



Developer Guide

# IAM Identity Center SCIM Implementation



# IAM Identity Center SCIM Implementation: Developer Guide

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# Table of Contents

<b>What is the IAM Identity Center SCIM implementation? .....</b>	<b>1</b>
<b>Supported API operations .....</b>	<b>2</b>
CreateGroup .....	2
Not supported .....	2
Constraints .....	3
Errors .....	3
Examples .....	4
CreateUser .....	5
Not supported .....	5
Constraints .....	5
Errors .....	5
Examples .....	6
DeleteGroup .....	10
Not supported .....	10
Constraints .....	10
Errors .....	10
Examples .....	11
DeleteUser .....	12
Not supported .....	12
Constraints .....	12
Errors .....	12
Examples .....	13
GetGroup .....	13
Not supported .....	13
Constraints .....	14
Errors .....	14
Examples .....	15
GetSchema .....	15
Not supported .....	15
Constraints .....	16
Errors .....	16
Example .....	16
GetUser .....	17
Not supported .....	18

Constraints .....	18
Errors .....	18
Examples .....	19
ListGroups .....	20
Not supported .....	20
Query Parameters .....	20
Constraints .....	21
Errors .....	21
Pagination Examples .....	22
Examples .....	23
Filter examples .....	26
ListResourceTypes .....	31
Not supported .....	31
Constraints .....	31
Errors .....	32
Examples .....	32
ListSchemas .....	34
Not supported .....	34
Constraints .....	34
Errors .....	34
Example .....	35
ListUsers .....	52
Not supported .....	53
Query Parameters .....	53
Constraints .....	53
Errors .....	54
Pagination Examples .....	55
Examples .....	56
Filter examples .....	60
PatchGroup .....	68
Not supported .....	68
Constraints .....	68
Errors .....	69
Examples .....	69
Member operations examples .....	70
PatchUser .....	72

Not supported .....	72
Constraints .....	73
Errors .....	73
Examples .....	74
<b>PutUser .....</b>	<b>76</b>
Not supported .....	76
Constraints .....	77
Errors .....	77
Examples .....	78
<b>ServiceProviderConfig .....</b>	<b>81</b>
Not supported .....	81
Constraints .....	82
Errors .....	82
Examples .....	82
<b>Making API Requests .....</b>	<b>85</b>
<b>Limitations .....</b>	<b>86</b>
<b>Document History .....</b>	<b>90</b>
<b>AWS Glossary .....</b>	<b>92</b>

# What is the IAM Identity Center SCIM implementation?

This reference guide helps software developers build custom integrations to provision (synchronize) users and groups into AWS IAM Identity Center using the System for Cross-domain Identity Management (SCIM) v2.0 protocol. This guide will also be useful to IT administrators who need to understand or debug an existing SCIM implementation.

 **Note**

IAM Identity Center uses the `sso` and `identitystore` API namespaces.

The IAM Identity Center SCIM implementation is based on SCIM RFCs 7642 (<https://tools.ietf.org/html/rfc7642>), 7643 (<https://tools.ietf.org/html/rfc7643>), and 7644 (<https://tools.ietf.org/html/rfc7644>), and the interoperability requirements laid out in the March 2020 draft of the FastFed Basic SCIM Profile 1.0 ([https://openid.net/specs/fastfed-scim-1\\_0-02.html#rfc.section.4](https://openid.net/specs/fastfed-scim-1_0-02.html#rfc.section.4)). Any differences between these documents and the current implementation in IAM Identity Center are described in the [Supported API operations](#) section of this guide.

The following sections contain examples of API requests and responses currently supported in the IAM Identity Center SCIM implementation, along with important notes and constraints to consider in your design.

Before you begin, we recommend that you first review [Considerations for using automatic provisioning](#) in the *IAM Identity Center User Guide*. That topic instructs you how to use SCIM to enable automatic provisioning in IAM Identity Center. You will need to follow those instructions to retrieve your SCIM endpoint and access token.

# Supported API operations

The following API operations are supported by the IAM Identity Center SCIM implementation:

## Topics

- [CreateGroup](#)
- [CreateUser](#)
- [DeleteGroup](#)
- [DeleteUser](#)
- [GetGroup](#)
- [GetSchema](#)
- [GetUser](#)
- [ListGroups](#)
- [ListResourceTypes](#)
- [ListSchemas](#)
- [ListUsers](#)
- [PatchGroup](#)
- [PatchUser](#)
- [PutUser](#)
- [ServiceProviderConfig](#)

## CreateGroup

Groups can be created through a POST request to the /Groups endpoint with the body containing the information of the group.

## Not supported

The IAM Identity Center SCIM implementation does not support the following aspects of this API operation.

- None

## Constraints

The IAM Identity Center SCIM implementation has the following constraints for this API operation.

- `displayName` is required.
- A maximum of 100 members can be added in a single request.

## Errors

The following IAM Identity Center SCIM implementation errors are common for this API operation.

Error	Condition	HTTP Status Code
ValidationException	Request can't be parsed, is syntactically incorrect, or violates schema. This error also occurs if the operation is unsupported.	400
UnauthorizedException	Authorization header is invalid or missing. This error also occurs if the tenant ID is incorrect.	401
AccessDeniedException	Operation isn't permitted based on the supplied authorization.	403
ConflictException	Group already exists.	409
ThrottlingException	Too many requests exceeded the limits.	429
InternalServerException	Service failed to process the request.	500

# Examples

Following are example requests and responses for this API operation.

## Example Request

```
POST https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Groups
User-Agent: Mozilla/5.0
Authorization: Bearer <bearer_token>

{
    "externalId": "701984",
    "displayName": "Group Bar",
    "members": [
        {
            "value": "9067729b3d-94f1e0b3-c394-48d5-8ab1-2c122a167074",
            "$ref": "../Users/9067729b3d-94f1e0b3-c394-48d5-8ab1-2c122a167074",
            "type": "User"
        }
    ]
}
```

## Example Response

```
HTTP/1.1 201
Date: Mon, 06 Apr 2020 16:48:19 GMT
Content-Type: application/json
x-amzn-RequestId: abbf9e53-9ecc-46d2-8efe-104a66ff128f

{
    "id": "9067729b3d-a2cf8a5-f4ab-4443-9d7d-b32a9013c554",
    "externalId": "701984",
    "meta": {
        "resourceType": "Group",
        "created": "2020-04-06T16:48:19Z",
        "lastModified": "2020-04-06T16:48:19Z"
    },
    "schemas": [
        "urn:ietf:params:scim:schemas:core:2.0:Group"
    ],
    "displayName": "Group Bar"
}
```

## CreateUser

You can create new users from a POST request using the IAM Identity Center SCIM implementation /Users endpoint. See the Examples section.

### Not supported

The IAM Identity Center SCIM implementation does not support the following aspects of this API operation.

- ims, photos, x509Certificates, entitlements, and password attributes
- displayName subattribute for manager
- display subattribute for emails, addresses, and phoneNumbers

### Constraints

The IAM Identity Center SCIM implementation has the following constraints for this API operation.

- The givenName, familyName, userName, and displayName fields are required.
- The addresses field can contain letters, accented characters, symbols, numbers, punctuation, space (normal and nonbreaking).
- We do not support multiple values in multi-value attributes (such as emails, addresses, phoneNumbers, roles). Only single values are permitted.
- The emails attribute value must be marked as primary.
- The groups field cannot be specified with the createUser request.
- The userName field can contain letters, accented characters, symbols, numbers, punctuation.
- The roles attribute value cannot contain display field, only value, type, and primary are supported.

### Errors

The following IAM Identity Center SCIM implementation errors are common for this API operation.

Error	Condition	HTTP Status Code
ValidationException	Request cannot be parsed, is syntactically incorrect, or violates schema. This error also occurs if the operation is unsupported.	400
UnauthorizedException	Authorization header is invalid or missing. This error also occurs if the tenant ID is incorrect.	401
AccessDeniedException	Operation is not permitted based on the supplied authorization.	403
ConflictException	User already exists.	409
ThrottlingException	Too many requests exceeded the limits.	429
InternalServerException	Service failed to process the request.	500

## Examples

Following are example requests and responses for this API operation.

### Example Request

```
POST https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Users
User-Agent: Mozilla/5.0
Authorization: Bearer <bearer_token>

{
  "externalId": "701984",
  "userName": "bjensen",
  "name": {
```

```
"formatted": "Ms. Barbara J Jensen, III",
"familyName": "Jensen",
"givenName": "Barbara",
"middleName": "Jane",
'honorificPrefix": "Ms.",
'honorificSuffix': "III"
},
"displayName": "Babs Jensen",
"nickName": "Babs",
"profileUrl": "https://login.example.com/bjensen",
"emails": [
{
  "value": "bjensen@example.com",
  "type": "work",
  "primary": true
}
],
"addresses": [
{
  "type": "work",
  "streetAddress": "100 Universal City Plaza",
  "locality": "Hollywood",
  "region": "CA",
  "postalCode": "91608",
  "country": "USA",
  "formatted": "100 Universal City Plaza Hollywood, CA 91608 USA",
  "primary": true
}
],
"phoneNumbers": [
{
  "value": "555-555-5555",
  "type": "work"
}
],
"roles": [
{
  "value": "Researcher",
  "type": "work",
  "primary": true
}
],
"userType": "Employee",
"title": "Tour Guide",
```

```
"preferredLanguage": "en-US",
"locale": "en-US",
"timezone": "America/Los_Angeles",
"active": true,
"urn:ietf:params:scim:schemas:extension:enterprise:2.0:User": {
    "employeeNumber": "701984",
    "costCenter": "4130",
    "organization": "Universal Studios",
    "division": "Theme Park",
    "department": "Tour Operations",
    "manager": {
        "value": "9067729b3d-ee533c18-538a-4cd3-a572-63fb863ed734",
        "$ref": "../Users/9067729b3d-ee533c18-538a-4cd3-a572-63fb863ed734"
    }
}
}
```

## Example Response

```
HTTP/1.1 201
Date: Tue, 31 Mar 2020 02:36:15 GMT
Content-Type: application/json
x-amzn-RequestId: abbf9e53-9ecc-46d2-8efe-104a66ff128f
{
    "id": "9067729b3d-94f1e0b3-c394-48d5-8ab1-2c122a167074",
    "externalId": "701984",
    "meta": {
        "resourceType": "User",
        "created": "2020-03-31T02:36:15Z",
        "lastModified": "2020-03-31T02:36:15Z"
    },
    "schemas": [
        "urn:ietf:params:scim:schemas:core:2.0:User",
        "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User"
    ],
    "userName": "bjensen",
    "name": {
        "formatted": "Ms. Barbara J Jensen, III",
        "familyName": "Jensen",
        "givenName": "Barbara",
        "middleName": "Jane",
        "honorificPrefix": "Ms.",
        "honorificSuffix": "III"
    }
}
```

```
},
  "displayName": "Babs Jensen",
  "nickName": "Babs",
  "title": "Tour Guide",
  "userType": "Employee",
  "preferredLanguage": "en-US",
  "locale": "en-US",
  "timezone": "America/Los_Angeles",
  "active": true,
  "emails": [
    {
      "value": "bjensen@example.com",
      "type": "work",
      "primary": true
    }
  ],
  "addresses": [
    {
      "formatted": "100 Universal City Plaza Hollywood, CA 91608 USA",
      "streetAddress": "100 Universal City Plaza",
      "locality": "Hollywood",
      "region": "CA",
      "postalCode": "91608",
      "country": "USA",
      "type": "work",
      "primary": true
    }
  ],
  "phoneNumbers": [
    {
      "value": "555-555-5555",
      "type": "work"
    }
  ],
  "roles": [
    {
      "value": "Researcher",
      "type": "work",
      "primary": true
    }
  ],
  "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User": {
    "employeeNumber": "701984",
    "costCenter": "4130",
```

```
        "organization": "Universal Studios",
        "division": "Theme Park",
        "department": "Tour Operations",
        "manager": {
            "value": "9067729b3d-ee533c18-538a-4cd3-a572-63fb863ed734"
        }
    }
}
```

## DeleteGroup

The DELETE request is also available for the /Groups endpoint to delete existing groups using the value of the id.

### Not supported

The IAM Identity Center SCIM implementation does not support the following aspects of this API operation.

- None

### Constraints

The IAM Identity Center SCIM implementation has the following constraints for this API operation.

- None

### Errors

The following IAM Identity Center SCIM implementation errors are common for this API operation.

Error	Condition	HTTP Status Code
ValidationException	Request cannot be parsed, is syntactically incorrect, or violates schema. This error also occurs if the operation is unsupported.	400

Error	Condition	HTTP Status Code
UnauthorizedException	Authorization header is invalid or missing. This error also occurs if the tenant ID is incorrect.	401
AccessDeniedException	Operation is not permitted based on the supplied authorization.	403
ResourceNotFoundException	Specified group does not exist.	404
ThrottlingException	Too many requests exceeded the limits.	429
InternalServerException	Service failed to process the request.	500

## Examples

Following are example requests and responses for this API operation.

### Example Request

```
DELETE https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Groups/9067729b3d-f987ac4d-a175-44f0-a528-6d23c5d2ec4d
User-Agent: Mozilla/5.0
Authorization: Bearer <bearer_token>
```

### Example Response

```
HTTP/1.1 204
Date: Mon, 06 Apr 2020 22:21:24 GMT
Content-Type: application/json
x-amzn-RequestId: abbf9e53-9ecc-46d2-8efe-104a66ff128
```

# DeleteUser

A user can be deleted by making a DELETE request to the /Users endpoint with an existing user ID.

## Not supported

The IAM Identity Center SCIM implementation does not support the following aspects of this API operation.

- None

## Constraints

The IAM Identity Center SCIM implementation has the following constraints for this API operation.

- None

## Errors

The following IAM Identity Center SCIM implementation errors are common for this API operation.

Error	Condition	HTTP Status Code
ValidationException	Request cannot be parsed, is syntactically incorrect, or violates schema. This error also occurs if the operation is unsupported.	400
UnauthorizedException	Authorization header is invalid or missing. This error also occurs if the tenant ID is incorrect.	401
AccessDeniedException	Operation is not permitted based on the supplied authorization.	403

Error	Condition	HTTP Status Code
ResourceNotFoundException	Specified user does not exist.	404
ThrottlingException	Too many requests exceeded the limits.	429
InternalServerErrorException	Service failed to process the request.	500

## Examples

Following are example requests and responses for this API operation.

### Example Request

```
DELETE https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Users/9067729b3d-ee533c18-538a-4cd3-a572-63fb863ed734
User-Agent: Mozilla/5.0
Authorization: Bearer <bearer_token>
```

### Example Response

```
HTTP/1.1 204
Date: Tue, 31 Mar 2020 02:36:15 GMT
Content-Type: application/json
x-amzn-RequestId: abbf9e53-9ecc-46d2-8efe-104a66ff128f
```

## GetGroup

Information about an existing group can be retrieved by making a request to the /Groups endpoint with the group ID.

### Not supported

The IAM Identity Center SCIM implementation does not support the following aspects of this API operation.

- GetGroup and ListGroups return an empty member list. To see group info for a certain member, call ListGroups with a member filter. For more information, see [ListGroups](#).

## Constraints

The IAM Identity Center SCIM implementation has the following constraints for this API operation.

- None

## Errors

The following IAM Identity Center SCIM implementation errors are common for this API operation.

Error	Condition	HTTP Status Code
ValidationException	Request cannot be parsed, is syntactically incorrect, or violates schema. This error also occurs if the operation is unsupported.	400
UnauthorizedException	Authorization header is invalid or missing. This error also occurs if the tenant ID is incorrect.	401
AccessDeniedException	Operation is not permitted based on the supplied authorization.	403
ResourceNotFoundException	Specified group does not exist.	404
ThrottlingException	Too many requests exceeded the limits.	429
InternalServerException	Service failed to process the request.	500

## Examples

Following are example requests and responses for this API operation.

### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Groups/9067729b3d-a2cfc8a5-f4ab-4443-9d7d-b32a9013c554
User-Agent: Mozilla/5.0
Authorization: Bearer <bearer_token>
```

### Example Response

```
HTTP/1.1 200
Date: Mon, 06 Apr 2020 17:16:53 GMT
Content-Type: application/json
x-amzn-RequestId: abbf9e53-9ecc-46d2-8efe-104a66ff128f
{
    "id": "9067729b3d-a2cfc8a5-f4ab-4443-9d7d-b32a9013c554",
    "meta": {
        "resourceType": "Group",
        "created": "2020-04-06T16:48:19Z",
        "lastModified": "2020-04-06T16:48:19Z"
    },
    "schemas": [
        "urn:ietf:params:scim:schemas:core:2.0:Group"
    ],
    "displayName": "Group Bar"
}
```

## GetSchema

Information about supported SCIM schemas can be retrieved by making a request to the /Schemas endpoint. See the Examples section.

### Not supported

The IAM Identity Center SCIM implementation does not support the following aspects of this API operation.

- None

## Constraints

The IAM Identity Center SCIM implementation has the following constraints for this API operation.

- None

## Errors

The following IAM Identity Center SCIM implementation errors are common for this API operation.

Error	Condition	HTTP Status Code
ValidationException	Request cannot be parsed, is syntactically incorrect, or violates schema. This error also occurs if the operation is unsupported.	400
UnauthorizedException	Authorization header is invalid or missing. This error also occurs if the tenant ID is incorrect.	401
AccessDeniedException	Operation is not permitted based on the supplied authorization.	403
ThrottlingException	Too many requests exceeded the limits.	429
InternalServerException	Service failed to process the request.	500

## Example

Following are example request and response for this API operation.

## Example Request

```
GET /{tenant_id}/scim/v2/Schemas/urn:ietf:params:scim:schemas:core:2.0:User
User-Agent: Mozilla/5.0
Authorization: Bearer <bearer_token>
```

## Example Response

```
HTTP/2 200 OK
Date: Fri, 12 May 2023 17:00:33 GMT
Content-Type: application/json
Content-Length: 2
x-amzn-Requestid: 80cc7268-02b8-4e37-a787-da7b9b7a1952
{
  "id" : "urn:ietf:params:scim:schemas:core:2.0:User",
  "name" : "User",
  "description" : "User Account",
  "attributes" : [
    {
      "name" : "userName",
      "type" : "string",
      "multiValued" : false,
      "description" : "Unique identifier for the User, typically used by the user to directly authenticate to the service provider. Each User MUST include a non-empty userName value. This identifier MUST be unique across the service provider's entire set of Users. REQUIRED.",
      "required" : true,
      "caseExact" : false,
      "mutability" : "readWrite",
      "returned" : "default",
      "uniqueness" : "server"
    }
  ]
}
```

## GetUser

Existing users can be retrieved by making a GET request to the IAM Identity Center SCIM implementation /Users endpoint with a user ID.

## Not supported

The IAM Identity Center SCIM implementation does not support the following aspects of this API operation.

- None

## Constraints

The IAM Identity Center SCIM implementation has the following constraints for this API operation.

- None

## Errors

The following IAM Identity Center SCIM implementation errors are common for this API operation.

Error	Condition	HTTP Status Code
ValidationException	Request cannot be parsed, is syntactically incorrect, or violates schema. This error also occurs if the operation is unsupported.	400
UnauthorizedException	Authorization header is invalid or missing. This error also occurs if the tenant ID is incorrect.	401
AccessDeniedException	The operation is not permitted based on the supplied authorization.	403
ResourceNotFoundException	Specified user or endpoint does not exist.	404

Error	Condition	HTTP Status Code
ThrottlingException	Too many requests exceeded the limits.	429
InternalServerException	Service failed to process the request.	500

## Examples

Following are example requests and responses for this API operation.

### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Users/9067729b3d-ee533c18-538a-4cd3-a572-63fb863ed734
User-Agent: Mozilla/5.0
Authorization: Bearer <bearer_token>
```

### Example Response

```
HTTP/1.1 200
Date: Tue, 31 Mar 2020 02:36:15 GMT
Content-Type: application/json
x-amzn-RequestId: abbf9e53-9ecc-46d2-8efe-104a66ff128f

{
    "id": "9067729b3d-ee533c18-538a-4cd3-a572-63fb863ed734",
    "externalId": "1",
    "meta": {
        "resourceType": "User",
        "created": "2020-03-30T16:55:15Z",
        "lastModified": "2020-03-30T16:55:15Z"
    },
    "schemas": [
        "urn:ietf:params:scim:schemas:core:2.0:User"
    ],
    "userName": "johndoe",
    "name": {
        "familyName": "Doe",
        "givenName": "John"
```

```
 },
  "displayName": "John Doe",
  "active": false,
  "emails": [
    {
      "value": "johndoe@example.com",
      "type": "work",
      "primary": true
    }
  ]
}
```

## ListGroups

You can use the `/Groups` endpoint to filter queries on a list of existing groups by making a GET request with additional filter information. A maximum of 100 results can be returned per page. See the **Constraints** section for a list of available filters.

## Not supported

The IAM Identity Center SCIM implementation does not support the following aspects of this API operation.

- `GetGroup` and `ListGroups` return an empty member list. To see group info for a certain member, call `ListGroups` with a member filter. (See the examples that follow.)

## Query Parameters

`ListGroups` currently supports the following optional query parameters:

- `cursor` used to specify which page to retrieve in paginated API calls.
  - Pattern: [-a-zA-Z0-9+=/:\_]\*
  - Response format: Including the `cursor` parameter changes the default response format from non-paginated (with `totalResults`, `startIndex`, and `itemsPerPage` fields) to cursor-based paginated results (with `itemsPerPage` and `nextCursor` fields)
- `count` used to specify the maximum number of results per page
  - Valid Range: Minimum value of 1. Maximum value of 100.
  - Default: 100

- filter used to filter out specific groups

## Constraints

The IAM Identity Center SCIM implementation has the following constraints for this API operation.

- The `ListGroups` API is capable of returning up to a maximum of 100 results per page.
- Supported filter combinations: `(displayName)`, `(externalId)`, `(members.value)`, `(id and member)`, and `(member and id)`. Note that the use of `id` as an individual filter, while valid, should be avoided as there is already a `getGroup` endpoint available.
- Pagination requests must include `cursor` in the query parameters
  - The first request made with `cursor` must be empty (eg. `https://.../Groups?cursor`)
  - If the response includes a `nextCursor` field, its value can be used as the `cursor` value to retrieve the next page of results
- Paginated calls may return less results than `count` but as long as `nextCursor` is present in the response, additional pages are available.
- Supported comparison operator in filters: `eq`
- Filter must be specified as: `<filterAttribute> eq "<filterValue>"`

## Errors

The following IAM Identity Center SCIM implementation errors are common for this API operation.

Error	Condition	HTTP Status Code
<code>ValidationException</code>	Request cannot be parsed, is syntactically incorrect, or violates schema. This error also occurs if the operation is unsupported, or if filter parameters are changed between pagination requests.	400
<code>UnauthorizedException</code>	Authorization header is invalid or missing. This error	401

Error	Condition	HTTP Status Code
	also occurs if the tenant ID is incorrect.	
AccessDeniedException	Operation is not permitted based on the supplied authorization.	403
ResourceNotFoundException	When filter querying with a nonexisting member.	404
ThrottlingException	Too many requests exceeded the limits.	429
InternalServerException	Service failed to process the request.	500

## Pagination Examples

### Example Request For Getting the First Page

#### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Groups?cursor
Authorization: Bearer <bearer_token>
```

#### Example Response

```
{
  "itemsPerPage": 100,
  "nextCursor": "VGVzdEdyb3VwQ3Vyc29y",
  "schemas": [
    "urn:ietf:params:scim:api:messages:2.0>ListResponse"
  ],
  "Resources": [
    ...
  ]
}
```

## Example Request For Getting the Next Page

*Note: the example does not include a nextCursor field since the current page is the last page of results*

### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Groups?  
cursor=VGVzdEdyb3VwQ3Vyc29y  
Authorization: Bearer <bearer_token>
```

### Example Response

```
{  
  "itemsPerPage": 100,  
  "schemas": [  
    "urn:ietf:params:scim:api:messages:2.0>ListResponse"  
  ],  
  "Resources": [  
    ...  
  ]  
}
```

## Examples

Following are example requests and responses for this API operation.

### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Groups  
User-Agent: Mozilla/5.0  
Authorization: Bearer <bearer_token>
```

### Example Response

```
HTTP/1.1 200  
Date: Thu, 23 Jul 2020 00:37:15 GMT  
Content-Type: application/json  
x-amzn-RequestId: e01400a1-0f10-4e90-ba58-ea1766a009d7  
  
{  
  "totalResults": 6,
```

```
"itemsPerPage": 6,
"startIndex": 1,
"schemas": [
    "urn:ietf:params:scim:api:messages:2.0>ListResponse"
],
"Resources": [
    {
        "id": "90677c608a-ef9cb2da-d480-422b-9901-451b1bf9e607",
        "externalId": "702135",
        "meta": {
            "resourceType": "Group",
            "created": "2020-07-22T23:10:21Z",
            "lastModified": "2020-07-22T23:10:21Z"
        },
        "schemas": [
            "urn:ietf:params:scim:schemas:core:2.0:Group"
        ],
        "displayName": "Group Foo",
        "members": []
    },
    {
        "id": "90677c608a-95aca21b-4bb7-4161-94cb-d885e2920414",
        "meta": {
            "resourceType": "Group",
            "created": "2020-07-23T00:16:49Z",
            "lastModified": "2020-07-23T00:16:49Z"
        },
        "schemas": [
            "urn:ietf:params:scim:schemas:core:2.0:Group"
        ],
        "displayName": "Group Beta",
        "members": []
    },
    {
        "id": "90677c608a-00dbcb72-e0b2-49a0-86a2-c259369fc6a7",
        "meta": {
            "resourceType": "Group",
            "created": "2020-07-23T00:18:08Z",
            "lastModified": "2020-07-23T00:18:08Z"
        },
        "schemas": [
            "urn:ietf:params:scim:schemas:core:2.0:Group"
        ],
        "displayName": "Group Omega",
```

```
        "members": [],
    },
    {
        "id": "90677c608a-10d47528-1e68-4730-910e-c8a102121f47",
        "meta": {
            "resourceType": "Group",
            "created": "2020-07-22T22:58:48Z",
            "lastModified": "2020-07-22T22:58:48Z"
        },
        "schemas": [
            "urn:ietf:params:scim:schemas:core:2.0:Group"
        ],
        "displayName": "Group Bar",
        "members": []
    },
    {
        "id": "90677c608a-6ba7b52f-67e5-4849-b64c-15464fe7893b",
        "meta": {
            "resourceType": "Group",
            "created": "2020-07-23T00:14:19Z",
            "lastModified": "2020-07-23T00:14:19Z"
        },
        "schemas": [
            "urn:ietf:params:scim:schemas:core:2.0:Group"
        ],
        "displayName": "Group Delta",
        "members": []
    },
    {
        "id": "90677c608a-a9f17294-7931-41a5-9c00-6e7ace3c2c11",
        "meta": {
            "resourceType": "Group",
            "created": "2020-07-23T00:20:08Z",
            "lastModified": "2020-07-23T00:20:08Z"
        },
        "schemas": [
            "urn:ietf:params:scim:schemas:core:2.0:Group"
        ],
        "displayName": "Group Gamma",
        "members": []
    }
]
```

## Filter examples

For the ListGroup endpoint we support three different combinations of filters as follows:

- `displayName`
- `externalId`
- `members.value`
- `id and member`
- `member and id`

The filters can be applied in the formats as shown.

### Single filter

```
filter=<filterAttribute> eq "<filterValue>"
```

### Two filters

```
filter=<filterAttribute1> eq "<filterValue1>" and <filterAttribute2> eq  
"<filterValue2>"
```

See the following examples.

### displayName

#### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Groups?filter=displayName  
eq "Group Bar"  
User-Agent: Mozilla/5.0  
Authorization: Bearer <bearer_token>
```

#### Example Response

```
HTTP/1.1 200  
Date: Wed, 22 Jul 2020 23:06:38 GMT  
Content-Type: application/json
```

```
x-amzn-RequestId: 45995b44-02cd-419f-87f4-ff8fa323448d

{
    "totalResults": 1,
    "itemsPerPage": 1,
    "startIndex": 1,
    "schemas": [
        "urn:ietf:params:scim:api:messages:2.0>ListResponse"
    ],
    "Resources": [
        {
            "id": "90677c608a-10d47528-1e68-4730-910e-c8a102121f47",
            "meta": {
                "resourceType": "Group",
                "created": "2020-07-22T22:58:48Z",
                "lastModified": "2020-07-22T22:58:48Z"
            },
            "schemas": [
                "urn:ietf:params:scim:schemas:core:2.0:Group"
            ],
            "displayName": "Group Bar",
            "members": []
        }
    ]
}
```

## externalId

### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Groups?filter=externalId
eq "705167"
User-Agent: Mozilla/5.0
Authorization: Bearer <bearer_token>
```

### Example Response

```
HTTP/1.1 200
Date: Wed, 22 Jul 2020 23:06:38 GMT
Content-Type: application/json
x-amzn-RequestId: 45995b44-02cd-419f-87f4-ff8fa323448d
```

```
{  
    "totalResults": 1,  
    "itemsPerPage": 1,  
    "startIndex": 1,  
    "schemas": [  
        "urn:ietf:params:scim:api:messages:2.0>ListResponse"  
    ],  
    "Resources": [  
        {  
            "id": "90677c608a-ef9cb2da-d480-422b-9901-451b1bf9e607",  
            "externalId": "702135",  
            "meta": {  
                "resourceType": "Group",  
                "created": "2020-07-22T23:10:21Z",  
                "lastModified": "2020-07-22T23:10:21Z"  
            },  
            "schemas": [  
                "urn:ietf:params:scim:schemas:core:2.0:Group"  
            ],  
            "displayName": "Group Foo",  
            "members": []  
        }  
    ]  
}
```

## members.value

### Example Request Without Pagination

### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Groups?  
filter=members.value eq "04285428-40b1-7000-1624-dbde7efebbf"  
Authorization: Bearer <bearer_token>
```

### Example Response

```
{  
    "totalResults": 100,  
    "itemsPerPage": 100,  
    "startIndex": 1,  
    "schemas": [  
        "urn:ietf:params:scim:api:messages:2.0:ListResponse"  
    ],  
    "Resources": [  
        {  
            "id": "90677c608a-ef9cb2da-d480-422b-9901-451b1bf9e607",  
            "externalId": "702135",  
            "meta": {  
                "resourceType": "Group",  
                "created": "2020-07-22T23:10:21Z",  
                "lastModified": "2020-07-22T23:10:21Z"  
            },  
            "schemas": [  
                "urn:ietf:params:scim:schemas:core:2.0:Group"  
            ],  
            "displayName": "Group Foo",  
            "members": []  
        }  
    ]  
}
```

```
"urn:ietf:params:scim:api:messages:2.0>ListResponse"
],
"Resources": [
  {
    "id": "d468e4d8-c051-703d-dd84-28caf445f15e",
    "externalId": "eid_RuvdCnwuJD4KNi2zyiRe",
    "meta": {
      "resourceType": "Group",
      "created": "2025-08-08T17:28:12Z",
      "lastModified": "2025-08-08T17:28:12Z"
    },
    "schemas": [
      "urn:ietf:params:scim:schemas:core:2.0:Group"
    ],
    "displayName": "display_name_eid_RuvdCnwuJD4KNi2zyiRe",
    "members": []
  },
  ...
]
```

## Example Request With Pagination

### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Groups?
cursor&filter=members.value eq "04285428-40b1-7000-1624-dbde7efebbf"
Authorization: Bearer <bearer_token>
```

### Example Response

```
{
  "itemsPerPage": 100,
  "nextCursor": "Q3Vyc29yR3JvdXBzRmlsdGVy",
  "schemas": [
    "urn:ietf:params:scim:api:messages:2.0>ListResponse"
  ],
  "Resources": [
    ...
  ]
}
```

## Example Request For Getting the Next Page

### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Groups?  
cursor=Q3Vyc29yR3JvdXBzRmlsdGVy&filter=members.value eq "04285428-40b1-7000-1624-  
dbde7efebbf"  
Authorization: Bearer <bearer_token>
```

### Example Response

```
{  
  "itemsPerPage": 10,  
  "schemas": [  
    "urn:ietf:params:scim:api:messages:2.0>ListResponse"  
  ],  
  "Resources": [  
    ...  
  ]  
}
```

## Group id and members

Both group id and members are interchangeable in order.

### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Groups?filter=id  
eq "90677c608a-a9f17294-7931-41a5-9c00-6e7ace3c2c11" and members eq  
"90677c608a-787142a0-3f27-4cd3-afb6-8aed7ce87094"  
User-Agent: Mozilla/5.0  
Authorization: Bearer <bearer_token>
```

### Example Response

```
HTTP/1.1 200  
Date: Wed, 22 Jul 2020 23:06:38 GMT  
Content-Type: application/json  
x-amzn-RequestId: 65d18c02-fc7c-4f2b-9410-ed417acf4fb2  
  
{
```

```
"totalResults": 1,
"itemsPerPage": 1,
"startIndex": 1,
"schemas": [
    "urn:ietf:params:scim:api:messages:2.0>ListResponse"
],
"Resources": [
    {
        "id": "90677c608a-a9f17294-7931-41a5-9c00-6e7ace3c2c11",
        "meta": {
            "resourceType": "Group",
            "created": "2020-07-23T00:20:08Z",
            "lastModified": "2020-07-23T00:20:08Z"
        },
        "schemas": [
            "urn:ietf:params:scim:schemas:core:2.0:Group"
        ],
        "displayName": "Group Gamma",
        "members": []
    }
]
```

## ListResourceTypes

Information about supported resource types can be retrieved by making a request to the /ResourceTypes endpoint.

### Not supported

The IAM Identity Center SCIM implementation does not support the following aspects of this API operation.

- None

### Constraints

The IAM Identity Center SCIM implementation has the following constraints for this API operation.

- None.

## Errors

The following IAM Identity Center SCIM implementation errors are common for this API operation.

Error	Condition	HTTP Status Code
ValidationException	Request cannot be parsed, is syntactically incorrect, or violates schema. This error also occurs if the operation is unsupported.	400
UnauthorizedException	Authorization header is invalid or missing. This error also occurs if the tenant ID is incorrect.	401
AccessDeniedException	Operation is not permitted based on the supplied authorization.	403
ThrottlingException	Too many requests exceeded the limits.	429
InternalServerException	Service failed to process the request.	500

## Examples

Following are example requests and responses for this API operation.

### Example Request

```
GET /{tenant_id}/scim/v2/ResourceTypes HTTP/2
User-Agent: Mozilla/5.0
Authorization: Bearer <bearer_token>
```

## Example Response

```
HTTP/2 200 OK
Date: Fri, 12 May 2023 16:59:31 GMT
Content-Type: application/json
Content-Length: 2
X-Amzn-Requestid: 5b6de8b5-36a3-4179-8afa-71e918d85516
{
  "schemas": [
    "urn:ietf:params:scim:api:messages:2.0>ListResponse"
  ],
  "totalResults": 2,
  "itemsPerPage": 2,
  "startIndex": 1,
  "Resources": [
    {
      "schemas": ["urn:ietf:params:scim:schemas:core:2.0:ResourceType"],
      "id": "User",
      "name": "User",
      "endpoint": "/Users",
      "description": "User Account",
      "schema": "urn:ietf:params:scim:schemas:core:2.0:User",
      "schemaExtensions": [
        {
          "schema": "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User",
          "required": true
        }
      ],
      "meta": {
        "resourceType": "ResourceType"
        "\"location\": \"https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/
ResourceTypes/User\""
      }
    },
    {
      "schemas": ["urn:ietf:params:scim:schemas:core:2.0:ResourceType"],
      "id": "Group",
      "name": "Group",
      "endpoint": "/Groups",
      "description": "Group",
      "schema": "urn:ietf:params:scim:schemas:core:2.0:Group",
      "meta": {
        "resourceType": "ResourceType"
```

```
  "\"location\":"https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/  
ResourceTypes/Group\""  
}  
}  
]  
}
```

## ListSchemas

Information about supported SCIM schemas can be retrieved by making a request to the /Schemas endpoint. See the Examples section.

### Not supported

The IAM Identity Center SCIM implementation does not support the following aspects of this API operation.

- None

### Constraints

The IAM Identity Center SCIM implementation has the following constraints for this API operation.

- None

### Errors

The following IAM Identity Center SCIM implementation errors are common for this API operation.

Error	Condition	HTTP Status Code
ValidationException	Request cannot be parsed, is syntactically incorrect, or violates schema. This error also occurs if the operation is unsupported.	400

Error	Condition	HTTP Status Code
UnauthorizedException	Authorization header is invalid or missing. This error also occurs if the tenant ID is incorrect.	401
AccessDeniedException	Operation is not permitted based on the supplied authorization.	403
ThrottlingException	Too many requests exceeded the limits.	429
InternalServerException	Service failed to process the request.	500

## Example

Following are example request and response for this API operation.

### Example Request

```
GET /{tenant_id}/scim/v2/Schemas
User-Agent: Mozilla/5.0
Authorization: Bearer <bearer_token>
```

### Example Response

```
HTTP/2 200 OK
Date: Fri, 12 May 2023 17:00:33 GMT
Content-Type: application/json
Content-Length: 2
x-amzn-Requestid: 80cc7268-02b8-4e37-a787-da7b9b7a1952
{
  "schemas": [
    "urn:ietf:params:scim:api:messages:2.0>ListResponse"
  ],
  "totalResults": 3,
  "itemsPerPage": 3,
```

```
"startIndex": 1,
"Resources": [
{
  "id" : "urn:ietf:params:scim:schemas:core:2.0:User",
  "name" : "User",
  "description" : "User Schema",
  "attributes" : [
    {
      "name" : "userName",
      "type" : "string",
      "multiValued" : false,
      "description" : "Unique identifier for the User, typically used by the user to directly authenticate to the service provider. Each User MUST include a non-empty userName value. This identifier MUST be unique across the service provider's entire set of Users. REQUIRED.",
      "required" : true,
      "caseExact" : false,
      "mutability" : "readWrite",
      "returned" : "default",
      "uniqueness" : "server"
    },
    {
      "name" : "name",
      "type" : "complex",
      "multiValued" : false,
      "description" : "The components of the user's real name. Providers MAY return just the full name as a single string in the formatted sub-attribute, or they MAY return just the individual component attributes using the other sub-attributes, or they MAY return both. If both variants are returned, they SHOULD be describing the same name, with the formatted name indicating how the component attributes should be combined.",
      "required" : false,
      "subAttributes" : [
        {
          "name" : "formatted",
          "type" : "string",
          "multiValued" : false,
          "description" : "The full name, including all middle names, titles, and suffixes as appropriate, formatted for display (e.g., 'Ms. Barbara J Jensen, III').",
          "required" : false,
          "caseExact" : false,
          "mutability" : "readWrite",
          "returned" : "default",
          "uniqueness" : "none"
        }
      ]
    }
  ]
}
```

```
},
{
  "name" : "familyName",
  "type" : "string",
  "multiValued" : false,
  "description" : "The family name of the User, or last name in most Western languages (e.g., 'Jensen' given the full name 'Ms. Barbara J Jensen, III').",
  "required" : true,
  "caseExact" : false,
  "mutability" : "readWrite",
  "returned" : "default",
  "uniqueness" : "none"
},
{
  "name" : "givenName",
  "type" : "string",
  "multiValued" : false,
  "description" : "The given name of the User, or first name in most Western languages (e.g., 'Barbara' given the full name 'Ms. Barbara J Jensen, III').",
  "required" : true,
  "caseExact" : false,
  "mutability" : "readWrite",
  "returned" : "default",
  "uniqueness" : "none"
},
{
  "name" : "middleName",
  "type" : "string",
  "multiValued" : false,
  "description" : "The middle name(s) of the User (e.g., 'Jane' given the full name 'Ms. Barbara J Jensen, III').",
  "required" : false,
  "caseExact" : false,
  "mutability" : "readWrite",
  "returned" : "default",
  "uniqueness" : "none"
},
{
  "name" : "honorificPrefix",
  "type" : "string",
  "multiValued" : false,
  "description" : "The honorific prefix(es) of the User, or title in most Western languages (e.g., 'Ms.' given the full name 'Ms. Barbara J Jensen, III').",
  "required" : false,
```

```
        "caseExact" : false,
        "mutability" : "readWrite",
        "returned" : "default",
        "uniqueness" : "none"
    },
{
    "name" : "honorificSuffix",
    "type" : "string",
    "multiValued" : false,
    "description" : "The honorific suffix(es) of the User, or suffix in most
Western languages (e.g., 'III' given the full name 'Ms. Barbara J Jensen, III').",
    "required" : false,
    "caseExact" : false,
    "mutability" : "readWrite",
    "returned" : "default",
    "uniqueness" : "none"
}
],
"mutability" : "readWrite",
"returned" : "default",
"uniqueness" : "none"
},
{
    "name" : "displayName",
    "type" : "string",
    "multiValued" : false,
    "description" : "The name of the User, suitable for display to end-users. The
name SHOULD be the full name of the User being described, if known.",
    "required" : false,
    "caseExact" : false,
    "mutability" : "readWrite",
    "returned" : "default",
    "uniqueness" : "none"
},
{
    "name" : "nickName",
    "type" : "string",
    "multiValued" : false,
    "description" : "The casual way to address the user in real life, e.g., 'Bob'
or 'Bobby' instead of 'Robert'. This attribute SHOULD NOT be used to represent a
User's username (e.g., 'bjensen' or 'mpepperidge').",
    "required" : false,
    "caseExact" : false,
    "mutability" : "readWrite",
```

```
        "returned" : "default",
        "uniqueness" : "none"
    },
{
    "name" : "profileUrl",
    "type" : "reference",
    "referenceTypes" : ["external"],
    "multiValued" : false,
    "description" : "A fully qualified URL pointing to a page representing the
User's online profile.",
    "required" : false,
    "caseExact" : false,
    "mutability" : "readWrite",
    "returned" : "default",
    "uniqueness" : "none"
},
{
    "name" : "title",
    "type" : "string",
    "multiValued" : false,
    "description" : "The user's title, such as \"Vice President.\""",
    "required" : false,
    "caseExact" : false,
    "mutability" : "readWrite",
    "returned" : "default",
    "uniqueness" : "none"
},
{
    "name" : "userType",
    "type" : "string",
    "multiValued" : false,
    "description" : "Used to identify the relationship between the organization and
the user. Typical values used might be 'Contractor', 'Employee', 'Intern', 'Temp',
'External', and 'Unknown', but any value may be used.",
    "required" : false,
    "caseExact" : false,
    "mutability" : "readWrite",
    "returned" : "default",
    "uniqueness" : "none"
},
{
    "name" : "preferredLanguage",
    "type" : "string",
    "multiValued" : false,
```

```
        "description" : "Indicates the User's preferred written or spoken language.  
Generally used for selecting a localized user interface; e.g., 'en_US' specifies the  
language English and country US.",  
        "required" : false,  
        "caseExact" : false,  
        "mutability" : "readWrite",  
        "returned" : "default",  
        "uniqueness" : "none"  
    },  
    {  
        "name" : "locale",  
        "type" : "string",  
        "multiValued" : false,  

```

```
"type" : "complex",
"multiValued" : true,
"description" : "Email addresses for the user. The value SHOULD be canonicalized by the service provider, e.g., 'bjensen@example.com' instead of 'bjensen@EXAMPLE.COM'. Canonical type values of 'work', 'home', and 'other'.",
"required" : false,
"subAttributes" : [
  {
    "name" : "value",
    "type" : "string",
    "multiValued" : false,
    "description" : "Email addresses for the user. The value SHOULD be canonicalized by the service provider, e.g., 'bjensen@example.com' instead of 'bjensen@EXAMPLE.COM'. Canonical type values of 'work', 'home', and 'other'.",
    "required" : false,
    "caseExact" : false,
    "mutability" : "readWrite",
    "returned" : "default",
    "uniqueness" : "none"
  },
  {
    "name" : "type",
    "type" : "string",
    "multiValued" : false,
    "description" : "A label indicating the attribute's function, e.g., 'work' or 'home'.",
    "required" : false,
    "caseExact" : false,
    "canonicalValues" : [
      "work",
      "home",
      "other"
    ],
    "mutability" : "readWrite",
    "returned" : "default",
    "uniqueness" : "none"
  },
  {
    "name" : "primary",
    "type" : "boolean",
    "multiValued" : false,
    "description" : "A Boolean value indicating the 'primary' or preferred attribute value for this attribute, e.g., the preferred mailing address or primary email address. The primary attribute value 'true' MUST appear no more than once."
  }
]
```

```
        "required" : false,
        "mutability" : "readWrite",
        "returned" : "default"
    },
],
"mutability" : "readWrite",
"returned" : "default",
"uniqueness" : "none"
},
{
  "name" : "phoneNumbers",
  "type" : "complex",
  "multiValued" : true,
  "description" : "Phone numbers for the User. The value SHOULD be canonicalized by the service provider according to the format specified in RFC 3966, e.g., 'tel: +1-201-555-0123'. Canonical type values of 'work', 'home', 'mobile', 'fax', 'pager', and 'other'.",
  "required" : false,
  "subAttributes" : [
    {
      "name" : "value",
      "type" : "string",
      "multiValued" : false,
      "description" : "Phone number of the User.",
      "required" : false,
      "caseExact" : false,
      "mutability" : "readWrite",
      "returned" : "default",
      "uniqueness" : "none"
    },
    {
      "name" : "type",
      "type" : "string",
      "multiValued" : false,
      "description" : "A label indicating the attribute's function, e.g., 'work', 'home', 'mobile'.",
      "required" : false,
      "caseExact" : false,
      "canonicalValues" : [
        "work",
        "home",
        "mobile",
        "fax",
        "pager",
        "other"
      ]
    }
  ]
}
```

```
        "other"
    ],
    "mutability" : "readWrite",
    "returned" : "default",
    "uniqueness" : "none"
},
{
    "name" : "primary",
    "type" : "boolean",
    "multiValued" : false,
    "description" : "A Boolean value indicating the 'primary' or preferred attribute value for this attribute, e.g., the preferred phone number or primary phone number. The primary attribute value 'true' MUST appear no more than once.",
    "required" : false,
    "mutability" : "readWrite",
    "returned" : "default"
}
],
"mutability" : "readWrite",
"returned" : "default"
},
{
    "name" : "addresses",
    "type" : "complex",
    "multiValued" : true,
    "description" : "A physical mailing address for this User. Canonical type values of 'work', 'home', and 'other'. This attribute is a complex type with the following sub-attributes.",
    "required" : false,
    "subAttributes" : [
        {
            "name" : "formatted",
            "type" : "string",
            "multiValued" : false,
            "description" : "The full mailing address, formatted for display or use with a mailing label. This attribute MAY contain newlines.",
            "required" : false,
            "caseExact" : false,
            "mutability" : "readWrite",
            "returned" : "default",
            "uniqueness" : "none"
        },
        {
            "name" : "streetAddress",
```

```
        "type" : "string",
        "multiValued" : false,
        "description" : "The full street address component, which may include house
number, street name, P.O. box, and multi-line extended street address information.
This attribute MAY contain newlines.",
        "required" : false,
        "caseExact" : false,
        "mutability" : "readWrite",
        "returned" : "default",
        "uniqueness" : "none"
    },
{
    "name" : "locality",
    "type" : "string",
    "multiValued" : false,
    "description" : "The city or locality component.",
    "required" : false,
    "caseExact" : false,
    "mutability" : "readWrite",
    "returned" : "default",
    "uniqueness" : "none"
},
{
    "name" : "region",
    "type" : "string",
    "multiValued" : false,
    "description" : "The state or region component.",
    "required" : false,
    "caseExact" : false,
    "mutability" : "readWrite",
    "returned" : "default",
    "uniqueness" : "none"
},
{
    "name" : "postalCode",
    "type" : "string",
    "multiValued" : false,
    "description" : "The zip code or postal code component.",
    "required" : false,
    "caseExact" : false,
    "mutability" : "readWrite",
    "returned" : "default",
    "uniqueness" : "none"
},
```

```
{  
    "name" : "country",  
    "type" : "string",  
    "multiValued" : false,  
    "description" : "The country name component.",  
    "required" : false,  
    "caseExact" : false,  
    "mutability" : "readWrite",  
    "returned" : "default",  
    "uniqueness" : "none"  
},  
{  
    "name" : "type",  
    "type" : "string",  
    "multiValued" : false,  
    "description" : "A label indicating the attribute's function, e.g., 'work'  
or 'home'.",  
    "required" : false,  
    "caseExact" : false,  
    "canonicalValues" : [  
        "work",  
        "home",  
        "other"  
    ],  
    "mutability" : "readWrite",  
    "returned" : "default",  
    "uniqueness" : "none"  
}  
,  
]  
,"mutability" : "readWrite",  
"returned" : "default",  
"uniqueness" : "none"  
},  
{  
    "name" : "groups",  
    "type" : "complex",  
    "multiValued" : true,  
    "description" : "A list of groups to which the user belongs, either through  
direct membership, through nested groups, or dynamically calculated.",  
    "required" : false,  
    "subAttributes" : [  
        {  
            "name" : "value",  
            "type" : "string",  
            "multiValued" : false,  
            "description" : "The value of the group member.",  
            "required" : false,  
            "caseExact" : false,  
            "mutability" : "readWrite",  
            "returned" : "default",  
            "uniqueness" : "none"  
        }  
    ]  
}
```

```
        "multiValued" : false,
        "description" : "The identifier of the User's group.",
        "required" : false,
        "caseExact" : false,
        "mutability" : "readOnly",
        "returned" : "default",
        "uniqueness" : "none"
    },
    {
        "name" : "$ref",
        "type" : "reference",
        "referenceTypes" : [
            "User",
            "Group"
        ],
        "multiValued" : false,
        "description" : "The URI of the corresponding 'Group' resource to which the user belongs.",
        "required" : false,
        "caseExact" : false,
        "mutability" : "readOnly",
        "returned" : "default",
        "uniqueness" : "none"
    },
    {
        "name" : "type",
        "type" : "string",
        "multiValued" : false,
        "description" : "A label indicating the attribute's function, e.g., 'direct' or 'indirect'.",
        "required" : false,
        "caseExact" : false,
        "canonicalValues" : [
            "direct",
            "indirect"
        ],
        "mutability" : "readOnly",
        "returned" : "default",
        "uniqueness" : "none"
    }
],
"mutability" : "readOnly",
"returned" : "default"
},
```

```
{  
    "name" : "roles",  
    "type" : "complex",  
    "multiValued" : true,  
    "description" : "A list of roles for the User that collectively represent who  
the User is, e.g., 'Student', 'Faculty'.",  
    "required" : false,  
    "subAttributes" : [  
        {  
            "name" : "value",  
            "type" : "string",  
            "multiValued" : false,  
            "description" : "The value of a role.",  
            "required" : false,  
            "caseExact" : false,  
            "mutability" : "readWrite",  
            "returned" : "default",  
            "uniqueness" : "none"  
        },  
        {  
            "name" : "type",  
            "type" : "string",  
            "multiValued" : false,  
            "description" : "A label indicating the attribute's function.",  
            "required" : false,  
            "caseExact" : false,  
            "canonicalValues" : [],  
            "mutability" : "readWrite",  
            "returned" : "default",  
            "uniqueness" : "none"  
        },  
        {  
            "name" : "primary",  
            "type" : "boolean",  
            "multiValued" : false,  
            "description" : "A Boolean value indicating the 'primary' or preferred  
attribute value for this attribute. The primary attribute value 'true' MUST appear no  
more than once.",  
            "required" : false,  
            "mutability" : "readWrite",  
            "returned" : "default"  
        }  
    ],  
    "mutability" : "readWrite",
```

```
        "returned" : "default"
    }
],
"meta" : {
    "resourceType" : "Schema",
    "location" :
    "/v2/Schemas/urn:ietf:params:scim:schemas:core:2.0:User"
}
},
{
    "id" : "urn:ietf:params:scim:schemas:core:2.0:Group",
    "name" : "Group",
    "description" : "Group Schema",
    "attributes" : [
        {
            "name" : "displayName",
            "type" : "string",
            "multiValued" : false,
            "description" : "A human-readable name for the Group. REQUIRED.",
            "required" : true,
            "caseExact" : false,
            "mutability" : "readWrite",
            "returned" : "default",
            "uniqueness" : "none"
        },
        {
            "name" : "members",
            "type" : "complex",
            "multiValued" : true,
            "description" : "A list of members of the Group.",
            "required" : false,
            "subAttributes" : [
                {
                    "name" : "value",
                    "type" : "string",
                    "multiValued" : false,
                    "description" : "Identifier of the member of this Group.",
                    "required" : false,
                    "caseExact" : false,
                    "mutability" : "immutable",
                    "returned" : "default",
                    "uniqueness" : "none"
                },
                {

```

```
        "name" : "$ref",
        "type" : "reference",
        "referenceTypes" : [
            "User",
            "Group"
        ],
        "multiValued" : false,
        "description" : "The URI corresponding to a SCIM resource that is a member
of this Group.",
        "required" : false,
        "caseExact" : false,
        "mutability" : "immutable",
        "returned" : "default",
        "uniqueness" : "none"
    },
    {
        "name" : "type",
        "type" : "string",
        "multiValued" : false,
        "description" : "A label indicating the type of resource, e.g., 'User' or
'Group'.",
        "required" : false,
        "caseExact" : false,
        "canonicalValues" : [
            "User",
            "Group"
        ],
        "mutability" : "immutable",
        "returned" : "default",
        "uniqueness" : "none"
    }
],
"mutability" : "readWrite",
"returned" : "default"
}
],
"meta" : {
    "resourceType" : "Schema",
    "location" :
        "/v2/Schemas/urn:ietf:params:scim:schemas:core:2.0:Group"
}
},
{
    "id" : "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User",
```

```
"name" : "EnterpriseUser",
"description" : "Enterprise User Schema",
"attributes" : [
  {
    "name" : "employeeNumber",
    "type" : "string",
    "multiValued" : false,
    "description" : "Numeric or alphanumeric identifier assigned to a person, typically based on order of hire or association with an organization.",
    "required" : false,
    "caseExact" : false,
    "mutability" : "readWrite",
    "returned" : "default",
    "uniqueness" : "none"
  },
  {
    "name" : "costCenter",
    "type" : "string",
    "multiValued" : false,
    "description" : "Identifies the name of a cost center.",
    "required" : false,
    "caseExact" : false,
    "mutability" : "readWrite",
    "returned" : "default",
    "uniqueness" : "none"
  },
  {
    "name" : "organization",
    "type" : "string",
    "multiValued" : false,
    "description" : "Identifies the name of an organization.",
    "required" : false,
    "caseExact" : false,
    "mutability" : "readWrite",
    "returned" : "default",
    "uniqueness" : "none"
  },
  {
    "name" : "division",
    "type" : "string",
    "multiValued" : false,
    "description" : "Identifies the name of a division.",
    "required" : false,
    "caseExact" : false,
```

```
        "mutability" : "readWrite",
        "returned" : "default",
        "uniqueness" : "none"
    },
    {
        "name" : "department",
        "type" : "string",
        "multiValued" : false,
        "description" : "Identifies the name of a department.",
        "required" : false,
        "caseExact" : false,
        "mutability" : "readWrite",
        "returned" : "default",
        "uniqueness" : "none"
    },
    {
        "name" : "manager",
        "type" : "complex",
        "multiValued" : false,
        "description" : "The User's manager. A complex type that optionally allows service providers to represent organizational hierarchy by referencing the 'id' attribute of another User.",
        "required" : false,
        "subAttributes" : [
            {
                "name" : "value",
                "type" : "string",
                "multiValued" : false,
                "description" : "The id of the SCIM resource representing the User's manager. REQUIRED."
            },
            {
                "name" : "$ref",
                "type" : "reference",
                "referenceTypes" : [
                    "User"
                ],
                "multiValued" : false,
```

```
        "description" : "The URI of the SCIM resource representing the User's
manager. REQUIRED.",
        "required" : false,
        "caseExact" : false,
        "mutability" : "readWrite",
        "returned" : "default",
        "uniqueness" : "none"
    },
    {
        "name" : "displayName",
        "type" : "string",
        "multiValued" : false,
        "description" : "The displayName of the User's manager. OPTIONAL and READ-
ONLY.",
        "required" : false,
        "caseExact" : false,
        "mutability" : "readOnly",
        "returned" : "default",
        "uniqueness" : "none"
    }
],
"mutability" : "readWrite",
"returned" : "default"
}
],
"meta" : {
    "resourceType" : "Schema",
    "location" :
    "/v2/Schemas/urn:ietf:params:scim:schemas:extension:enterprise:2.0:User"
}
}
]
```

## ListUsers

This endpoint provides the ability to perform filter queries on an existing list of users through a GET request to /Users by inserting additional filters. A maximum of 100 results can be returned per page. See the **Constraints** section for more information.

## Not supported

The IAM Identity Center SCIM implementation does not support the following aspects of this API operation.

- `startIndex`, `attributes`, and `excludedAttributes` (despite being listed in the SCIM protocol)

## Query Parameters

`ListUsers` currently supports the following optional query parameters:

- `cursor` used to specify the next page for paginated calls
  - Pattern: [-a-zA-Z0-9+=/:\_]\*
  - Response format: Including the `cursor` parameter changes the default response format from non-paginated (with `totalResults`, `startIndex`, and `itemsPerPage` fields) to cursor-based paginated results (with `itemsPerPage` and `nextCursor` fields)
- `count` used to specify the maximum number of results per page
  - Valid Range: Minimum value of 1. Maximum value of 100.
  - Default: 100
- `filter` used to filter out specific users

## Constraints

The IAM Identity Center SCIM implementation has the following constraints for this API operation.

- The `ListUsers` API is capable of returning up to a maximum of 100 results per page.
- Supported filter combinations: (`userName`), (`externalId`), (`groups.value`), (`id` and `manager`), (`manager` and `id`). Note that the use of `id` as an individual filter, though valid, should be avoided as a `getUser` endpoint is already available.
- Pagination requests must include `cursor` in the query parameters
  - The first request made with `cursor` must be empty (eg. <https://.../Users?cursor>)
  - If the response includes a `nextCursor` field, its value can be used as the `cursor` value to retrieve the next page of results

- Paginated calls may return less results than count but as long as nextCursor is present in the response, additional pages are available.
- Supported comparison operator in filters: eq
- Filter must be specified as follows: <filterAttribute> eq "<filterValue>"

## Errors

The following IAM Identity Center SCIM implementation errors are common for this API operation.

Error	Condition	HTTP Status Code
ValidationException	Request cannot be parsed, is syntactically incorrect, or violates schema. This error also occurs if the operation is unsupported, or if filter parameters are changed between pagination requests.	400
UnauthorizedException	Authorization header is invalid or missing. This error also occurs if the tenant ID is incorrect.	401
AccessDeniedException	Operation is not permitted based on the supplied authorization.	403
ThrottlingException	Too many requests exceeded the limits.	429
InternalServerException	Service failed to process the request.	500

# Pagination Examples

## Example Request For First Page

### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Users?cursor  
Authorization: Bearer <bearer_token>
```

### Example Response

```
{  
  "itemsPerPage": 100,  
  "nextCursor": "VGVzdFVzZXJDdXJzb3I",  
  "schemas": [  
    "urn:ietf:params:scim:api:messages:2.0>ListResponse"  
  ],  
  "Resources": [  
    ...  
  ]  
}
```

## Example Request For Getting the Next Page

*Note: the example does not include a nextCursor field since the current page is the last page of results*

### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Users?  
cursor=VGVzdFVzZXJDdXJzb3I  
Authorization: Bearer <bearer_token>
```

### Example Response

```
{  
  "itemsPerPage": 100,  
  "schemas": [  
    "urn:ietf:params:scim:api:messages:2.0>ListResponse"  
  ],  
  "Resources": [  
    ...  
  ]  
}
```

```
]  
}
```

## Examples

Following are example requests and responses for this API operation.

### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Users  
User-Agent: Mozilla/5.0  
Authorization: Bearer <bearer_token>
```

### Example Response

```
HTTP/1.1 200  
Date: Thu, 23 Jul 2020 00:15:28 GMT  
Content-Type: application/json  
x-amzn-RequestId: 88204ccc-30cd-4010-b3ac-b4a12cc31e8b  
  
{  
    "totalResults": 5,  
    "itemsPerPage": 5,  
    "startIndex": 1,  
    "schemas": [  
        "urn:ietf:params:scim:api:messages:2.0>ListResponse"  
    ],  
    "Resources": [  
        {  
            "id": "90677c608a-7afcdc23-0bd4-4fb7-b2ff-10ccffdff447",  
            "externalId": "702135",  
            "meta": {  
                "resourceType": "User",  
                "created": "2020-07-22T22:32:58Z",  
                "lastModified": "2020-07-22T22:32:58Z"  
            },  
            "schemas": [  
                "urn:ietf:params:scim:schemas:core:2.0:User",  
                "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User"  
            ],  
            "userName": "mjack",  
            "name": {  
                "familyName": "Mark",  
                "givenName": "Mark"  
            }  
        }  
    ]  
}
```

```
        "givenName": "Jackson",
        "honorificPrefix": "Mr.",
        "honorificSuffix": "I"
    },
    "displayName": "mjack",
    "nickName": "Mark",
    "active": false,
    "emails": [
        {
            "value": "mjack@example.com",
            "type": "work",
            "primary": true
        }
    ],
    "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User": {
        "manager": {
            "value": "9067729b3d-ee533c18-538a-4cd3-a572-63fb863ed734"
        }
    }
},
{
    "id": "90677c608a-787142a0-3f27-4cd3-afb6-8aed7ce87094",
    "externalId": "705167",
    "meta": {
        "resourceType": "User",
        "created": "2020-07-22T22:34:55Z",
        "lastModified": "2020-07-22T22:34:55Z"
    },
    "schemas": [
        "urn:ietf:params:scim:schemas:core:2.0:User",
        "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User"
    ],
    "userName": "druss",
    "name": {
        "familyName": "Daniel",
        "givenName": "Russell",
        "honorificPrefix": "Mr.",
        "honorificSuffix": "I"
    },
    "displayName": "danrussell",
    "nickName": "Dan",
    "active": false,
    "emails": [
        {

```

```
        "value": "druss@example.com",
        "type": "work",
        "primary": true
    },
],
"urn:ietf:params:scim:schemas:extension:enterprise:2.0:User": {
    "manager": {
        "value": "9067729b3d-ee533c18-538a-4cd3-a572-63fb863ed734"
    }
},
{
    "id": "90677c608a-229f7eb1-c07d-4c21-a5fd-769bf2e8c5c9",
    "externalId": "2",
    "meta": {
        "resourceType": "User",
        "created": "2020-07-22T23:51:45Z",
        "lastModified": "2020-07-22T23:51:45Z"
    },
    "schemas": [
        "urn:ietf:params:scim:schemas:core:2.0:User"
    ],
    "userName": "tzhang",
    "name": {
        "familyName": "Terry",
        "givenName": "Zhang"
    },
    "displayName": "Terry Zhang",
    "active": false,
    "emails": [
        {
            "value": "tzhang@example.com",
            "type": "work",
            "primary": true
        }
    ]
},
{
    "id": "90677c608a-685d5bf3-efab-48c8-b3b1-648fc5c5d980",
    "externalId": "701985",
    "meta": {
        "resourceType": "User",
        "created": "2020-07-22T22:17:47Z",
        "lastModified": "2020-07-22T22:17:47Z"
```

```
},
"schemas": [
    "urn:ietf:params:scim:schemas:core:2.0:User",
    "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User"
],
"userName": "jdoe",
"name": {
    "familyName": "John",
    "givenName": "Doe",
    "honorificPrefix": "Mr.",
    "honorificSuffix": "III"
},
"displayName": "jdoe",
"nickName": "Johnny",
"active": false,
"emails": [
    {
        "value": "johndoe@example.com",
        "type": "work",
        "primary": true
    }
],
"urn:ietf:params:scim:schemas:extension:enterprise:2.0:User": {
    "manager": {
        "value": "9067729b3d-ee533c18-538a-4cd3-a572-63fb863ed734"
    }
}
],
{
    "id": "90677c608a-9683e752-a6fd-4935-b6b8-3fe26a202f21",
    "externalId": "702138",
    "meta": {
        "resourceType": "User",
        "created": "2020-07-22T22:38:11Z",
        "lastModified": "2020-07-22T22:38:11Z"
    },
    "schemas": [
        "urn:ietf:params:scim:schemas:core:2.0:User",
        "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User"
    ],
    "userName": "hmack",
    "name": {
        "familyName": "Henry",
        "givenName": "Mackenzie",
    }
}
```

```
        "honorificPrefix": "Mr.",
        "honorificSuffix": "I"
    },
    "displayName": "hmack",
    "nickName": "Henry",
    "active": false,
    "emails": [
        {
            "value": "hmack@example.com",
            "type": "work",
            "primary": true
        }
    ],
    "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User": {
        "manager": {
            "value": "9067729b3d-ee533c18-538a-4cd3-a572-63fb863jd956"
        }
    }
}
]
```

## Filter examples

The following four different filter combinations are supported.

- `externalId`
- `userName`
- `groups.value`
- `id and manager`
- `manager and id`

The filters can be applied in the formats as shown.

### Single filter

```
filter=<filterAttribute> eq "<filterValue>"
```

### Two filters

```
filter=<filterAttribute1> eq "<filterValue1>" and <filterAttribute2> eq  
"<filterValue2>"
```

## externalId

### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Users?filter=externalId eq  
"705167"  
User-Agent: Mozilla/5.0  
Authorization: Bearer <bearer_token>
```

### Example Response

```
HTTP/1.1 200  
Date: Wed, 22 Jul 2020 22:57:01 GMT  
Content-Type: application/json  
x-amzn-RequestId: c482800a-f6ba-4979-91d0-72d3a7b496cb  
  
{  
    "totalResults": 1,  
    "itemsPerPage": 1,  
    "startIndex": 1,  
    "schemas": [  
        "urn:ietf:params:scim:api:messages:2.0>ListResponse"  
    ],  
    "Resources": [  
        {  
            "id": "90677c608a-787142a0-3f27-4cd3-afb6-8aed7ce87094",  
            "externalId": "705167",  
            "meta": {  
                "resourceType": "User",  
                "created": "2020-07-22T22:34:55Z",  
                "lastModified": "2020-07-22T22:34:55Z"  
            },  
            "schemas": [  
                "urn:ietf:params:scim:schemas:core:2.0:User",  
                "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User"  
            ],  
            "userName": "druss",  
            "name": {  
                "familyName": "Daniel",  
                "givenName": "Daniel"  
            }  
        }  
    ]  
}
```

```
        "givenName": "Russell",
        "honorificPrefix": "Mr.",
        "honorificSuffix": "I"
    },
    "displayName": "danrussell",
    "nickName": "Dan",
    "active": false,
    "emails": [
        {
            "value": "druss@example.com",
            "type": "work",
            "primary": true
        }
    ],
    "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User": {
        "manager": {
            "value": "9067729b3d-ee533c18-538a-4cd3-a572-63fb863ed734"
        }
    }
}
]
```

## userName

### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Users?filter=user_name eq
"jdoe"
User-Agent: Mozilla/5.0
Authorization: Bearer <bearer_token>
```

### Example Response

```
HTTP/1.1 200
Date: Wed, 22 Jul 2020 22:53:33 GMT
Content-Type: application/json
x-amzn-RequestId: a8764ca2-899f-4362-871d-3f255671ca1f

{
    "totalResults": 1,
    "itemsPerPage": 1,
    "startIndex": 1,
```

```
"schemas": [
    "urn:ietf:params:scim:api:messages:2.0>ListResponse"
],
"Resources": [
{
    "id": "90677c608a-685d5bf3-efab-48c8-b3b1-648fc5c5d980",
    "externalId": "701985",
    "meta": {
        "resourceType": "User",
        "created": "2020-07-22T22:17:47Z",
        "lastModified": "2020-07-22T22:17:47Z"
    },
    "schemas": [
        "urn:ietf:params:scim:schemas:core:2.0:User",
        "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User"
    ],
    "userName": "jdoe",
    "name": {
        "familyName": "John",
        "givenName": "Doe",
        "honorificPrefix": "Mr.",
        "honorificSuffix": "III"
    },
    "displayName": "jdoe",
    "nickName": "Johnny",
    "active": false,
    "emails": [
        {
            "value": "johndoe@example.com",
            "type": "work",
            "primary": true
        }
    ],
    "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User": {
        "manager": {
            "value": "9067729b3d-ee533c18-538a-4cd3-a572-63fb863ed734"
        }
    }
}
]
```

## groups.value

### Example Request Without Pagination

#### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Users?filter=groups.value
eq "0458a488-2081-4b0b-3e4b2b10ddb5"
Authorization: Bearer <bearer_token>
```

#### Example Response

```
{
  "totalResults": 100,
  "itemsPerPage": 100,
  "startIndex": 1,
  "schemas": [
    "urn:ietf:params:scim:api:messages:2.0>ListResponse"
  ],
  "Resources": [
    {
      "id": "5418a458-c0a1-7066-bdd4-9ea543c0cf6d",
      "externalId": "eid_XftxVGp61hDs6Dugey2R",
      "meta": {
        "resourceType": "User",
        "created": "2025-07-30T17:13:10Z",
        "lastModified": "2025-07-30T17:13:10Z"
      },
      "schemas": [
        "urn:ietf:params:scim:schemas:core:2.0:User",
        "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User"
      ],
      "userName": "username_XftxVGp61hDs6Dugey2R",
      "name": {
        "formatted": "formatted_XftxVGp61hDs6Dugey2R",
        "familyName": "familyname_XftxVGp61hDs6Dugey2R",
        "givenName": "givenname_XftxVGp61hDs6Dugey2R",
        "middleName": "middlename_XftxVGp61hDs6Dugey2R",
        "honorificPrefix": "Ms.",
        "honorificSuffix": "III"
      },
      "displayName": "displayname_XftxVGp61hDs6Dugey2R",
      "nickName": "nickName_XftxVGp61hDs6Dugey2R",
    }
  ]
}
```

```
"title": "Tour Guide",
"userType": "Employee",
"preferredLanguage": "en-US",
"locale": "en-US",
"timezone": "America/Los_Angeles",
"active": true,
"emails": [
  {
    "value": "XftxVGp61hDs6Dugey2R@example.com",
    "type": "work",
    "primary": true
  }
],
"addresses": [
  {
    "formatted": "100 Universal City Plaza Hollywood, CA 91608 USA",
    "streetAddress": "100 Universal City Plaza",
    "locality": "Hollywood",
    "region": "CA",
    "postalCode": "91608",
    "country": "USA",
    "type": "work",
    "primary": true
  }
],
"phoneNumbers": [
  {
    "value": "555-555-5555",
    "type": "work",
    "primary": true
  }
],
"urn:ietf:params:scim:schemas:extension:enterprise:2.0:User": {
  "employeeNumber": "employeeNumber_XftxVGp61hDs6Dugey2R",
  "costCenter": "4130",
  "organization": "Universal Studios",
  "division": "Theme Park",
  "department": "Tour Operations"
},
},
...
]
}
```

## Example Request With Pagination

### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Users?  
cursor&filter=groups.value eq "0458a488-2081-4b0b-3e4b2b10ddb5"  
Authorization: Bearer <bearer_token>
```

### Example Response

```
{  
  "itemsPerPage": 100,  
  "nextCursor": "Q3Vyc29yVXNlckZpbHRlcg",  
  "schemas": [  
    "urn:ietf:params:scim:api:messages:2.0>ListResponse"  
,  
  "Resources": [  
    ...  
  ]  
}
```

## Example Request For Getting the Next Page

### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/  
Users?cursor=Q3Vyc29yVXNlckZpbHRlcg&filter=groups.value eq  
"0458a488-2081-4b0b-3e4b2b10ddb5"  
Authorization: Bearer <bearer_token>
```

### Example Response

```
{  
  "itemsPerPage": 10,  
  "schemas": [  
    "urn:ietf:params:scim:api:messages:2.0>ListResponse"  
,  
  "Resources": [  
    ...  
  ]  
}
```

## User id and manager

Both id and manager can be used together, and their order can be interchanged.

### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Users?filter=id eq "90677c608a-7afcdc23-0bd4-4fb7-b2ff-10ccffdff447" and manager eq "9067729b3d-ee533c18-538a-4cd3-a572-63fb863ed734"
User-Agent: Mozilla/5.0
Authorization: Bearer <bearer_token>
```

### Example Response

```
HTTP/1.1 200
Date: Wed, 22 Jul 2020 22:42:29 GMT
Content-Type: application/json
x-amzn-RequestId: 23178777-466c-44fb-b5b4-7efc12a766aa
{
    "totalResults": 1,
    "itemsPerPage": 1,
    "startIndex": 1,
    "schemas": [
        "urn:ietf:params:scim:api:messages:2.0>ListResponse"
    ],
    "Resources": [
        {
            "id": "90677c608a-7afcdc23-0bd4-4fb7-b2ff-10ccffdff447",
            "externalId": "702135",
            "meta": {
                "resourceType": "User",
                "created": "2020-07-22T22:32:58Z",
                "lastModified": "2020-07-22T22:32:58Z"
            },
            "schemas": [
                "urn:ietf:params:scim:schemas:core:2.0:User",
                "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User"
            ],
            "userName": "mjack",
            "name": {
                "familyName": "Mark",
                "givenName": "Jackson",
                "honorificPrefix": "Mr."
            }
        }
    ]
}
```

```
        "honorificSuffix": "I"
    },
    "displayName": "mjack",
    "nickName": "Mark",
    "active": false,
    "emails": [
        {
            "value": "mjack@example.com",
            "type": "work",
            "primary": true
        }
    ],
    "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User": {
        "manager": {
            "value": "9067729b3d-ee533c18-538a-4cd3-a572-63fb863ed734"
        }
    }
}
]
```

## PatchGroup

Existing groups can be updated by calling upon the PATCH operation to replace specific attribute values. For more information, see the **Examples** section.

## Not supported

The IAM Identity Center SCIM implementation does not support the following aspects of this API operation.

- If you attempt to replace or remove all group memberships as part of a single request the result will be a **ValidationException** (HTTP/400).

## Constraints

The IAM Identity Center SCIM implementation has the following constraints for this API operation.

- Only `displayName`, `members`, and `externalId` attributes are allowed in the request.
- A maximum of 100 membership changes are allowed in a single request.

## Errors

The following IAM Identity Center SCIM implementation errors are common for this API operation.

Error	Condition	HTTP Status Code
ValidationException	Request cannot be parsed, is syntactically incorrect, or violates schema. This error also occurs if the operation is unsupported.	400
UnauthorizedException	Authorization header is invalid or missing. This error also occurs if the tenant ID is incorrect.	401
AccessDeniedException	Operation is not permitted based on the supplied authorization.	403
ResourceNotFoundException	Specified group does not exist.	404
ThrottlingException	Too many requests exceeded the limits.	429
InternalServerException	Service failed to process the request.	500

## Examples

Following are example requests and responses for this API operation.

### Example Request

```
PATCH https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Groups/9067729b3d-f987ac4d-a175-44f0-a528-6d23c5d2ec4d
User-Agent: Mozilla/5.0
```

```
Authorization: Bearer <bearer_token>

{
  "schemas": ["urn:ietf:params:scim:api:messages:2.0:PatchOp"],
  "Operations": [
    {
      "op": "replace",
      "path": "displayName",
      "value": "Developers"
    }
  ]
}
```

## Example Response

```
HTTP/1.1 204
Date: Tue, 07 Apr 2020 23:59:09 GMT
Content-Type: application/json
x-amzn-RequestId: dad0c91c-1ea8-4b36-9fdb-4f099b59c1c9
```

## Member operations examples

The following member operations are supported using the patch operation for a group.

- Add members to a group
- Remove members from a group

These member operations can be applied using the examples below.

### Add members to a group

In the value field, provide a list of objects containing the value of the user **id**. Multiple members can be added at a time. For example, if you have a user with the **id** `906722b2be-ee23ed58-6e4e-4b2f-a94a-3ace8456a36c` that you want to add to the group with an **id** of `9067729b3d-f987ac4d-a175-44f0-a528-6d23c5d2ec4d`, use the following call:

### Example Request

```
PATCH https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Groups/9067729b3d-f987ac4d-a175-44f0-a528-6d23c5d2ec4d
```

```
User-Agent: Mozilla/5.0
Authorization: Bearer <bearer_token>

{
  "schemas": [
    "urn:ietf:params:scim:api:messages:2.0:PatchOp"
  ],
  "Operations": [
    {
      "op": "add",
      "path": "members",
      "value": [
        {
          "value": "906722b2be-ee23ed58-6e4e-4b2f-a94a-3ace8456a36c"
        }
      ]
    }
  ]
}
```

## Example Response

```
HTTP/1.1 204
Date: Mon, 21 Sep 2020 16:39:26 GMT
Content-Type: application/json
x-amzn-RequestId: 1e9abe4c-b6e1-4d3b-bb86-73ca6187e08b
```

## Remove members from a group

In the value field, provide a list of objects containing the value of the user id. Multiple members can be removed at a time, but you can remove up to 100 members in one API call, and providing an empty list in the request (with the intent of deleting all) is not supported.

For example, if you want to remove two users, one with the **id** 906722b2be-61c204e7-56d0-4dad-882d-f41911b31ccb and another with the **id** 906722b2be-da1f7ef3-3e37-473e-95be-df2efaa2590d, use the following call:

## Example Request

```
PATCH https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Groups/9067729b3d-f987ac4d-a175-44f0-a528-6d23c5d2ec4d
User-Agent: Mozilla/5.0
```

```
Authorization: Bearer <bearer_token>

{
  "schemas": [
    "urn:ietf:params:scim:api:messages:2.0:PatchOp"
  ],
  "Operations": [
    {
      "op": "remove",
      "path": "members",
      "value": [
        {
          "value": "906722b2be-61c204e7-56d0-4dad-882d-f41911b31ccb"
        },
        {
          "value": "906722b2be-da1f7ef3-3e37-473e-95be-df2efaa2590d"
        }
      ]
    }
  ]
}
```

## Example Response

```
HTTP/1.1 204
Date: Mon, 21 Sep 2020 17:03:29 GMT
Content-Type: application/json
x-amzn-RequestId: 3f89b66d-77e1-4128-a0c3-a890e72f5d4c
```

## PatchUser

The /Users endpoint allows a PATCH request to be made for partial changes to an existing user. In the body of the request, the target attribute and its new value must be specified as shown in the Examples section.

## Not supported

The IAM Identity Center SCIM implementation does not support the following aspects of this API operation.

- Multiple PATCH operations on `userName` or `active` attribute

- `ims`, `photos`, `x509Certificates`, `entitlements`, and `password` field
- `displayName` subattribute for `manager`
- `display` subattribute for `emails`, `addresses`, and `phoneNumbers`

## Constraints

The IAM Identity Center SCIM implementation has the following constraints for this API operation.

- The supported operations are `add`, `replace`, and `remove`.
- The operation must be specified.
- The path is required for a `remove` operation.
- A value is required for `add` and `replace`.
- Modification is only allowed for the `userName`, `active`, `externalId`, `displayName`, `nickName`, `profileUrl`, `title`, `userType`, `preferredLanguage`, `locale`, `timezone`, `name`, `enterprise`, `emails`, `addresses`, and `phoneNumbers` attributes.
- Only the `eq` operator is supported in filters.
- The `remove` patch operation is not supported for `userName` or `active` attributes.
- We do not support having multi-valued attributes (such as `emails`, `addresses`, `phoneNumbers`). Only one value is permitted for each of those attributes.

## Errors

The following IAM Identity Center SCIM implementation errors are common for this API operation.

Error	Condition	HTTP Status Code
<code>ValidationException</code>	Request cannot be parsed, is syntactically incorrect, or violates schema. This error also occurs if the operation is unsupported.	400
<code>UnauthorizedException</code>	Authorization header is invalid or missing. This error	401

Error	Condition	HTTP Status Code
	also occurs if the tenant ID is incorrect.	
AccessDeniedException	Operation is not permitted based on the supplied authorization.	403
ResourceNotFoundException	Specified user does not exist.	404
ConflictException	User already exists.	409
ThrottlingException	Too many requests exceeded the limits.	429
InternalServerException	Service failed to process the request.	500

## Examples

Following are example requests and responses for this API operation.

### Example Request

```
PATCH https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/
Users/9067729b3d-94f1e0b3-c394-48d5-8ab1-2c122a167074
User-Agent: Mozilla/5.0
Authorization: Bearer <bearer_token>

{
  "schemas": [
    "urn:ietf:params:scim:api:messages:2.0:PatchOp"
  ],
  "Operations": [
    {
      "op": "replace",
      "path": "active",
      "value": "false"
    }
  ]
}
```

```
]  
}
```

## Example Response

```
HTTP/1.1 200  
Date: Tue, 31 Mar 2020 02:36:15 GMT  
Content-Type: application/json  
x-amzn-RequestId: abbf9e53-9ecc-46d2-8efe-104a66ff128f  
{  
    "id": "9067729b3d-94f1e0b3-c394-48d5-8ab1-2c122a167074",  
    "externalId": "701984",  
    "meta": {  
        "resourceType": "User",  
        "created": "2020-03-31T02:36:15Z",  
        "lastModified": "2020-04-03T06:02:47Z"  
    },  
    "schemas": [  
        "urn:ietf:params:scim:schemas:core:2.0:User",  
        "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User"  
    ],  
    "userName": "bjensen",  
    "name": {  
        "formatted": "Ms. Barbara J Jensen, III",  
        "familyName": "Jensen",  
        "givenName": "Barbara",  
        "middleName": "Jane",  
        "honorificPrefix": "Ms.",  
        "honorificSuffix": "III"  
    },  
    "displayName": "Babs Jensen",  
    "nickName": "Bas",  
    "title": "Tour Guide",  
    "userType": "Employee",  
    "preferredLanguage": "en-US",  
    "locale": "en-US",  
    "timezone": "America/Los_Angeles",  
    "active": false,  
    "emails": [  
        {  
            "value": "bjensen@example.com",  
            "type": "work",  
            "primary": true
```

```
        },
      ],
      "addresses": [
        {
          "formatted": "100 Universal City Plaza Hollywood, CA 91608 USA",
          "streetAddress": "100 Universal City Plaza",
          "locality": "Hollywood",
          "region": "CA",
          "postalCode": "91608",
          "country": "USA",
          "type": "work",
          "primary": true
        }
      ],
      "phoneNumbers": [
        {
          "value": "555-555-5555",
          "type": "work"
        }
      ],
      "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User": {
        "employeeNumber": "701984",
        "costCenter": "4130",
        "organization": "Universal Studios",
        "division": "Theme Park",
        "department": "Tour Operations",
        "manager": {
          "value": "9067729b3d-ee533c18-538a-4cd3-a572-63fb863ed734"
        }
      }
    }
  }
```

## PutUser

An existing user can be overwritten by making a PUT request to the /Users endpoint with the user ID.

## Not supported

The IAM Identity Center SCIM implementation does not support the following aspects of this API operation.

- `ims`, `photos`, `x509Certificates`, `entitlements`, and `password` attributes
- `displayName` subattribute for `manager`
- `display` subattribute for `emails`, `addresses`, and `phoneNumbers`

## Constraints

The IAM Identity Center SCIM implementation has the following constraints for this API operation.

- `givenName`, `familyName`, `userName`, and `displayName` are required.
- The `addresses` field can contain letters, accented characters, symbols, numbers, punctuation, space (normal and nonbreaking).
- IAM Identity Center does not support multiple values in multi-value attributes (such as `emails`, `addresses`, `phoneNumbers`). Only single values are permitted.
- The `emails` attribute value must be marked as primary.
- `groups` cannot be specified with `createUser` request.
- The `userName` field can contain letters, accented characters, symbols, numbers, punctuation, space (normal and nonbreaking).

## Errors

The following IAM Identity Center SCIM implementation errors are common for this API operation.

Error	Condition	HTTP Status Code
<code>ValidationException</code>	Request cannot be parsed, is syntactically incorrect, or violates schema. This error also occurs if the operation is unsupported.	400
<code>UnauthorizedException</code>	Authorization header is invalid or missing. This error also occurs if the tenant ID is incorrect.	401

Error	Condition	HTTP Status Code
AccessDeniedException	Operation is not permitted based on the supplied authorization.	403
ConflictException	User already exists.	409
ThrottlingException	Too many requests exceeded the limits.	429
InternalServerException	Service failed to process the request.	500

## Examples

Following are example requests and responses for this API operation.

### Example Request

```
PUT https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/Users/9067729b3d-94f1e0b3-c394-48d5-8ab1-2c122a167074
User-Agent: Mozilla/5.0
Authorization: Bearer <bearer_token>

{
  "id": "9067729b3d-94f1e0b3-c394-48d5-8ab1-2c122a167074",
  "externalId": "701984",
  "userName": "bjensen",
  "name": {
    "formatted": "Ms. Barbara J Jensen, III",
    "familyName": "Jensen",
    "givenName": "Barbara",
    "middleName": "Jane",
    "honorificPrefix": "Ms.",
    "honorificSuffix": "III"
  },
  "displayName": "Babs Jensen",
  "nickName": "BabJ",
  "profileUrl": "https://login.example.com/bjensen",
  "emails": [
```

```
{  
    "value": "bjensen@example.com",  
    "type": "work",  
    "primary": true  
},  
"addresses": [  
    {  
        "type": "work",  
        "streetAddress": "100 Universal City Plaza",  
        "locality": "Hollywood",  
        "region": "CA",  
        "postalCode": "91608",  
        "country": "USA",  
        "formatted": "100 Universal City Plaza Hollywood, CA 91608 USA",  
        "primary": true  
    }  
,  
"phoneNumbers": [  
    {  
        "value": "555-555-5555",  
        "type": "work"  
    }  
,  
"userType": "Employee",  
"title": "Tour Guide",  
"preferredLanguage": "en-US",  
"locale": "en-US",  
"timezone": "America/Los_Angeles",  
"active":true,  
"urn:ietf:params:scim:schemas:extension:enterprise:2.0:User": {  
    "employeeNumber": "701984",  
    "costCenter": "4130",  
    "organization": "Universal Studios",  
    "division": "Theme Park",  
    "department": "Tour Operations",  
    "manager": {  
        "value": "9067729b3d-ee533c18-538a-4cd3-a572-63fb863ed734",  
        "$ref": "../Users/9067729b3d-ee533c18-538a-4cd3-a572-63fb863ed734"  
    }  
}  
}
```

## Example Response

```
HTTP/1.1 201
Date: Tue, 31 Mar 2020 02:36:15 GMT
Content-Type: application/json
x-amzn-RequestId: abbf9e53-9ecc-46d2-8efe-104a66ff128f

{
    "id": "9067729b3d-94f1e0b3-c394-48d5-8ab1-2c122a167074",
    "externalId": "701984",
    "meta": {
        "resourceType": "User",
        "created": "2020-03-31T02:36:15Z",
        "lastModified": "2020-03-31T02:36:15Z"
    },
    "schemas": [
        "urn:ietf:params:scim:schemas:core:2.0:User",
        "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User"
    ],
    "userName": "bjensen",
    "name": {
        "formatted": "Ms. Barbara J Jensen, III",
        "familyName": "Jensen",
        "givenName": "Barbara",
        "middleName": "Jane",
        "honorificPrefix": "Ms.",
        "honorificSuffix": "III"
    },
    "displayName": "Babs Jensen",
    "nickName": "BabJ",
    "title": "Tour Guide",
    "userType": "Employee",
    "preferredLanguage": "en-US",
    "locale": "en-US",
    "timezone": "America/Los_Angeles",
    "active": true,
    "emails": [
        {
            "value": "bjensen@example.com",
            "type": "work",
            "primary": true
        }
    ],
    "addresses": [
```

```
{  
    "formatted": "100 Universal City Plaza Hollywood, CA 91608 USA",  
    "streetAddress": "100 Universal City Plaza",  
    "locality": "Hollywood",  
    "region": "CA",  
    "postalCode": "91608",  
    "country": "USA",  
    "type": "work",  
    "primary": true  
}  
,  
"phoneNumbers": [  
    {  
        "value": "555-555-5555",  
        "type": "work"  
    }  
,  
"urn:ietf:params:scim:schemas:extension:enterprise:2.0:User": {  
    "employeeNumber": "701984",  
    "costCenter": "4130",  
    "organization": "Universal Studios",  
    "division": "Theme Park",  
    "department": "Tour Operations",  
    "manager": {  
        "value": "9067729b3d-ee533c18-538a-4cd3-a572-63fb863ed734"  
    }  
}  
}  
}
```

## ServiceProviderConfig

You can use the /ServiceProviderConfig endpoint for GET requests to view additional information about the IAM Identity Center SCIM implementation. The /ServiceProviderConfig endpoint is read only.

### Not supported

The IAM Identity Center SCIM implementation does not support the following aspects of this API operation.

- None

## Constraints

The IAM Identity Center SCIM implementation has the following constraints for this API operation.

- None

## Errors

The following IAM Identity Center SCIM implementation errors are common for this API operation.

Error	Condition	HTTP Status Code
UnauthorizedException	Authorization header is invalid or missing. This error also occurs if the tenant ID is incorrect.	401
AccessDeniedException	Operation is not permitted based on the supplied authorization.	403
ThrottlingException	Too many requests were made that exceed the limits.	429
InternalServerException	Service failed to process the request.	500

## Examples

Following are example requests and responses for this API operation.

### Example Request

```
GET https://scim.us-east-1.amazonaws.com/{tenant_id}/scim/v2/ServiceProviderConfig  
User-Agent: Mozilla/5.0  
Authorization: Bearer <bearer_token>
```

## Example Response

```
HTTP/1.1 200
Date: Thu, 13 Aug 2020 21:11:26 GMT
Content-Type: application/json
x-amzn-RequestId: d0f671f1-3217-4b0f-b310-82a0b6861967
{
  "schemas": [
    "urn:ietf:params:scim:schemas:core:2.0:ServiceProviderConfig"
  ],
  "documentationUri": "https://docs.aws.amazon.com/singlesignon/latest/userguide/manage-your-identity-source-idp.html",
  "authenticationSchemes": [
    {
      "type": "oauthbearertoken",
      "name": "OAuth Bearer Token",
      "description": "Authentication scheme using the OAuth Bearer Token Standard",
      "specUri": "https://www.rfc-editor.org/info/rfc6750",
      "documentationUri": "https://docs.aws.amazon.com/singlesignon/latest/userguide/provision-automatically.html",
      "primary": true
    }
  ],
  "patch": {
    "supported": true
  },
  "bulk": {
    "supported": false,
    "maxOperations": 1,
    "maxPayloadSize": 1048576
  },
  "filter": {
    "supported": true,
    "maxResults": 50
  },
  "changePassword": {
    "supported": false
  },
  "sort": {
    "supported": false
  },
  "etag": {
    "supported": false
  }
```

```
    }  
}
```

# Making API Requests

IAM Identity Center SCIM implementation supports the bearer HTTP authentication scheme. An access token (also known as a bearer token) must be passed in the HTTP Authorization header of each request to your SCIM endpoint. See [Considerations for using automatic provisioning](#) in the *IAM Identity Center User Guide* for instructions on generating and retrieving your access token.

Other authentication schemes described in the SCIM specifications are not supported at this time.

# Limitations from SCIM specification

The IAM Identity Center SCIM implementation supports only a subset of the SCIM specifications. This section lists the limitations that the IAM Identity Center SCIM implementation has in comparison to the SCIM specifications. These include the following:

- **Filter limitations** – Only eq with and is supported. We currently do not support any other filters.
- **Endpoint limitations** – Some SCIM protocol endpoints are not supported, such as /Me, /Bulk, and /Search. IAM Identity Center supports /ServiceProviderConfig. However, /Schemas and /ResourceTypes are currently supported.
- **Attribute limitations** – IAM Identity Center currently does not support multi-valued attributes in general for users. Examples include multiple emails, addresses, and phone numbers.
- **Functionality limitations** – The PatchGroup API doesn't support remove all or replace operations.

In addition, IAM Identity Center also has some attributes that are not supported. The following tables describe which attributes are currently supported.

## User attributes – Single valued

Attribute	Subattributes (if applicable)	Supported
userName		Yes
name	formatted	Yes
	familyName	Yes
	givenName	Yes
	middleName	Yes
	honorificPrefix	Yes
	honorificSuffix	Yes
displayName		Yes

Attribute	Subattributes (if applicable)	Supported
nickName		Yes
profileUrl		Yes
title		Yes
userType		Yes
preferredLanguage		Yes
locale		Yes
timezone		Yes
active		Yes
password		No

## User attributes – Multi-valued

Attribute	Subattributes (if applicable)	Supported
emails		Partial (single value only)
	display	No
	type	Yes
	values	Yes
	primary	Yes
phoneNumbers		Partial (single value only)
	display	No
	type	Yes

Attribute	Subattributes (if applicable)	Supported
	values	Yes
ims		No
photos		No
addresses		Yes (single value only)
	formatted	Yes
	streetAddress	Yes
	locality	Yes
	region	Yes
	postalCode	Yes
	Country	Yes
groups		No
entitlements		No
roles		Yes
x509Certificates		No

## Group resource schema attributes – Single value

Attribute	Supported
displayName	Yes

## Group resource schema attributes – Multi-value

Attribute	Subattributes (if applicable)	Supported
members		Yes, but cannot be read in a response
	value	Yes
	type	Yes
	\$ref	Yes
	display	No

The [GetGroup](#) and [ListGroups](#) return an empty member list. To see group information for a certain member, call [ListGroups](#) with a member filter.

### Enterprise user schema extension attributes – Single value

Attribute	Subattributes (if applicable)	Supported
employeeNumber		Yes
costCenter		Yes
organization		Yes
division		Yes
department		Yes
manager	value	Yes
	\$ref	Yes
	displayName	No

# Document History

The following table describes the important changes to the documentation in this release of the *IAM Identity Center SCIM Implementation Developer Guide*.

- **Latest documentation update:** July 26, 2022

Change	Description	Date Changed
Added ListResources and ListSchemas	Added the following API operations <a href="#">ListResources</a> and <a href="#">ListSchemas</a> .	February 7, 2024
AWS Single Sign-On (AWS SSO) renamed to AWS IAM Identity Center	AWS introduces AWS IAM Identity Center. IAM Identity Center expands the capabilities of AWS Identity and Access Management (IAM) to help you centrally manage account and access to cloud applications for your workforce users. For more information, see <a href="#">IAM Identity Center rename</a> .	July 26, 2022
Updates to GetGroup and ListGroups	Added information about what's not supported for GetGroup. Fixed a typo in ListGroups.	March 18, 2022
Updates to CreateGroup	Added a constraint for the maximum members allowed in a single request.	March 1, 2022
Updates to PatchUser	Added nickName to the bullet covering which modifications are allowed.	February 1, 2022
Updates to ListUsers and ListGroups	Added information about 50 maximum results returned.	April 9, 2021
Updates to PatchGroup and added new topic	Added member operations examples to PatchGroup and added new Making API Requests topic.	September 28, 2020

Change	Description	Date Changed
New guide	This is the first release of the <i>IAM Identity Center SCIM Implementation Developer Guide</i> .	August 27, 2020

# AWS Glossary

For the latest AWS terminology, see the [AWS glossary](#) in the *AWS Glossary Reference*.