTH"
                        }
                    },
                    "requiredBehavior": "NOT_REQUIRED"
                },
                "objectType": "NODE"
            },
            "description": {
                "attributeDefinition": {
                    "attributeType": "STRING",
                    "isImmutable": false,
                    "attributeRules": {
                        "nameLength": {
                            "parameters": {
                                "min": 1,
                                "max": 1024
                            },
                            "ruleType": "STRING_LENGTH"
                        }
                    },
                    "requiredBehavior": "NOT_REQUIRED"
                },
                "objectType": "NODE"
            },
            "mailing_address (country)": {
                "attributeDefinition": {
                    "attributeType": "STRING",
                    "isImmutable": false,
                    "attributeRules": {
                        "nameLength": {
                            "parameters": {
                                "min": 1,
                                "max": 1024
                            },
                            "ruleType": "STRING_LENGTH"
                        }
                    },
                    "requiredBehavior": "NOT_REQUIRED"
                },
                "objectType": "NODE"
            },
            "mailing_address (state)": {
                "attributeDefinition": {
                    "attributeType": "STRING",
                    "isImmutable": false,
                    "attributeRules": {
                        "nameLength": {
                            "parameters": {
                                "min": 1,
                                "max": 1024
                            },
                            "ruleType": "STRING_LENGTH"
                        }
                    },
                    "requiredBehavior": "NOT_REQUIRED"
                },
                "objectType": "NODE"
            },
            "mailing_address (street2)": {
                "attributeDefinition": {
                    "attributeType": "STRING",
                    "isImmutable": false,
                    "attributeRules": {
                        "nameLength": {
                            "parameters": {
                                "min": 1,
                                "max": 1024
                            },
                            "ruleType": "STRING_LENGTH"
                        }
                    },
                    "requiredBehavior": "NOT_REQUIRED"
                },
                "objectType": "NODE"
            },
            "mailing_address (street1)": {
                "attributeDefinition": {
                    "attributeType": "STRING",
                    "isImmutable": false,
                    "attributeRules": {
                        "nameLength": {
                            "parameters": {
                                "min": 1,
                                "max": 1024
                            },
                            "ruleType": "STRING_LENGTH"
                        }
                    },
                    "requiredBehavior": "NOT_REQUIRED"
                },
                "objectType": "NODE"
            },
            "web_site": {
                "attributeDefinition": {
                    "attributeType": "STRING",
                    "isImmutable": false,
                    "attributeRules": {
                        "nameLength": {
                            "parameters": {
                                "min": 1,
                                "max": 1024
                            },
                            "ruleType": "STRING_LENGTH"
                        }
                    },
                    "requiredBehavior": "NOT_REQUIRED"
                },
                "objectType": "NODE"
            },
            "email": {
                "attributeDefinition": {
                    "attributeType": "STRING",
                    "isImmutable": false,
                    "attributeRules": {
                        "nameLength": {
                            "parameters": {
                                "min": 1,
                                "max": 1024
                            },
                            "ruleType": "STRING_LENGTH"
                        }
                    },
                    "requiredBehavior": "NOT_REQUIRED"
                },
                "objectType": "NODE"
            },
            "organization_status": {
                "attributeDefinition": {
                    "attributeType": "STRING",
                    "isImmutable": false,
                    "attributeRules": {
                        "nameLength": {
                            "parameters": {
                                "min": 1,
                                "max": 1024
                            },
                            "ruleType": "STRING_LENGTH"
                        }
                    },
                    "requiredBehavior": "NOT_REQUIRED"
                },
                "objectType": "NODE"
            },
            "mailing_address (postal_code)": {
                "attributeDefinition": {
                    "attributeType": "STRING",
                    "isImmutable": false,
                    "attributeRules": {
                        "nameLength": {
                            "parameters": {
                                "min": 1,
                                "max": 1024
                            },
                            "ruleType": "STRING_LENGTH"
                        }
                    },
                    "requiredBehavior": "NOT_REQUIRED"
                },
                "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
- 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 TypedFacet (p. 367). 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 requires the following URI parameters.

SchemaArn (p. 132)

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

Name (p. 132)

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. 132)

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


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

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

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. 148) and check your permissions.

HTTP Status Code: 403

FacetNotFoundException

The specified Facet (p. 343) 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

```bash
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=6561b457b066c8458961d43944ad116fc7d3a8b2fd61a07a08cb4a5273a10b14
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

```bash
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
• 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

```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. 136)

The ARN of the directory you are listing.

Type: String

Required: Yes

MaxResults (p. 136)

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 136)

The pagination token.

Type: String

Required: No

SchemaArn (p. 136)

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

```json
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. 137)**

The pagination token.

Type: String

**SchemaArns (p. 137)**

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. 379).

**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. 148) 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.

Examples

The following examples are formatted for legibility.

Example Request

```
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/AYb8AOV81kHNgdj8mA03dNY"
}
```

Example Response

```
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/AYb8AOV81kHNgdj8mA03dNY/"
}
```
See Also

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

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

Lists indices attached to the specified object.

Request Syntax

```plaintext
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 requires the following URI parameters.

**ConsistencyLevel (p. 140)**

The consistency level to use for this operation.

Valid Values: SERIALIZABLE | EVENTUAL

**DirectoryArn (p. 140)**

The ARN of the directory.

Request Body

The request accepts the following data in JSON format.

**MaxResults (p. 140)**

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**NextToken (p. 140)**

The pagination token.

Type: String

Required: No

**TargetReference (p. 140)**

A reference to the object that has indices attached.

Type: ObjectReference (p. 355) object
Required: Yes

**Response Syntax**

```json
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. 141)**
  - The indices attached to the specified object.
  - Type: Array of IndexAttachment (p. 348) objects

- **NextToken (p. 141)**
  - The pagination token.
  - Type: String

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 379).

- **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. 148) 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](https://status.aws.amazon.com/) 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

**LimitExceedededException**

Indicates that limits are exceeded. See [Limits](https://docs.aws.amazon.com/AmazonCloudDirectory/latest/UserGuide/limits.html) 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**

```
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=0dd23d46d0aa37f6164985ffafdfaf5s9d52305b03bcda0de2027c074efce9d1
```

---

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Example Response

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

{
  "IndexAttachments": [{
    "IndexedAttributes": [],
    "ObjectIdentifier": "AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zmelsVsw"
  }],
  "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
- 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. 144)
   The maximum number of results to retrieve.
   Type: Integer
   Valid Range: Minimum value of 1.
   Required: No

NextToken (p. 144)
   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.
Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

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. 148) 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**

```
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=ff097f28605d8f60239f2ae4c0c3600741e772e10dfeff76c61b2a16a8f36a8fe
X-Amz-Date: 20171016T233712Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
```

**Example Response**

```
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,
}
```

**See Also**

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
• AWS SDK for Ruby 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. 148)**

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**NextToken (p. 148)**

The pagination token.

Type: String

Required: No

**state (p. 148)**

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
```
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. 148)**

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

Type: Array of Directory (p. 342) objects

**NextToken (p. 148)**

The pagination token.

Type: String

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 379).

**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. 148) 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](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**

```
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=3e25d9a79eca5d22f81ae7e6ed3db1a7280201839584196e680029893b8694
X-Amz-Date: 20171016T233810Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
```

**Example Response**

```
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/Ae89hOKm0bRpvYgW8EAnus",
    "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/AfMr4qym1kZTvqwQafAYfqi",
"Name": "ExampleCD2",
"State": "ENABLED"
}, {
"CreationDateTime": 1.485477107925E9,
"DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/AWe1yjiB0Sy1WTVTVqI0CD0",
"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
- 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 requires the following URI parameters.

**SchemaArn (p. 152)**

The ARN of the schema where the facet resides.

Request Body

The request accepts the following data in JSON format.

**MaxResults (p. 152)**

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**Name (p. 152)**

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. 152)**

The pagination token.

Type: String

Required: No
### Response Syntax

HTTP/1.1 200  
Content-type: application/json

```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. 153)**

The attributes attached to the facet.

Type: Array of **FacetAttribute (p. 344)** objects

**NextToken (p. 153)**

The pagination token.

Type: String

### Errors

For information about the errors that are common to all actions, see **Common Errors (p. 379)**.
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. 148) and check your permissions.

HTTP Status Code: 403

FacetNotFoundException

The specified Facet (p. 343) 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

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=72cd6edffdf57814a62e2a671a29f3c57f277c4f0cc331c2df0a33d35f71b
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

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"
}


```json
{
  "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"
}
See Also

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

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby 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 requires the following URI parameters.

SchemaArn (p. 159)

The Amazon Resource Name (ARN) to retrieve facet names from.

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 159)

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 159)

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. 159)**

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. 159)**

The pagination token.
- Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

**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. 148) 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**

```http
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=e29fa5e564697e1912f34bd1d1437f78be8e8ebbd4f31fce6d300f5be4c814bd 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**

```http
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
See Also

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

Returns a paginated list of all the incoming TypedLinkSpecifier (p. 370) 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 requires the following URI parameters.

**DirectoryArn (p. 163)**

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

Request Body

The request accepts the following data in JSON format.
**ConsistencyLevel (p. 163)**

The consistency level to execute the request at.

Type: String

Valid Values: SERIALIZABLE | EVENTUAL

Required: No

**FilterAttributeRanges (p. 163)**

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. 366) objects

Required: No

**FilterTypedLink (p. 163)**

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. 369) object

Required: No

**MaxResults (p. 163)**

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**NextToken (p. 163)**

The pagination token.

Type: String

Required: No

**ObjectReference (p. 163)**

Reference that identifies the object whose attributes will be listed.

Type: ObjectReference (p. 355) object

Required: Yes

---

**Response Syntax**

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

{
    "LinkSpecifiers": [
    
```
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. 164)**

Returns one or more typed link specifiers as output.

Type: Array of **TypedLinkSpecifier (p. 370)** objects

**NextToken (p. 164)**

The pagination token.

Type: String

### Errors

For information about the errors that are common to all actions, see **Common Errors (p. 379)**.

**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. 148)** and check your permissions.

HTTP Status Code: 403

**DirectoryNotEnabledException**

Operations are only permitted on enabled directories.

HTTP Status Code: 400
FacetValidationException

The Facet (p. 343) 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

POST /amazonclouddirectory/2017-01-11/typedlink/incoming HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Example Response

HTTP/1.1 200 OK
x-amzn-RequestId: 0b1ebdf5-b37c-11e7-9e13-5b6a00750e59
Date: Tue, 17 Oct 2017 20:45:00 GMT
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_JgDt3TWSvfuEnDqTdmeCuTs6YBNUA"
      },
      "TypedLinkFacet": {
        "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/AYb8AOV81kHNdzj8mA03dNY/schemas/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_JgDt3TWSvfuEnDqTdmeCuTs6YBNUA"
      }
    }
  ]
}
"TypedLinkFacet": {
  "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/AYb8AOV81kHNgdj8mA03dNY/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_JgDt3TWhV7IARvOTeaR09zm1sVsw"
},

"TypedLinkFacet": {
  "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/AYb8AOV81kHNgdj8mA03dNY/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
- 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

```json
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 requires the following URI parameters.

**ConsistencyLevel (p. 169)**

The consistency level to execute the request at.

Valid Values: SERIALIZABLE | EVENTUAL

**DirectoryArn (p. 169)**

The ARN of the directory that the index exists in.
Request Body

The request accepts the following data in JSON format.

**IndexReference (p. 169)**

The reference to the index to list.

Type: ObjectReference (p. 355) object

Required: Yes

**MaxResults (p. 169)**

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. 169)**

The pagination token.

Type: String

Required: No

**RangesOnIndexedValues (p. 169)**

Specifies the ranges of indexed values that you want to query.

Type: Array of ObjectAttributeRange (p. 352) 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"
          }
        }
      ]
    }
  ]
}
```
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. 170)**

The objects and indexed values attached to the index.

Type: Array of IndexAttachment (p. 348) 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. 379).

**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. 148) and check your permissions.

HTTP Status Code: 403

**DirectoryNotEnabledException**

Operations are only permitted on enabled directories.

HTTP Status Code: 400

**FacetValidationException**

The Facet (p. 343) 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

```bash
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/AYb8AOV81kHNgdj8maO03dNY
X-Amz-Date: 20171017T221341Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{   "IndexReference": {   "Selector": "#AQGG_AD1fNZBzYHY_JgDt3TW45F26R1HTYy2z--stwKBte_o"   }  }
```
Example Response

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/AYb8A0V81kHNgdj8mAO3dNY/schema/org/1"
      },
      "Value": {
        "BinaryValue": null,
        "BooleanValue": null,
        "DatetimeValue": null,
        "NumberValue": null,
        "StringValue": null
      }
    }],
    "ObjectIdentifier": "AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zm1sVsw"
  }
},
"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
- 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. 174)

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 174)

The pagination token.

Type: String

Required: No

SchemaArn (p. 174)

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
```
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. 174)  
The pagination token.  
Type: String

**SchemaArns** (p. 174)  
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. 379).

**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. 148) 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
- 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 requires the following URI parameters.

**ConsistencyLevel (p. 177)**

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. 177)**

The Amazon Resource Name (ARN) that is associated with the Directory (p. 342) where the object resides. For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

**FacetFilter (p. 177)**

Used to filter the list of object attributes that are associated with a certain facet.

Type: SchemaFacet (p. 360) object

Required: No

**MaxResults (p. 177)**

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.
Response Syntax

```json
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. 178)

Attributes map that is associated with the object. AttributeArn is the key, and attribute value is the value.

Type: Array of AttributeKeyAndValue (p. 264) objects

NextToken (p. 178)

The pagination token.

Type: String
Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

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. 148) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 343) 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

```
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=192befef84370989cc0ccc076oa138e2e48e454e467f2247d98112507bee7ed7
AYb8AOV81kHNgdj8maO3dNY
X-Amz-Date: 20171017T221819Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{  
"ObjectReference": {  
"Selector": "#AQQG_ADlfNZBzYHY_JgDt3TW45F26R1HTY2z-stwKBte_O"  
}
}
```

Example Response

```
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",
AYb8AOV81kHNgdj8maO3dNY/schema/CloudDirectory/1.0"
      },
      "Value": {
        "BinaryValue": null,
        "BooleanValue": true,
        "DatetimeValue": null,
        "NumberValue": null,
        "StringValue": null
      }
    },
    {
      "Key": {
        "FacetName": "INDEX",
        "Name": "ordered_indexed_attributes",
AYb8AOV81kHNgdj8maO3dNY/schema/CloudDirectory/1.0"
      },
      "Value": {
        "BinaryValue": null,
        "BooleanValue": true,
        "DatetimeValue": null,
        "NumberValue": null,
        "StringValue": 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
- 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 requires the following URI parameters.

ConsistencyLevel (p. 182)

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. 182)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 342) where the object resides. For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 182)

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. 182)

The pagination token.

Type: String

Required: No
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. 183)

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. 183)

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

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. 148) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400
Examples

The following examples are formatted for legibility.

Example Request

```plaintext
POST /amazonclouddirectory/2017-01-11/object/children HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
```
Example Response

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_JgDt3TWcUIARv0TeaR09zme1sVsw",
  },
  "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
- 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 requires the following URI parameters.

DirectoryArn (p. 186)

The ARN of the directory to which the parent path applies.

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 186)

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. 186)

The pagination token.

Type: String

Required: No

ObjectReference (p. 186)

The reference that identifies the object whose parent paths are listed.
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. 187)**

The pagination token.

Type: String

**PathToObjectIdentifiersList (p. 187)**

Returns the path to the ObjectIdentifiers that are associated with the directory.

Type: Array of PathToObjectIdentifiers (p. 356) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

**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. 148) 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
- 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 requires the following URI parameters.

ConsistencyLevel (p. 189)

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. 189)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 342) where the object resides. For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

IncludeAllLinksToEachParent (p. 189)

When set to True, returns all ListObjectParents:ParentLinks (p. 190). There could be multiple links between a parent-child pair.

Type: Boolean
Required: No

MaxResults (p. 189)

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. 189)

The pagination token.

Type: String

Required: No

ObjectReference (p. 189)

The reference that identifies the object for which parent objects are being listed.

Type: ObjectReference (p. 355) object

Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json

```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. 190)

The pagination token.

Type: String

ParentLinks (p. 190)

Returns a list of parent reference and LinkName Tuples.

Type: Array of ObjectIdentifierAndLinkNameTuple (p. 354) objects

Parents (p. 190)

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.
Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

**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. 148) and check your permissions.

HTTP Status Code: 403

**CannotListParentOfRootException**

Cannot list the parents of a Directory (p. 342) 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

**LimitExceedededException**

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
- 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 requires the following URI parameters.

ConsistencyLevel (p. 193)

Represented 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. 193)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 342) where objects reside. For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 193)

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. 193)

The pagination token.

Type: String

Required: No
ObjectReference (p. 193)

Reference that identifies the object for which policies will be listed.
Type: ObjectReference (p. 355) 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. 194)

A list of policy ObjectIdentifiers, that are attached to the object.
Type: Array of strings

NextToken (p. 194)

The pagination token.
Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

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. 148) 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
- 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. 370) 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 requires the following URI parameters.

**DirectoryArn (p. 196)**

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

Request Body

The request accepts the following data in JSON format.
ConsistencyLevel (p. 196)
The consistency level to execute the request at.
Type: String
Valid Values: SERIALIZABLE | EVENTUAL
Required: No

FilterAttributeRanges (p. 196)
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. 366) objects
Required: No

FilterTypedLink (p. 196)
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. 369) object
Required: No

MaxResults (p. 196)
The maximum number of results to retrieve.
Type: Integer
Valid Range: Minimum value of 1.
Required: No

NextToken (p. 196)
The pagination token.
Type: String
Required: No

ObjectReference (p. 196)
A reference that identifies the object whose attributes will be listed.
Type: ObjectReference (p. 355) object
Required: Yes

Response Syntax
HTTP/1.1 200
Content-type: application/json
{
  "NextToken": "string",
  "TypedLinkSpecifiers": [

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

**TypedLinkSpecifiers (p. 197)**

Returns a typed link specifier as output.

Type: Array of TypedLinkSpecifier (p. 370) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

**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. 148) and check your permissions.

HTTP Status Code: 403

**DirectoryNotEnabledException**

Operations are only permitted on enabled directories.

HTTP Status Code: 400
FacetValidationException

The Facet (p. 343) 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
• 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

```plaintext
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 requires the following URI parameters.

**ConsistencyLevel (p. 201)**

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. 201)**

The Amazon Resource Name (ARN) that is associated with the Directory (p. 342) where objects reside. For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

**MaxResults (p. 201)**

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. 201)**

The pagination token.

Type: String

Required: No
PolicyReference (p. 201)

The reference that identifies the policy object.

Type: ObjectReference (p. 355) 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. 202)

The pagination token.

Type: String

ObjectIdentifiers (p. 202)

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. 379).

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. 148) 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
- 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. 205)

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 205)

The pagination token.

Type: String

Required: No

SchemaArn (p. 205)

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
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. 205)**

The pagination token.

Type: String

**SchemaArns (p. 205)**

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. 379).

**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. 148) 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
- 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. 208)**

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. 208)**

The pagination token. This is for future use. Currently pagination is not supported for tagging.

- **Type:** String
- **Required:** No

**ResourceArn (p. 208)**

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

{
```
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. 208)**

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. 208)**

A list of tag key value pairs that are associated with the response.

Type: Array of Tag (p. 361) objects

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 379).

**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. 148) 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
- 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 TypedFacet (p. 367). 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 requires the following URI parameters.

SchemaArn (p. 211)

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 211)

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

Name (p. 211)

The unique name of the typed link facet.

Type: String

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

Required: Yes

NextToken (p. 211)

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. 212)

An ordered set of attributes associate with the typed link.

Type: Array of TypedLinkAttributeDefinition (p. 364) objects

NextToken (p. 212)

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

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. 148) and check your permissions.

HTTP Status Code: 403
FacetNotFoundException

The specified Facet (p. 343) 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
• 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 requires the following URI parameters.

SchemaArn (p. 215)

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 215)

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 215)

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. 215)

The names of typed link facets that exist within the schema.

Type: Array of strings

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

NextToken (p. 215)

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

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. 148) 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
- 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. 342) 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 requires the following URI parameters.

DirectoryArn (p. 218)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 342). For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 218)

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. 218)

The token to request the next page of results.

Type: String

Required: No

ObjectReference (p. 218)

Reference that identifies the object whose policies will be looked up.

Type: ObjectReference (p. 355) 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. 219)**

The pagination token.

Type: String

**PolicyToPathList (p. 219)**

Provides list of path to policies. Policies contain PolicyId, ObjectIdentifier, and PolicyType. For more information, see Policies.

Type: Array of PolicyToPath (p. 358) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

**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. 148) 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
- 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 requires the following URI parameters.

DevelopmentSchemaArn (p. 222)

The Amazon Resource Name (ARN) that is associated with the development schema. For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

MinorVersion (p. 222)

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


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

Required: No

Name (p. 222)

The new name under which the schema will be published. If this is not provided, the development schema is considered.

Type: String


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

Required: No

Version (p. 222)

The major version under which the schema will be published. Schemas have both a major and minor version associated with them.
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. 223)

The ARN that is associated with the published schema. For more information, see Arn Examples (p. 371).

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

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. 148) 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

LimitExceeded

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
- 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 requires the following URI parameters.

SchemaArn (p. 225)

The ARN of the schema to update.

Request Body

The request accepts the following data in JSON format.

Document (p. 225)

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. 225)

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. 379).

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. 148) 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

LimitExceeded Exception

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
• 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 requires the following URI parameters.

DirectoryArn (p. 228)

The ARN of the directory in which the object resides.

Request Body

The request accepts the following data in JSON format.

ObjectReference (p. 228)

A reference to the object to remove the facet from.

Type: ObjectReference (p. 355) object

Required: Yes

SchemaFacet (p. 228)

The facet to remove. See SchemaFacet (p. 360) for details.

Type: SchemaFacet (p. 360) 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. 379).

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. 148) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 343) 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
- 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

```plaintext
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. 231)

The Amazon Resource Name (ARN) of the resource. Tagging is only supported for directories.

Type: String

Required: Yes

Tags (p. 231)

A list of tag key-value pairs.

Type: Array of Tag (p. 361) objects

Required: Yes

Response Syntax

```plaintext
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. 379).
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. 148) 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++
See Also

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby 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. 234)**

The Amazon Resource Name (ARN) of the resource. Tagging is only supported for directories.

- Type: String
- Required: Yes

**TagKeys (p. 234)**

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. 379).

**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. 148) 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
- 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 requires the following URI parameters.

**SchemaArn (p. 237)**

The Amazon Resource Name (ARN) that is associated with the Facet (p. 343). For more information, see Arn Examples (p. 371).
Request Body

The request accepts the following data in JSON format.

**AttributeUpdates (p. 237)**

List of attributes that need to be updated in a given schema Facet (p. 343). Each attribute is followed by AttributeAction, which specifies the type of update operation to perform.

Type: Array of FacetAttributeUpdate (p. 347) objects

Required: No

**Name (p. 237)**

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. 237)**

The object type that is associated with the facet. See CreateFacet:ObjectType (p. 51) 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. 379).

**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. 148) and check your permissions.

HTTP Status Code: 403

**FacetNotFoundException**

The specified Facet (p. 343) could not be found.
HTTP Status Code: 400
**FacetValidationException**

The Facet (p. 343) 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. 343) 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
• 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 requires the following URI parameters.
**DirectoryArn (p. 241)**

The Amazon Resource Name (ARN) that is associated with the Directory where the updated typed link resides. For more information, see Arn Examples (p. 371) or Typed Links.

**Request Body**

The request accepts the following data in JSON format.

**AttributeUpdates (p. 241)**

The attributes update structure.

Type: Array of LinkAttributeUpdate (p. 350) objects

Required: Yes

**TypedLinkSpecifier (p. 241)**

Allows a typed link specifier to be accepted as input.

Type: TypedLinkSpecifier (p. 370) 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. 379).

**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. 148) and check your permissions.

HTTP Status Code: 403

**DirectoryNotEnabledException**

Operations are only permitted on enabled directories.

HTTP Status Code: 400

**FacetValidationException**

The Facet (p. 343) 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

LimitExceedededException

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
- 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 requires the following URI parameters.

DirectoryArn (p. 244)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 342) where the object resides. For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

AttributeUpdates (p. 244)

The attributes update structure.

Type: Array of ObjectAttributeUpdate (p. 353) objects

Required: Yes

ObjectReference (p. 244)

The reference that identifies the object.
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. 245)

The ObjectIdentifier of the updated object.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

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. 148) and check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 343) 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
- 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 requires the following URI parameters.

**SchemaArn (p. 247)**

The Amazon Resource Name (ARN) of the development schema. For more information, see Arn Examples (p. 371).

**Request Body**

The request accepts the following data in JSON format.

**Name (p. 247)**

- The name of the schema.
- Type: String
- 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. 247)

The ARN that is associated with the updated schema. For more information, see Arn Examples (p. 371).

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 379).

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. 148) 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

LimitExceeded Exception

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

Updates a TypedLinkFacet (p. 367). 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 requires the following URI parameters.

SchemaArn (p. 250)

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 371).

Request Body

The request accepts the following data in JSON format.

AttributeUpdates (p. 250)

Attributes update structure.
Type: Array of `TypedLinkFacetAttributeUpdate (p. 368)` objects

Required: Yes

**IdentityAttributeOrder (p. 250)**

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


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

Required: Yes

**Name (p. 250)**

The unique name of the typed link facet.

Type: String

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

Required: Yes

## Response Syntax

```http
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. 379).

**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. 148) and check your permissions.

HTTP Status Code: 403

**FacetNotFoundException**

The specified Facet (p. 343) could not be found.

HTTP Status Code: 400

**FacetValidationException**

The Facet (p. 343) 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. 343) 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
• 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. 254)

The ARN for the directory to which the upgraded schema will be applied.

Type: String

Required: Yes

DryRun (p. 254)

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. 254)

The revision of the published schema to upgrade the directory to.

Type: String

Required: Yes

Response Syntax

HTTP/1.1 200
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. 254)

The ARN of the directory that is returned as part of the response.

Type: String

UpgradedSchemaArn (p. 254)

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. 379).

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. 148) 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
- 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. 257)**

The ARN of the development schema with the changes used for the upgrade.

Type: String

Required: Yes

**DryRun (p. 257)**

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. 257)**

Identifies the minor version of the published schema that will be created. This parameter is NOT optional.

Type: String


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

Required: Yes

**PublishedSchemaArn (p. 257)**

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. 258)**

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. 379).

**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. 148) 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](https://aws.amazon.com/documentation/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
- 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 (p. 263)
- AttributeKeyAndValue (p. 264)
- AttributeNameAndValue (p. 265)
- BatchAddFacetToObject (p. 266)
- BatchAddFacetToObjectResponse (p. 267)
- BatchAttachObject (p. 268)
- BatchAttachObjectResponse (p. 269)
- BatchAttachPolicy (p. 270)
- BatchAttachPolicyResponse (p. 271)
- BatchAttachToIndex (p. 272)
- BatchAttachToIndexResponse (p. 273)
- BatchAttachTypedLink (p. 274)
- BatchAttachTypedLinkResponse (p. 275)
- BatchCreateIndex (p. 276)
- BatchCreateIndexResponse (p. 278)
- BatchCreateObject (p. 279)
- BatchCreateObjectResponse (p. 281)
- BatchDeleteObject (p. 282)
- BatchDeleteObjectResponse (p. 283)
- BatchDetachFromIndex (p. 284)
- BatchDetachFromIndexResponse (p. 285)
- BatchDetachObject (p. 286)
- BatchDetachObjectResponse (p. 287)
- BatchDetachPolicy (p. 288)
- BatchDetachPolicyResponse (p. 289)
- BatchDetachTypedLink (p. 290)
- BatchDetachTypedLinkResponse (p. 291)
- BatchGetLinkAttributes (p. 292)
- BatchGetLinkAttributesResponse (p. 293)
- BatchGetObjectAttributes (p. 294)
- BatchGetObjectAttributesResponse (p. 295)
- BatchGetObjectInformation (p. 296)
- BatchGetObjectInformationResponse (p. 297)
- BatchListAttachedIndices (p. 298)
- BatchListAttachedIndicesResponse (p. 299)
• BatchListIncomingTypedLinks (p. 300)
• BatchListIncomingTypedLinksResponse (p. 302)
• BatchListIndex (p. 303)
• BatchListIndexResponse (p. 304)
• BatchListObjectAttributes (p. 305)
• BatchListObjectAttributesResponse (p. 306)
• BatchListObjectChildren (p. 307)
• BatchListObjectChildrenResponse (p. 308)
• BatchListObjectParentPaths (p. 309)
• BatchListObjectParentPathsResponse (p. 310)
• BatchListObjectParents (p. 311)
• BatchListObjectParentsResponse (p. 312)
• BatchListObjectPolicies (p. 313)
• BatchListObjectPoliciesResponse (p. 314)
• BatchListOutgoingTypedLinks (p. 315)
• BatchListOutgoingTypedLinksResponse (p. 317)
• BatchListPolicyAttachments (p. 318)
• BatchListPolicyAttachmentsResponse (p. 319)
• BatchLookupPolicy (p. 320)
• BatchLookupPolicyResponse (p. 321)
• BatchReadException (p. 322)
• BatchReadOperation (p. 323)
• BatchReadOperationResponse (p. 326)
• BatchReadSuccessfulResponse (p. 327)
• BatchRemoveFacetFromObject (p. 330)
• BatchRemoveFacetFromObjectResponse (p. 331)
• BatchUpdateLinkAttributes (p. 332)
• BatchUpdateLinkAttributesResponse (p. 333)
• BatchUpdateObjectAttributes (p. 334)
• BatchUpdateObjectAttributesResponse (p. 335)
• BatchWriteOperation (p. 336)
• BatchWriteOperationResponse (p. 339)
• Directory (p. 342)
• Facet (p. 343)
• FacetAttribute (p. 344)
• FacetAttributeDefinition (p. 345)
• FacetAttributeReference (p. 346)
• FacetAttributeUpdate (p. 347)
• IndexAttachment (p. 348)
• LinkAttributeAction (p. 349)
• LinkAttributeUpdate (p. 350)
• ObjectAttributeAction (p. 351)
• ObjectAttributeRange (p. 352)
• ObjectAttributeUpdate (p. 353)
• ObjectIdentifierAndLinkNameTuple (p. 354)
• ObjectReference (p. 355)
• PathToObjectIdentifiers (p. 356)
• PolicyAttachment (p. 357)
• PolicyToPath (p. 358)
• Rule (p. 359)
• SchemaFacet (p. 360)
• Tag (p. 361)
• TypedAttributeValue (p. 362)
• TypedAttributeValueRange (p. 363)
• TypedLinkAttributeDefinition (p. 364)
• TypedLinkAttributeRange (p. 366)
• TypedLinkFacet (p. 367)
• TypedLinkFacetAttributeUpdate (p. 368)
• TypedLinkSchemaAndFacetName (p. 369)
• TypedLinkSpecifier (p. 370)
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


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
- 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. 263) object

Required: Yes

Value

The value of the attribute.

Type: TypedAttributeValue (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
- 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


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

Required: Yes

Value

The value for the typed link.

Type: TypedAttributeValue (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
- 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. 264) objects

Required: Yes

ObjectReference

A reference to the object being mutated.

Type: ObjectReference (p. 355) object

Required: Yes

SchemaFacet

Represents the facet being added to the object.

Type: SchemaFacet (p. 360) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby 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
- 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. 355) 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. 355) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby 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
- AWS SDK for Ruby V3
BatchAttachPolicy

Attaches a policy object to a regular object inside a BatchRead (p. 28) operation. For more information, see AttachPolicy (p. 16) and BatchRead:Operations (p. 31).

Contents

ObjectReference

The reference that identifies the object to which the policy will be attached.

Type: ObjectReference (p. 355) object

Required: Yes

PolicyReference

The reference that is associated with the policy object.

Type: ObjectReference (p. 355) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby 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
- AWS SDK for Ruby V3
**BatchAttachToIndex**

Attaches the specified object to the specified index inside a BatchRead (p. 28) operation. For more information, see AttachToIndex (p. 19) and BatchRead:Operations (p. 31).

**Contents**

**IndexReference**

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

Type: ObjectReference (p. 355) object

Required: Yes

**TargetReference**

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

Type: ObjectReference (p. 355) object

Required: Yes

**See Also**

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchAttachToIndexResponse

Represents the output of a AttachToIndex (p. 19) 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
- AWS SDK for Ruby V3
BatchAttachTypedLink

Attaches a typed link to a specified source and target object inside a BatchRead (p. 28) operation. For more information, see AttachTypedLink (p. 23) and BatchRead:Operations (p. 31).

Contents

Attributes

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

Type: Array of AttributeNameAndValue (p. 265) objects

Required: Yes

SourceObjectReference

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

Type: ObjectReference (p. 355) object

Required: Yes

TargetObjectReference

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

Type: ObjectReference (p. 355) object

Required: Yes

TypedLinkFacet

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

Type: TypedLinkSchemaAndFacetName (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
- AWS SDK for Ruby V3
BatchAttachTypedLinkResponse

Represents the output of a AttachTypedLink (p. 23) response operation.

Contents

TypedLinkSpecifier

Returns a typed link specifier as output.

Type: TypedLinkSpecifier (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
- AWS SDK for Ruby V3
BatchCreateIndex

Creates an index object inside of a BatchRead (p. 28) operation. For more information, see CreateIndex (p. 54) and BatchRead:Operations (p. 31).

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. 263) objects

Required: Yes

ParentReference

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

Type: ObjectReference (p. 355) object

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchCreateIndexResponse

Represents the output of a `CreateIndex` 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
- AWS SDK for Ruby V3
BatchCreateObject

Represents the output of a CreateObject (p. 58) 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. 264) objects
Required: Yes

ParentReference

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

Type: ObjectReference (p. 355) object
Required: No

SchemaFacet

A list of FacetArns that will be associated with the object. For more information, see Arn Examples (p. 371).

Type: Array of SchemaFacet (p. 360) 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
- AWS SDK for Ruby V3
BatchCreateObjectResponse

Represents the output of a CreateObject (p. 58) 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
- AWS SDK for Ruby V3
BatchDeleteObject

Represents the output of a DeleteObject (p. 76) operation.

Contents

ObjectReference

The reference that identifies the object.

Type: ObjectReference (p. 355) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchDeleteObjectResponse

Represents the output of a DeleteObject (p. 76) 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
- AWS SDK for Ruby V3
BatchDetachFromIndex

Detaches the specified object from the specified index inside a BatchRead (p. 28) operation. For more information, see DetachFromIndex (p. 85) and BatchRead:Operations (p. 31).

Contents

IndexReference

A reference to the index object.

Type: ObjectReference (p. 355) object

Required: Yes

TargetReference

A reference to the object being detached from the index.

Type: ObjectReference (p. 355) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchDetachFromIndexResponse

Represents the output of a DetachFromIndex (p. 85) 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
- AWS SDK for Ruby V3
BatchDetachObject

Represents the output of a DetachObject (p. 89) 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. 355) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchDetachObjectResponse

Represents the output of a DetachObject (p. 89) 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
- AWS SDK for Ruby V3
BatchDetachPolicy

Detaches the specified policy from the specified directory inside a BatchWrite (p. 38) operation. For more information, see DetachPolicy (p. 93) and BatchWrite:Operations (p. 42).

Contents

**ObjectReference**

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

Type: ObjectReference (p. 355) object

Required: Yes

**PolicyReference**

Reference that identifies the policy object.

Type: ObjectReference (p. 355) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchDetachPolicyResponse

Represents the output of a DetachPolicy (p. 93) 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
- AWS SDK for Ruby V3
BatchDetachTypedLink

Detaches a typed link from a specified source and target object inside a BatchRead (p. 28) operation. For more information, see DetachTypedLink (p. 96) and BatchRead:Operations (p. 31).

Contents

TypedLinkSpecifier

Used to accept a typed link specifier as input.

Type: TypedLinkSpecifier (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
- AWS SDK for Ruby V3
BatchDetachTypedLinkResponse

Represents the output of a DetachTypedLink (p. 96) 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
- AWS SDK for Ruby V3
BatchGetLinkAttributes

Retrieves attributes that are associated with a typed link inside a BatchRead (p. 28) operation. For more information, see GetLinkAttributes (p. 116) and BatchRead:Operations (p. 31).

Contents

AttributeNames

A list of attribute names whose values will be retrieved.

Type: Array of strings


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

Required: Yes

TypedLinkSpecifier

Allows a typed link specifier to be accepted as input.

Type: TypedLinkSpecifier (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
- AWS SDK for Ruby V3
BatchGetLinkAttributesResponse

 Represents the output of a GetLinkAttributes (p. 116) response operation.

 Contents

 Attributes

 The attributes that are associated with the typed link.

 Type: Array of AttributeKeyAndValue (p. 264) objects

 Required: No

 See Also

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

 - AWS SDK for C++
 - AWS SDK for Go
 - AWS SDK for Java
 - AWS SDK for Ruby V3
BatchGetObjectAttributes

Retrieves attributes within a facet that are associated with an object inside a BatchRead operation. For more information, see GetObjectAttributes and BatchRead:Operations.

Contents

AttributeNames

List of attribute names whose values will be retrieved.

Type: Array of strings


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

Required: Yes

ObjectReference

Reference that identifies the object whose attributes will be retrieved.

Type: ObjectReference (p. 355) object

Required: Yes

SchemaFacet

Identifier for the facet whose attributes will be retrieved. See SchemaFacet (p. 360) for details.

Type: SchemaFacet (p. 360) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchGetObjectAttributesResponse

Represents the output of a GetObjectAttributes (p. 120) response operation.

Contents

Attributes

The attribute values that are associated with an object.

Type: Array of AttributeKeyAndValue (p. 264) objects

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchGetObjectInformation

Retrieves metadata about an object inside a BatchRead (p. 28) operation. For more information, see GetObjectInformation (p. 124) and BatchRead:Operations (p. 31).

Contents

ObjectReference

A reference to the object.

Type: ObjectReference (p. 355) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchGetObjectInformationResponse

Represents the output of a GetObjectInformation (p. 124) 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. 360) objects
Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchListAttachedIndices

Lists indices attached to an object inside a BatchRead (p. 28) operation. For more information, see ListAttachedIndices (p. 140) and BatchRead:Operations (p. 31).

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. 355) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchListAttachedIndicesResponse

Represents the output of a ListAttachedIndices (p. 140) response operation.

Contents

IndexAttachments

The indices attached to the specified object.

Type: Array of IndexAttachment (p. 348) 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
- AWS SDK for Ruby V3
BatchListIncomingTypedLinks

Returns a paginated list of all the incoming TypedLinkSpecifier (p. 370) information for an object inside a BatchRead (p. 28) operation. For more information, see ListIncomingTypedLinks (p. 163) and BatchRead:Operations (p. 31).

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. 366) 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. 369) 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. 355) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchListIncomingTypedLinksResponse

Represents the output of a ListIncomingTypedLinks (p. 163) response operation.

Contents

LinkSpecifiers

Returns one or more typed link specifiers as output.

Type: Array of TypedLinkSpecifier (p. 370) 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
- AWS SDK for Ruby V3
BatchListIndex

Lists objects attached to the specified index inside a BatchRead (p. 28) operation. For more information, see ListIndex (p. 169) and BatchRead:Operations (p. 31).

Contents

IndexReference

The reference to the index to list.
Type: ObjectReference (p. 355) 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. 352) objects
Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchListIndexResponse

Represents the output of a ListIndex (p. 169) response operation.

Contents

IndexAttachments

The objects and indexed values attached to the index.
Type: Array of IndexAttachment (p. 348) 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
- AWS SDK for Ruby V3
BatchListObjectAttributes

Represents the output of a ListObjectAttributes (p. 177) operation.

Contents

FacetFilter

Used to filter the list of object attributes that are associated with a certain facet.

Type: SchemaFacet (p. 360) 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. 355) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchListObjectAttributesResponse

Represents the output of a ListObjectAttributes (p. 177) 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. 264) 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
- AWS SDK for Ruby V3
BatchListObjectChildren

Represents the output of a ListObjectChildren (p. 182) 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. 355) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchListObjectChildrenResponse

Represents the output of a ListObjectChildren (p. 182) 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
• 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. 28) operation. For more information, see ListObjectParentPaths (p. 186) and BatchRead:Operations (p. 31).

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. 355) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchListObjectParentPathsResponse

Represents the output of a ListObjectParentPaths (p. 186) 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. 356) objects

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby 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. 355) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchListObjectParentsResponse

Represents the output of a ListObjectParents (p. 189) 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. 354) objects

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchListObjectPolicies

Returns policies attached to an object in pagination fashion inside a BatchRead (p. 28) operation. For more information, see ListObjectPolicies (p. 193) and BatchRead:Operations (p. 31).

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. 355) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchListObjectPoliciesResponse

Represents the output of a ListObjectPolicies (p. 193) 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
- AWS SDK for Ruby V3
BatchListOutgoingTypedLinks

Returns a paginated list of all the outgoing TypedLinkSpecifier (p. 370) information for an object inside a BatchRead (p. 28) operation. For more information, see ListOutgoingTypedLinks (p. 196) and BatchRead:Operations (p. 31).

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. 366) 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. 369) 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. 355) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
• AWS SDK for Ruby V3
BatchListOutgoingTypedLinksResponse

Represents the output of a ListOutgoingTypedLinks (p. 196) response operation.

Contents

NextToken

The pagination token.

Type: String

Required: No

TypedLinkSpecifiers

Returns a typed link specifier as output.

Type: Array of TypedLinkSpecifier (p. 370) objects

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchListPolicyAttachments

Returns all of the ObjectIdentifiers to which a given policy is attached inside a BatchRead (p. 28) operation. For more information, see ListPolicyAttachments (p. 201) and BatchRead:Operations (p. 31).

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. 355) object
Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchListPolicyAttachmentsResponse

Represents the output of a ListPolicyAttachments (p. 201) 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
- AWS SDK for Ruby V3
BatchLookupPolicy

Lists all policies from the root of the Directory to the object specified inside a BatchRead (p. 28) operation. For more information, see LookupPolicy (p. 218) and BatchRead:Operations (p. 31).

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. 355) object
Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchLookupPolicyResponse

Represents the output of a LookupPolicy (p. 218) 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. 358) objects

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby 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` | `LimitExceeded Exception` | `InternalServerError`
- **Required**: No

## See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- 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. 292) object

Required: No

GetObjectAttributes

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

Type: BatchGetObjectAttributes (p. 294) object

Required: No

GetObjectInformation

Retrieves metadata about an object.

Type: BatchGetObjectInformation (p. 296) object

Required: No

ListAttachedIndices

Lists indices attached to an object.

Type: BatchListAttachedIndices (p. 298) object

Required: No

ListIncomingTypedLinks

Returns a paginated list of all the incoming TypedLinkSpecifier (p. 370) information for an object. It also supports filtering by typed link facet and identity attributes. For more information, see Typed Links.

Type: BatchListIncomingTypedLinks (p. 300) object

Required: No

ListIndex

Lists objects attached to the specified index.

Type: BatchListIndex (p. 303) object

Required: No

ListObjectAttributes

Lists all attributes that are associated with an object.

Type: BatchListObjectAttributes (p. 305) object

Required: No
ListObjectChildren

Returns a paginated list of child objects that are associated with a given object.

Type: BatchListObjectChildren (p. 307) 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. 309) object

Required: No

ListObjectParents

Lists parent objects that are associated with a given object in pagination fashion.

Type: BatchListObjectParents (p. 311) object

Required: No

ListObjectPolicies

Returns policies attached to an object in pagination fashion.

Type: BatchListObjectPolicies (p. 313) object

Required: No

ListOutgoingTypedLinks

Returns a paginated list of all the outgoing TypedLinkSpecifier (p. 370) information for an object. It also supports filtering by typed link facet and identity attributes. For more information, see Typed Links.

Type: BatchListOutgoingTypedLinks (p. 315) object

Required: No

ListPolicyAttachments

Returns all of the ObjectIdentifiers to which a given policy is attached.

Type: BatchListPolicyAttachments (p. 318) object

Required: No

LookupPolicy

Lists all policies from the root of the Directory (p. 342) 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. 320) object

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
BatchReadOperationResponse

Represents the output of a BatchRead response operation.

Contents

ExceptionResponse

Identifies which operation in a batch has failed.

Type: BatchReadException (p. 322) object

Required: No

SuccessfulResponse

Identifies which operation in a batch has succeeded.

Type: BatchReadSuccessfulResponse (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
- 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. 293) object

Required: No

**GetObjectAttributes**

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

Type: BatchGetObjectAttributesResponse (p. 295) object

Required: No

**GetObjectInformation**

Retrieves metadata about an object.

Type: BatchGetObjectInformationResponse (p. 297) object

Required: No

**ListAttachedIndices**

Lists indices attached to an object.

Type: BatchListAttachedIndicesResponse (p. 299) object

Required: No

**ListIncomingTypedLinks**

Returns a paginated list of all the incoming TypedLinkSpecifier (p. 370) information for an object. It also supports filtering by typed link facet and identity attributes. For more information, see Typed Links.

Type: BatchListIncomingTypedLinksResponse (p. 302) object

Required: No

**ListIndex**

Lists objects attached to the specified index.

Type: BatchListIndexResponse (p. 304) object

Required: No

**ListObjectAttributes**

Lists all attributes that are associated with an object.

Type: BatchListObjectAttributesResponse (p. 306) object

Required: No
ListObjectChildren

Returns a paginated list of child objects that are associated with a given object.

Type: BatchListObjectChildrenResponse (p. 308) 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. 310) object

Required: No

ListObjectParents

The list of parent objects to retrieve.

Type: BatchListObjectParentsResponse (p. 312) object

Required: No

ListObjectPolicies

Returns policies attached to an object in pagination fashion.

Type: BatchListObjectPoliciesResponse (p. 314) object

Required: No

ListOutgoingTypedLinks

Returns a paginated list of all the outgoing TypedLinkSpecifier (p. 370) information for an object. It also supports filtering by typed link facet and identity attributes. For more information, see Typed Links.

Type: BatchListOutgoingTypedLinksResponse (p. 317) object

Required: No

ListPolicyAttachments

Returns all of the ObjectIdentifiers to which a given policy is attached.

Type: BatchListPolicyAttachmentsResponse (p. 319) object

Required: No

LookupPolicy

Lists all policies from the root of the Directory (p. 342) 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. 321) object

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby 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. 355)

Required: Yes

**SchemaFacet**

The facet to remove from the object.

Type: [SchemaFacet](p. 360)

Required: Yes

**See Also**

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby 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
- AWS SDK for Ruby V3
BatchUpdateLinkAttributes

Updates a given typed link’s attributes inside a BatchRead (p. 28) 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. 241) and BatchRead:Operations (p. 31).

Contents

AttributeUpdates

The attributes update structure.

Type: Array of LinkAttributeUpdate (p. 350) objects

Required: Yes

TypedLinkSpecifier

Allows a typed link specifier to be accepted as input.

Type: TypedLinkSpecifier (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
- AWS SDK for Ruby V3
BatchUpdateLinkAttributesResponse

Represents the output of a UpdateLinkAttributes (p. 241) 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
- AWS SDK for Ruby V3
BatchUpdateObjectAttributes

Represents the output of a BatchUpdate operation.

Contents

AttributeUpdates

Attributes update structure.

Type: Array of ObjectAttributeUpdate (p. 353) objects

Required: Yes

ObjectReference

Reference that identifies the object.

Type: ObjectReference (p. 355) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby 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
- AWS SDK for Ruby V3
BatchWriteOperation

BatchWriteOperation

Represents the output of a BatchWrite operation.

Contents

AddFacetToObject

A batch operation that adds a facet to an object.
Type: BatchAddFacetToObject (p. 266) object
Required: No

AttachObject

Attaches an object to a Directory (p. 342).
Type: BatchAttachObject (p. 268) 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. 270) object
Required: No

AttachToIndex

Attaches the specified object to the specified index.
Type: BatchAttachToIndex (p. 272) object
Required: No

AttachTypedLink

Attaches a typed link to a specified source and target object. For more information, see Typed Links.
Type: BatchAttachTypedLink (p. 274) object
Required: No

CreateIndex

Creates an index object. See Indexing and search for more information.
Type: BatchCreateIndex (p. 276) object
Required: No

CreateObject

Creates an object.
Type: BatchCreateObject (p. 279) object
Required: No

DeleteObject

Deletes an object in a Directory (p. 342).
Type: BatchDeleteObject (p. 282) object
Required: No

**DetachFromIndex**
Detaches the specified object from the specified index.
Type: BatchDetachFromIndex (p. 284) object
Required: No

**DetachObject**
Detaches an object from a Directory (p. 342).
Type: BatchDetachObject (p. 286) object
Required: No

**DetachPolicy**
Detaches a policy from a Directory (p. 342).
Type: BatchDetachPolicy (p. 288) object
Required: No

**DetachTypedLink**
Detaches a typed link from a specified source and target object. For more information, see Typed Links.
Type: BatchDetachTypedLink (p. 290) object
Required: No

**RemoveFacetFromObject**
A batch operation that removes a facet from an object.
Type: BatchRemoveFacetFromObject (p. 330) object
Required: No

**UpdateLinkAttributes**
Updates a given object's attributes.
Type: BatchUpdateLinkAttributes (p. 332) object
Required: No

**UpdateObjectAttributes**
Updates a given object's attributes.
Type: BatchUpdateObjectAttributes (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:
See Also

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- 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. 267) object
Required: No

AttachObject
Attaches an object to a Directory (p. 342).
Type: BatchAttachObjectResponse (p. 269) 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. 271) object
Required: No

AttachToIndex
Attaches the specified object to the specified index.
Type: BatchAttachToIndexResponse (p. 273) object
Required: No

AttachTypedLink
Attaches a typed link to a specified source and target object. For more information, see Typed Links.
Type: BatchAttachTypedLinkResponse (p. 275) object
Required: No

CreateIndex
Creates an index object. See Indexing and search for more information.
Type: BatchCreateIndexResponse (p. 278) object
Required: No

CreateObject
Creates an object in a Directory (p. 342).
Type: BatchCreateObjectResponse (p. 281) object
Required: No

DeleteObject
Deletes an object in a Directory (p. 342).
Type: BatchDeleteObjectResponse (p. 283) object

Required: No

**DetachFromIndex**

Detaches the specified object from the specified index.

Type: BatchDetachFromIndexResponse (p. 285) object

Required: No

**DetachObject**

Detaches an object from a Directory (p. 342).

Type: BatchDetachObjectResponse (p. 287) object

Required: No

**DetachPolicy**

Detaches a policy from a Directory (p. 342).

Type: BatchDetachPolicyResponse (p. 289) object

Required: No

**DetachTypedLink**

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

Type: BatchDetachTypedLinkResponse (p. 291) object

Required: No

**RemoveFacetFromObject**

The result of a batch remove facet from object operation.

Type: BatchRemoveFacetFromObjectResponse (p. 331) object

Required: No

**UpdateLinkAttributes**

Represents the output of a BatchWrite response operation.

Type: BatchUpdateLinkAttributesResponse (p. 333) object

Required: No

**UpdateObjectAttributes**

Updates a given object's attributes.

Type: BatchUpdateObjectAttributesResponse (p. 335) object

Required: No

---

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java
• AWS SDK for Ruby 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. 371).*

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
- AWS SDK for Ruby V3
Facet

A structure that contains Name, ARN, Attributes, Rule (p. 359)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. 343).

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. 51) 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
- AWS SDK for Ruby V3
FacetAttribute

An attribute that is associated with the Facet (p. 343).

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: FacetAttributeDefinition (p. 345) object

Required: No

AttributeReference

An attribute reference that is associated with the attribute. See Attribute References for more information.

Type: FacetAttributeReference (p. 346) object

Required: No

Name

The name of the facet attribute.

Type: String


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
- 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. 362) 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. 359) 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
- 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


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
- 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. 344) object

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
IndexAttachment

Represents an index and an attached object.

Contents

**IndexedAttributes**

The indexed attribute values.

Type: Array of AttributeKeyAndValue (p. 264) objects

Required: No

**ObjectIdentifier**

In response to ListIndex (p. 169), the ObjectIdentifier of the object attached to the index. In response to ListAttachedIndices (p. 140), 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
- 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. 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
- 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. 349) object

Required: No

AttributeKey

The key of the attribute being updated.

Type: AttributeKey (p. 263) object

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby 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. 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
- 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. 263) object

Required: No

Range

The range of attribute values being selected.

Type: TypedAttributeValueRange (p. 363) object

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
ObjectAttributeUpdate

Structure that contains attribute update information.

Contents

ObjectAttributeAction

The action to perform as part of the attribute update.

Type: ObjectAttributeAction (p. 351) object

Required: No

ObjectAttributeKey

The key of the attribute being updated.

Type: AttributeKey (p. 263) object

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby 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
- 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
- AWS SDK for Ruby V3
PathToObjectIdIdentifiers

Returns the path to the `ObjectIdIdentifiers` that is associated with the directory.

## Contents

- **ObjectIdIdentifiers**
  - Lists `ObjectIdIdentifiers` 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
- 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
- AWS SDK for Ruby V3
PolicyToPath

Used when a regular object exists in a Directory (p. 342) 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. 357) objects

Required: No

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby 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
- 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. 371) 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
- 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
- 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
- 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. 362) 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. 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
- AWS SDK for Ruby V3
TypedLinkAttributeDefinition

A typed link attribute definition.

Contents

DefaultValue

The default value of the attribute (if configured).

Type: TypedAttributeValue (p. 362) 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


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. 359) 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
- 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


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

Required: No

Range

The range of attribute values that are being selected.

Type: TypedAttributeValueRange (p. 363) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V3
TypedLinkFacet

Defines the typed links structure and its attributes. To create a typed link facet, use the CreateTypedLinkFacet (p. 66) 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. 364) 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. 196) and ListIncomingTypedLinks (p. 163) for details.

Type: Array of strings


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
- 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. 364) object

Required: Yes

See Also

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

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby 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. 371).

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
- 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. 23) API returns a typed link specifier while the DetachTypedLink (p. 96) API accepts one as input. Similarly, the ListIncomingTypedLinks (p. 163) and ListOutgoingTypedLinks (p. 196) API operations provide typed link specifiers as output. You can also construct a typed link specifier from scratch.

Contents

IdentityAttributeValue

Identifies the attribute value to update.

Type: Array of AttributeNameAndValue (p. 265) objects

Required: Yes

SourceObjectReference

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

Type: ObjectReference (p. 355) object

Required: Yes

TargetObjectReference

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

Type: ObjectReference (p. 355) object

Required: Yes

TypedLinkFacet

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

Type: TypedLinkSchemaAndFacetName (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
- 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

<table>
<thead>
<tr>
<th>State</th>
<th>Format or Example</th>
<th>Schema Arn</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Example</td>
<td>arn:aws:clouddirectory:us-west-2:12345678910:schema/published/cognito/1.0</td>
</tr>
<tr>
<td></td>
<td>Example</td>
<td>arn:aws:clouddirectory:us-west-2:12345678910:schema/published/cognito/1.0/XYZ</td>
</tr>
<tr>
<td></td>
<td>Example</td>
<td>arn:aws:clouddirectory:us-west-2:12345678910:directory/ARIqk1HD-UjdtmcIrJHEvPI/schemacognito/1.0</td>
</tr>
</tbody>
</table>
## Directory Arns

<table>
<thead>
<tr>
<th>Arn Type</th>
<th>Format or example</th>
<th>Arn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example</td>
<td>arn:aws:clouddirectory:us-west-2:12345678910:directory/ARIqk1HD-UjdtmcIrJHEvPI</td>
<td></td>
</tr>
</tbody>
</table>
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.

- ApplySchema (p. 8)
- CreateDirectory (p. 46)
- CreateFacet (p. 50)
- CreateSchema (p. 63)
- DeleteDirectory (p. 70)
- DeleteFacet (p. 73)
- DeleteSchema (p. 79)
- DisableDirectory (p. 100)
- EnableDirectory (p. 103)
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)"
```

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)"
```

```
"requestID": "56j45l00-a1s2-00ie-b180-2b70660bd66f",
"eventID": "uwjdfl8-f003-4ef7-b15d-8a34149479ac",
"eventType": "AwsApiCall",
"recipientAccountId": "11223Example"
}

CreateSchema:
{
    "eventVersion": "1.05",
    "userIdentity": {
        "type": "IAMUser",
        "principalId": "ASDFKJHEXAMPLE1QWERT",
        "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

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

<table>
<thead>
<tr>
<th>Change</th>
<th>Description</th>
<th>Release Date</th>
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<tbody>
<tr>
<td>Typed links</td>
<td>Added the <code>GetLinkAttributes (p. 116)</code> and <code>UpdateLinkAttributes (p. 241)</code> APIs for Typed Links.</td>
<td>May 23, 2018</td>
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<tr>
<td>New API</td>
<td>Added the <code>GetObjectAttributes (p. 120)</code> API.</td>
<td>April 10, 2018</td>
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<td>In-Place Schema Upgrade</td>
<td>Added new APIs to support In-Place Schema Upgrade feature.</td>
<td>December 6, 2017</td>
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<tr>
<td>Batch updates</td>
<td>Added several new Read and Write batch operation APIs</td>
<td>July 25, 2017</td>
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<tr>
<td>Typed links</td>
<td>Additional APIs for new Typed Links feature</td>
<td>May 31, 2017</td>
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<tr>
<td>New guide</td>
<td>This is the first release of the Amazon Cloud Directory API Reference Guide.</td>
<td>January 26, 2017</td>
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