

An abstract background featuring a collection of 3D rectangular blocks in white, grey, and red, arranged in a staggered, overlapping pattern that creates a sense of depth and movement.

FUJITSU Cloud Service K5 IaaS API Reference (Management Administration)

Version 1.7
FUJITSU LIMITED

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Preface

Structure of the manuals

Manual Title	Purposes and Methods of Use
IaaS API Reference • Foundation Service • Network • Application Platform Service • Management Administration (this document) • Contract Management	Detailed reference for using the REST API.
IaaS Features Handbook	Explains the features provided by this service.
IaaS API User Guide	Explains how to use the REST API, how to build the API runtime environment, and sample scripts according to usage sequences, etc.
IaaS Heat Template Specifications	This document explains the format of the Heat Orchestration Template (HOT) that you create in order to use the orchestration function.
IaaS Service Portal User Guide	This document explains how to use the functions provided by this service via Service Portal (Web GUI).
K5 Portal User Guide	This document explains how to use the functions, including registration and user information management, provided by K5 Portal.

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Revision History

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Part 1: Management

Topics:

- *Management*

1.1 Management

1.1.1 Management

Note: Client certificates are not supported as at the time of issue of this document.

1.1.2 API list

Item	API	Description
1	GET /v3 List API V3 versions	Lists information about Identity API v3 versions.
2	POST /v3/auth/tokens Authentication	Authenticates an identity and generates a token.
3	DELETE /v3/auth/tokens Revoke token	Revokes the specified token.
4	GET /v3/regions{?parent_region_id} List regions	Lists regions.
5	GET /v3/regions/{region_id} Show region	Shows the specified region.
6	GET /v3/domains/{domain_id} Show domain	Shows the specified domain.
7	POST /v3/projects Create project	Creates a project.
8	GET /v3/projects{? domain_id,name,enabled } List projects	Lists projects.
9	GET /v3/projects/{project_id} Show project	Shows the specified project.
10	PATCH /v3/projects/{project_id} Update project	Updates the specified project.
11	GET /v3/users{?domain_id,name,enabled } List users	Lists users.
12	GET /v3/users/{user_id} Show user	Shows the specified user.
13	GET /v3/users/{user_id}/groups{?name} List groups to which a user belongs	Lists groups to which the specified user belongs.

Item	API	Description
14	GET /v3/users/{user_id}/projects{? name,enabled} List projects for user	Lists projects that a role is granted for the specified user.
15	POST /v3/groups Create group	Creates a group.
16	GET /v3/groups{?domain_id,name } List groups	Lists groups.
17	GET /v3/groups/{group_id} Show group	Shows the specified group.
18	PATCH /v3/groups/{group_id} Update group	Updates the specified group.
19	DELETE /v3/groups/{group_id} Delete group	Deletes the specified group.
20	GET /v3/groups/{group_id}/users{? name,enabled} List users in group	Lists the users that belong to the specified group.
21	PUT /v3/groups/{group_id}/users/{user_id} Add user to group	Adds the specified user to the specified group.
22	DELETE /v3/groups/{group_id}/users/ {user_id} Remove user from group	Removes the specified user from the specified group.
23	HEAD /v3/groups/{group_id}/users/ {user_id} Check whether user belongs to group	Validates that the specified user belongs to the specified group.
24	GET /v3/roles{?name } List roles	Lists roles.
25	GET /v3/roles/{role_id} Show role	Shows the specified role.
26	PUT /v3/domains/{domain_id}/users/ {user_id}/roles/{role_id} Grant role to user on domain	Grant the specified role to the specified user on the specified domain.
27	PUT /v3/domains/{domain_id}/groups/ {group_id}/roles/{role_id} Grant role to group on domain	Grants the specified role to the specified group on the specified domain.
28	GET /v3/domains/{domain_id}/users/ {user_id}/roles List roles for user on domain	Lists roles for the specified user on the specified domain.

Item	API	Description
29	GET /v3/domains/{domain_id}/groups/{group_id}/roles List roles for group on domain	Lists roles for the specified group on the specified domain.
30	HEAD /v3/domains/{domain_id}/users/{user_id}/roles/{role_id} Check whether user has role on domain	Validates that the specified user has the specified role on the specified domain.
31	HEAD /v3/domains/{domain_id}/groups/{group_id}/roles/{role_id} Check whether group has role on domain	Validates that the specified group has the specified role on the specified domain.
32	DELETE /v3/domains/{domain_id}/users/{user_id}/roles/{role_id} Revoke role from user on domain	Revokes the specified role from the specified user on the specified domain.
33	DELETE /v3/domains/{domain_id}/groups/{group_id}/roles/{role_id} Revoke role from group on domain	Revokes the specified role from the specified group on the specified domain.
34	PUT /v3/projects/{project_id}/users/{user_id}/roles/{role_id} Grant role to user on project	Grant the specified role to the specified user on the specified project.
35	PUT /v3/projects/{project_id}/groups/{group_id}/roles/{role_id} Grant role to group on project	Grant the specified role to the specified group on the specified project.
36	GET /v3/projects/{project_id}/users/{user_id}/roles List roles for user on project	Lists roles for the specified user on the specified project.
37	GET /v3/projects/{project_id}/groups/{group_id}/roles List roles for group on project	Lists roles for the specified group on the specified project.
38	HEAD /v3/projects/{project_id}/users/{user_id}/roles/{role_id} Check whether user has role on project	Validates that the specified user has the specified role on the specified project.
39	HEAD /v3/projects/{project_id}/groups/{group_id}/roles/{role_id} Check whether group has role on project	Validates that the specified group has the specified role on the specified project.
40	DELETE /v3/projects/{project_id}/users/{user_id}/roles/{role_id} Revoke role from user on project	Revokes the specified role from the specified user on the specified project.
41	DELETE /v3/projects/{project_id}/groups/{group_id}/roles/{role_id} Revoke role from group on project	Revokes the specified role from the specified group on the specified project.
42	GET /v3/role_assignments{?group.id,role.id,scope.domain.id,	Lists role assignments.

Item	API	Description
	scope.project.id,user.id,effective} List role assignments	
43	POST /v3/OS-TRUST/trusts Create trust	Creates a trust.
44	GET /v3/OS-TRUST/trusts{? trustee_user_id,trustor_user_id} List trusts	Lists trusts.
45	GET /v3/OS-TRUST/trusts/{trust_id} Show trust	Shows the specified trust.
46	DELETE /v3/OS-TRUST/trusts/{trust_id} Delete trust	Deletes the specified trust.
47	GET /v3/OS-TRUST/trusts/{trust_id}/roles List trust roles	Lists roles delegated by the specified trust.
48	GET /v3/OS-TRUST/trusts/{trust_id}/roles/ {role_id} Show trust role	Shows the specified role of the specified trust.
49	GET /v3/users/{user_id}/auth_type Show user authentication method details	Shows details for authentication method for the specified user.
50	PATCH /v3/users/{user_id}/auth_type Update user authentication method details	Updates authentication method for the specified user.

1.1.3 Glossary

Term	Description
Domain	Namespace that defines administrative boundaries such as a company. Applies to a contracting organization.
Domain name	Name used to identify a domain. Unique within the system.
Domain ID	ID used to identify a domain. Unique within the system.
Project	A large group or organization to which a user belongs.
Default project	Project that user belongs to. The default project of the contractor is set to a user when the user is created. The default project set to the user cannot be changed.
Project name	Name used to identify a project. Unique within the domain.
Project ID	ID used to identify a project. Unique within the system.
User	A person who uses and manages features (or systems, or services).
User name	Name used to identify a user. Unique within the domain.

Term	Description
User ID	ID used to identify a user. Unique within the system.
Group	A collection of users. Roles can be assigned to groups.
Group name	Name used to identify a group. Unique within the domain.
Group ID	ID used to identify a group. Unique within the system.
Role	Information used to assign permissions to people or group. A role can be used to identify APIs that a user can use.
Role name	Name used to identify a role. Unique within the system.
Role ID	ID used to identify a role. Unique within the system.
Token	Authentication information with expiry that is issued as a proof of authentication.

1.1.4 General requirements

This section describes general requirements to use this API.

- If a value in the request parameter contains a character that cannot be used as is in the URL, it must be encoded using UTF-8.

1.1.5 API details

1.1.5.1 List API V3 versions (GET /v3)

Lists information about Identity API v3 versions.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

Request parameters

n/a

Response Headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data Type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

version

version object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	status updated media-types id links

status

Version status

stable: Stable
experimental: Not yet a stable release

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	version	None

updated

Last update datetime

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	version	None

media-types

media-types object

Data type	Cardinality	Parent element	Child element
Element	1::1	version	(media-type)

(media-type)

media-type object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1::2	(media-types)	base type

base

Support media base

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(media-type)	None

type

Support media type

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(media-type)	None

id

Version ID

Always returns "v3.0".

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	version	None

links

Version link information

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	version	href rel

Example of request

```
GET /v3
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 335
Date: Tue, 02 Sep 2014 00:05:22 GMT

{
  "version": {
    "status": "stable",
    "updated": "2013-03-06T00:00:00Z",
    "media-types": [
      {
        "base": "application/json",
        "type": "application/vnd.openstack.identity-v3+json"
      },
      {
        "base": "application/xml",
        "type": "application/vnd.openstack.identity-v3+xml"
      }
    ],
    "id": "v3.0",
    "links": [
      {
        "href": "http://identity:5000/v3/",
        "rel": "self"
      }
    ]
  }
}
```

1.1.5.2 Authenticate (POST /v3/auth/tokens)

Authenticates an identity and generates a token.

Delete control characters such as carriage returns from the generated token, and specify it in the X-Auth-Token request header of each API (refer to the end of this section for an example)

If consecutive password errors exceeding the threshold (5 times) are detected within a certain period of time (15 minutes), an authentication error will occur for a certain period (15 minutes), during which time it will not be possible to perform authentication.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

Request parameters

auth

auth object (required)

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	identity scope

identity

identity object (required)

Data type	Cardinality	Parent element	Child element
Element	1..1	auth	methods password token saml2

methods

Authentication method (required)

- Specify either password authentication or token authentication

Input value

- password: Password authentication
- token: Token authentication

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	identity	None

password

password object (required when using password authentication)

Specify when using password authentication.

Perform authentication using one of the following combinations:

- User ID and password
- Domain ID, user name, and password
- Domain name, user name, and password

Data type	Cardinality	Parent element	Child element
Element	0..1	identity	user

user

user object (required when using password authentication)

Specify an ID or name to uniquely identify the user and password.

Data type	Cardinality	Parent element	Child element
Element	0..1	password	domain id name password

domain

domain object

Data type	Cardinality	Parent element	Child element
Element	0..1	user	id name

id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	domain	None

name

Domain name

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	domain	None

id

User ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	user	None

name

User name

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	user	None

password

Password (required when using password authentication)

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	user	None

token

token object (required when using token authentication)

Specify when using token authentication.

Data type	Cardinality	Parent element	Child element
Element	0..1	identity	id

id

Authenticated token (required when using token authentication)

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	token	None

scope

scope object

Specify ID or name to uniquely identify the domain or project.

If performing token authentication, specify trust.

If this element is omitted, the result will be the same as specifying a project.

Also, if this element is specified in the wrong location in the request, it may be ignored.

Data type	Cardinality	Parent element	Child element
Element	0..1	auth	project domain OS-TRUST:trust

project

project object

Data type	Cardinality	Parent element	Child element
Element	0..1	scope	domain id name

domain

domain object

Data type	Cardinality	Parent element	Child element
Element	0..1	project	id name

id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	domain	None

name

Domain name

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	domain	None

id

Project ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	project	None

name

Project name

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	project	None

domain

domain object

Data type	Cardinality	Parent element	Child element
Element	0..1	scope	id name

id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	domain	None

OS-TRUST:trust

OS-TRUST:trust object

Data type	Cardinality	Parent element	Child element
Element	0..1	scope	id

id

Trust ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	OS-TRUST:trust	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

201:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

X-Subject-Token

Token (Unscoped token or Scoped token)

Data type	Cardinality
xsd:string	1..1

Response elements

token

token object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	expires_at issued_at methods roles domain project catalog extras user

expires_at

Token expiry datetime

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	token	None

issued_at

Token issue datetime

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	token	None

methods

Authentication method

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	token	None

roles

roles object

Data type	Cardinality	Parent element	Child element
Element	0..1	token	(role)

(role)

role object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	roles	id name

id

Role ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(role)	None

name

Role name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(role)	None

domain

domain object

This is set when a domain is specified for scope.

Information about the domain that was specified for scope

Data type	Cardinality	Parent element	Child element
Element	0..1	token	id name

id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	domain	None

name

Domain name

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	domain	None

project

project object

This is set when a project is specified for scope.

Information about the project that was specified for scope

Data type	Cardinality	Parent element	Child element
Element	0..1	token	domain id name

domain

domain object

Data type	Cardinality	Parent element	Child element
Element	0..1	project	id name

id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	domain	None

name

Domain name

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	domain	None

id

Project ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	project	None

name

Project name

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	project	None

catalog

catalog object

Data type	Cardinality	Parent element	Child element
Element	0..1	token	endpoints type name id

endpoints

endpoints object

Data type	Cardinality	Parent element	Child element
Element	0..1	catalog	(endpoint)

endpoint

endpoint object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	endpoints	name url region interface id

name

Endpoint name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(endpoint)	None

url

url information

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(endpoint)	None

region

Region ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(endpoint)	None

interface

Interface information

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(endpoint)	None

id

Endpoint ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(endpoint)	None

type

Service type

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	catalog	None

id

Service ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	catalog	None

extras

Extension information

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	token	None

users

users object

Data type	Cardinality	Parent element	Child element
Element	1..1	token	domain id name

domain

domain object

Data type	Cardinality	Parent element	Child element
Element	1..1	user	id name

id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	domain	None

name

Domain name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	domain	None

id

User ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	user	None

name

User name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	user	None

Example of request

POST /v3/auth/tokens

Example 1: Password authentication

The domain ID and user name are specified, and the scope parameter is omitted (therefore the result will be the same as if a project was specified)

```
{
  "auth": {
    "identity": {
      "methods": [
        "password"
      ],
      "password": {
        "user": {
          "domain": {
            "id": "--domain-id--"
          },
          "name": "username",
          "password": "userpassword9999"
        }
      }
    }
  }
}
```

Example 2: Token authentication

```
{
  "auth": {
    "identity": {
      "methods": [
        "token"
      ],
      "token": {
        "id": "(specify the authentication token)"
      }
    }
  }
}
```

```

    }
  },
  "scope": {
    "OS-TRUST:trust": {
      "id": "--trust_id--"
    }
  }
}
}

```

Example of response

```

HTTP/1.1 201 Created
X-Subject-Token: MIIIXAYJKoZIhvcNAQcCo....
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 6241
Date: Mon, 01 Sep 2014 05:12:45 GMT

```

Example 1: Password authentication

The domain ID and user name are specified, and the scope parameter is omitted (therefore the result will be the same as if a project was specified)

```

{}
{
  "token": {
    "methods": [
      "password"
    ],
    "roles": [
      {
        "id": "-role-id-",
        "name": "cpf_admin"
      }
    ],
    "expires_at": "2013-02-27T18:30:59.999999Z",
    "project": {
      "domain": {
        "id": "--domain-id-",
        "name": "domain_name"
      },
      "id": "--project-id-",
      "name": "project_name"
    },
    "catalog": [
      {
        "endpoints": [
          {
            "name": "identity",
            "url": "http://identity:5000",
            "region": "jp-east-1",
            "interface": "public",
            "id": "--endpoint-id-"
          }
        ],
        "type": "identity",
        "id": "--service-id-"
      }
    ],
    ...
  ],
  "extras": {},
  "user": {
    "domain": {
      "id": "--domain-id-",

```

```

        "name": "admin"
      },
      "id": "--user-id--",
      "name": "username"
    },
    "issued_at": "2013-02-27T16:30:59.999999Z"
  }
}

```

Example 2: Token authentication

```

{
  "token": {
    "OS-TRUST:trust": {
      "impersonation": true,
      "trustee_user": {
        "id": "--trustee_user_id--"
      },
      "id": "--trust_id--",
      "trustor_user": {
        "id": "--trustor_user_id--"
      }
    },
    "methods": [
      "token",
      "password"
    ],
    "roles": [
      {
        "id": "--role_id--",
        "name": "cpf_admin"
      }
    ],
    "expires_at": "2013-02-27T18:30:59.999999Z",
    "project": {
      "domain": {
        "id": "--domain_id--",
        "name": "domain_name"
      },
      "id": "--project_id--",
      "name": "project_name"
    },
    "catalog": [
      {
        "endpoints": [
          {
            "name": "identity",
            "url": "http://identity:5000",
            "region": "jp-east-1",
            "interface": "public",
            "id": "--endpoint_id--"
          }
        ],
        "type": "identity",
        "id": "--service_id--"
      }
    ],
    ...
  ],
  "extras": {},
  "user": {
    "domain": {
      "id": "--domain_id--",
      "name": "domain_name"
    },
    "id": "--user_id--",
    "name": "user_name"
  },
  "issued_at": "2013-02-27T16:30:59.999999Z"
}

```

```
}
```

Example of using curl command to delete carriage returns from end of token

```
export TOKEN=`curl -si -H "Content-Type:application/json" -d @data.json  
http://xxxxx/v3/auth/tokens | awk '/X-Subject-Token/ {print $2}' | tr -d  
"\r"`
```

1.1.5.3 Revoke token (DELETE /v3/auth/tokens)

Revokes the specified token.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

X-Subject-Token

The token to be revoked

Data type	Cardinality
xsd:string	1..1

Request parameters

n/a

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

204:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

n/a

Example of request

```
DELETE /v3/auth/tokens
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
X-Subject-Token: MIIIXAYJKoZIhvcNAQcCoIIIItTCCCLECAQExCTAH ...
```

Example of response

```
HTTP/1.1 204 No Content
Vary: X-Auth-Token
Content-Length: 0
Date: Mon, 01 Sep 2014 12:22:21 GMT
```

1.1.5.4 List regions (GET /v3/regions{?parent_region_id})

Lists regions.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

parent_region_id

Parent region ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

regions

regions object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	(region)

(region)

region object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	0..n	n/a	parent_region_id id links description

parent_region_id

Parent region ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	(region)	None

id

Region ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	(region)	None

links

Link information of region

Data type	Cardinality	Parent element	Child element
Element	0..1	(region)	self

description

Description of region

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	(region)	None

links

API link information

Data type	Cardinality	Parent element	Child element
Element	0..1	n/a	self previous next

Example of request

```
GET /v3/regions
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 412
Date: Mon, 01 Sep 2014 23:49:00 GMT

{
  "regions": [
    {
      "description": "jp-east-1 region",
      "id": "jp-east-1",
      "links": {
        "self": "https://identity:5000/v3/regions/jp-east-1",
      },
      "parent_region_id": null
    },
    {
      "description": "jp-east-1a AZ",
      "id": "jp-east-1a",
      "links": {
        "self": "https://identity:5000/v3/regions/jp-east-1a",
      },
      "parent_region_id": "jp-east-1"
    }
  ],
  "links": {
    "self": "https://identity:5000/v3/regions",
    "previous": null,
    "next": null
  }
}
```

1.1.5.5 Show region (GET /v3/regions/{region_id})

Shows the specified region.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

region_id

Region ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

region

region object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	parent_region_id id links description

parent_region_id

Parent region ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	region	None

id

Region ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	region	None

links

Link information of region

Data type	Cardinality	Parent element	Child element
Element	1..1	region	self

description

Description of region

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	region	None

Example of request

```
GET /v3/regions/--region-id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 161
Date: Tue, 02 Sep 2014 00:31:11 GMT

{
  "region": {
    "parent_region_id": null,
    "id": "jp-east-1",
    "links": {
      "self": "http://identity:5000/v3/regions/jp-east-1"
    },
    "description": "jp-east-1 region"
  }
}
```

1.1.5.6 Show domain (GET /v3/domains/{domain_id})

Shows the specified domain.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

domain_id

Domain ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

domain

domain object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	description enabled id links name

description

Description of domain

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	domain	None

enabled

Enabled setting

Data type	Cardinality	Parent element	Child element
xsd:boolean	1..1	domain	None

id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	domain	None

links

Link information of domain

Data type	Cardinality	Parent element	Child element
Element	1..1	domain	self

name

Domain name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	domain	None

Example of request

```
GET /v3/domains/--domain-id--  
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK  
Vary: X-Auth-Token  
Content-Type: application/json  
Content-Length: 220  
Date: Tue, 02 Sep 2014 02:01:25 GMT  
  
{  
  "domain": {  
    "links": {  
      "self": "http://identity:5000/v3/domains/--domain-id--"  
    },  
    "enabled": true,  
    "description": "keystone admin domain",  
    "name": "admin",  
    "id": "--domain-id--"  
  }  
}
```

1.1.5.7 Create project (POST /v3/projects)

Creates a project.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

project

project object (required)

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	description domain_id enabled name

description

Description of project

Input value

- Up to 255 characters

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	project	None

domain_id

Domain ID (required)

If omitted, the default domain will be used, so it is necessary for the user to specify this.

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	project	None

enabled

Enabled setting

If omitted, enabled is used

Input value

- true: Enabled
- false: Disabled

Data type	Cardinality	Parent element	Child element
xsd:boolean	0..1	project	None

name

Project name (required)

Input value

- 4 to 64 characters
- Halfwidth alphanumeric characters and the following symbols:
Plus (+), equal sign (=), comma (,), period (.), at-sign (@), hyphen (-), underscore (_)

- Not case-sensitive

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	project	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

201:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

project

project object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	description domain_id enabled id links name

description

Description of project

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	project	None

domain_id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	project	None

enabled

Enabled setting

Data type	Cardinality	Parent element	Child element
xsd:boolean	1..1	project	project

id

Project ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	project	None

links

Link information of project

Data type	Cardinality	Parent element	Child element
Element	1..1	project	self

name

Project name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	project	None

Example of request

```
POST /v3/projects
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...

{
  "project": {
    "description": "my create project",
    "domain_id": "--domain-id--",
    "enabled": true,
    "name": "projectname"
  }
}
```

Example of response

```
HTTP/1.1 201 Created
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 258
Date: Tue, 02 Sep 2014 01:13:18 GMT

{
  "project": {
    "description": "my create project",
    "domain_id": "--domain-id--",
    "enabled": true,
    "id": "--project-id--",
    "links": {
      "self": "http://identity:5000/v3/projects/--project-id--"
    },
    "name": "projectname"
  }
}
```

1.1.5.8 List projects (GET /v3/projects{?domain_id,name,enabled })

List projects.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

domain_id

Domain ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

name

Project name

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	n/a	None

enabled

Enabled setting

Data type	Cardinality	Parent element	Child element
xsd:boolean	0..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

projects

projects object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	(project)

(project)

project object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	projects	description domain_id enabled id links name

description

Description of project

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(project)	None

domain_id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(project)	None

enabled

Enabled setting

Data type	Cardinality	Parent element	Child element
xsd:boolean	1..1	(project)	None

id

Project ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(project)	None

links

Link information of project

Data type	Cardinality	Parent element	Child element
Element	1..1	(project)	self

name

Project name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(project)	None

links

API link information

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	self previous next

Example of request

```
GET /v3/projects?domain_id=--domain-id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 3419
Date: Tue, 02 Sep 2014 01:41:15 GMT
```

1.1.5.9 Show project (GET /v3/projects/{project_id})

Shows the specified project.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

project_id

ID of the project (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

project

project object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	description domain_id enabled id links name

description

Description of project

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	project	None

domain_id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	project	None

enabled

Enabled setting

Data type	Cardinality	Parent element	Child element
xsd:boolean	1..1	project	None

id

Project ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	project	None

links

Link information of project

Data type	Cardinality	Parent element	Child element
Element	1..1	project	self

name

Project name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	project	None

Example of request

```
GET /v3/projects/--project-id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 283
Date: Tue, 02 Sep 2014 05:43:42 GMT

{
  "project": {
    "description": "my create project",
    "domain_id": "--domain-id--",
    "enabled": true,
    "id": "--project-id--",
    "links": {
      "self": "http://identity:5000/v3/projects/--project-id--"
    },
    "name": "projectname"
  }
}
```

1.1.5.10 Update project (PATCH /v3/projects/{project_id})

Updates the specified project.

When a project is no longer used, disable it by changing the "enabled" setting to false.

However, before disabling a project, it is necessary to stop or delete the resources under it (if the resources are not stopped, they will remain billable).

Authentication (including retrieval of roles) will no longer be possible for a disabled project. If tokens for the disabled projects are used, they will become invalid.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

project_id

ID of the project (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

project

project object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	description enabled name

description

Description of project

Refer to "[Create project \(POST /v3/projects\)](#)" on page 34" for details on input values

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	project	None

enabled

Enabled setting

Refer to "[Create project \(POST /v3/projects\)](#)" on page 34" for details on input values

Data type	Cardinality	Parent element	Child element
xsd:boolean	0..1	project	None

name

Project name

Refer to "[Create project \(POST /v3/projects\)](#)" on page 34" for details on input values

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	project	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

project

project object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	description domain_id enabled id links name

description

Description of project

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	project	None

domain_id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	project	None

enabled

Enabled setting

Data type	Cardinality	Parent element	Child element
xsd:boolean	1..1	project	None

id

Project ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	project	None

links

Link information of project

Data type	Cardinality	Parent element	Child element
Element	1..1	project	self

name

Project name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	project	None

Example of request

```
PATCH /v3/projects/--project-id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
{
  "project": {
    "description": "my updated project",
    "enabled": true,
    "name": "myUpdatedProject"
  }
}
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 299
Date: Tue, 02 Sep 2014 06:07:40 GMT

{
  "project": {
    "description": "my updated project",
    "domain_id": "--domain-id--",
    "enabled": true,
    "extra": {},
    "id": "--project-id--",
    "links": {
      "self": "http://identity:5000/v3/projects/--project-id--"
    },
    "name": "myUpdatedProject"
  }
}
```

1.1.5.11 List users (GET /v3/users{?domain_id,name,enabled })

Lists users.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

domain_id

Domain ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

name

User name

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	n/a	None

enabled

Enabled setting

Data type	Cardinality	Parent element	Child element
xsd:boolean	0..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

users

users object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	(user)

(user)

user object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	users	default_project_id description domain_id enabled id name locale links

default_project_id

Default project ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(user)	None

description

Description of user

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(user)	None

domain_id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(user)	None

enabled

Enabled setting

Data type	Cardinality	Parent element	Child element
xsd:boolean	1..1	(user)	None

id

User ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(user)	None

name

User name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(user)	None

locale

Email notification language

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(user)	None

links

Link information of user

Data type	Cardinality	Parent element	Child element
Element	1..1	(user)	self

links

API link information

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	self previous next

Example of request

```
GET /v3/users?domain_id=--domain-id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 443
Date: Tue, 02 Sep 2014 09:32:58 GMT

{
  "users": [
    {
      "default_project_id": "--project-id--",
      "description": "admin user",
      "domain_id": "--domain-id--",
      "enabled": true,
      "id": "--user-id--",
      "links": {
        "self": "http://identity:5000/v3/users/--user-id--"
      },
      "locale": "ja",
      "name": "admin"
    }
  ]
}
```

```

    },
    {
      "default_project_id": "--project-id--",
      "description": "another user",
      "domain_id": "--domain-id--",
      "enabled": true,
      "id": "--user-id--",
      "links": {
        "self": "http://identity:5000/v3/users/--user-id--"
      },
      "locale": "ja",
      "name": "someone"
    }
  ],
  "links": {
    "self": "http://identity:5000/v3/users",
    "previous": null,
    "next": null
  }
}

```

1.1.5.12 Show user (GET /v3/users/{user_id})

Shows the specified user.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

user_id

User ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

user

user object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	default_project_id description domain_id email enabled id name locale links

default_project_id

Default project ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	user	None

description

Description of user

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	user	None

domain_id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	user	None

email

Email address

Returns only the email address of the specified user.

Email addresses of other users are not returned.

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	user	None

enabled

Enabled setting

Data type	Cardinality	Parent element	Child element
xsd:boolean	1..1	user	None

id

User ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	user	None

name

User name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	user	None

locale

Email notification language

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	user	None

links

Link information of user

Data type	Cardinality	Parent element	Child element
Element	1..1	user	self

Example of request

```
GET /v3/users/--user-id--
X-Auth-Token: MIIHgyJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 350
Date: Tue, 02 Sep 2014 10:00:48 GMT

{
  "user": {
    "default_project_id": "--project-id--",
    "description": "admin user",
    "domain_id": "--domain-id--",
    "email": "admin@example.com",
    "enabled": true,
    "id": "--user-id--",
    "links": {
      "self": "http://identity:5000/v3/users/--user-id--"
    },
    "locale": "ja",
    "name": "admin"
  }
}
```

1.1.5.13 List groups to which a user belongs (GET /v3/users/{user_id}/groups{?name})

Lists groups to which the specified user belongs.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

user_id

User ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

name

Group name

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

groups

groups object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	(group)

(group)

group object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	groups	description domain_id id links name

description

Description of group

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(group)	None

domain_id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(group)	None

id

ID of the group

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(group)	None

links

Link information of group

Data type	Cardinality	Parent element	Child element
Element	1..1	(group)	self

name

Group name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(group)	None

links

API link information

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	self previous next

Example of request

```
GET /v3/users/--user-id--/groups
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 399
Date: Tue, 02 Sep 2014 10:50:28 GMT

{
  "groups": [
    {
      "description": "general projects"
      "domain_id": "--domain-id--",
      "id": "--group-id--",
      "links": {
        "self": "https://identity:5000/v3/groups/--group-id--"
      },
      "name": "Developers"
    },
    {
      "description": "secret projects"
      "domain_id": "--domain-id--",
      "id": "--group-id--",
      "links": {
        "self": "https://identity:5000/v3/groups/--group-id--"
      },
      "name": "Secure Developers"
    }
  ],
  "links": {
    "self": "http://identity:5000/v3/users/--user-id--/groups",
    "previous": null,
    "next": null
  }
}
```

1.1.5.14 List projects for user (GET /v3/users/{user_id}/projects{?enabled,name})

Lists projects for the specified user.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

user_id

User ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

enabled

Enabled setting

Data type	Cardinality	Parent element	Child element
xsd:boolean	0..1	n/a	None

name

Project name

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

projects

projects object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	(project)

(project)

project object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	projects	description domain_id id links enabled name

description

Description of project

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(project)	None

domain_id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(project)	None

id

ID of the group

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(project)	None

links

Link information of project

Data type	Cardinality	Parent element	Child element
Element	1..1	(project)	self

enabled

Enabled setting

Data type	Cardinality	Parent element	Child element
xsd:boolean	1..1	(project)	None

name

Group name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(project)	None

links

API link information

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	self previous next

Example of request

```
GET /v3/users/--user-id--/projects
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 408
Date: Tue, 02 Sep 2014 12:14:05 GMT

{
  "projects": [
    {
      "description": "my create project",
      "domain_id": "--domain-id--",
      "enabled": true,
      "id": "--project-id--",
      "links": {
        "self": "https://identity:5000/v3/projects/--project-id--"
      },
      "name": "Test Group"
    },
    {
      "description": "my create project",
      "domain_id": "--domain-id--",
      "enabled": true,
      "id": "--project-id--",
      "links": {
        "self": "https://identity:5000/v3/projects/--project-id--"
      },
      "name": "Build Group"
    }
  ],
  "links": {
    "self": "https://identity:5000/v3/users/--user-id--/projects",
    "previous": null,
    "next": null
  }
}
```

1.1.5.15 Create group (POST /v3/groups)

Creates a group.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

group

group object (required)

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	description domain_id name

description

Description of group

Input value

- Up to 255 characters

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	group	None

domain_id

Domain ID (required)

If omitted, the default domain will be used, so it is necessary for the user to specify this.

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	group	None

name

Group name (required)

Input value

- 4 to 64 characters
- Alphanumeric characters and the following symbols:
Plus (+), equal sign (=), comma (,), period (.), at-sign (@), hyphen (-), underscore (_)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	group	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

201:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

group

group object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	description domain_id id links name

description

Description of group

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	group	None

domain_id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	group	None

id

ID of the group

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	group	None

links

Link information of group

Data type	Cardinality	Parent element	Child element
Element	1..1	group	self

name

Group name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	group	None

Example of request

```
POST /v3/groups
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...

{
  "group": {
    "description": " Developers cleared for work on secret projects",
    "domain_id": "--domain-id--",
    "name": " Secure Developers"
  }
}
```

Example of response

```
HTTP/1.1 201 Created
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 264
Date: Tue, 02 Sep 2014 12:49:25 GMT

{
  "group": {
    "description": "Developers cleared for work on secret projects",
    "domain_id": "--domain-id--",
    "id": "--group-id--",
    "links": {
      "self": "http://identity:5000/v3/groups/--group-id--"
    },
    "name": "Secure Developers"
  }
}
```

1.1.5.16 List groups (GET /v3/groups{?domain_id,name })

Lists groups.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

domain_id

Domain ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

name

Group name

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response Elements

groups

groups object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	(group)

(group)

group object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	groups	description domain_id id links name

description

Description of group

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(group)	None

domain_id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(group)	None

id

ID of the group

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(group)	None

links

Link information of group

Data type	Cardinality	Parent element	Child element
Element	1..1	(group)	self

name

Group name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(group)	None

links

API link information

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	self previous next

Example of request

```
GET /v3/groups?domain_id=--domain-id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 3514
Date: Wed, 03 Sep 2014 02:56:28 GM
```

```
{
  "groups": [
    {
      "description": "general projects",
      "domain_id": "--domain-id--",
```

```

        "id": "--group-id--",
        "links": {
            "self": "http://identity:5000/v3/groups/--group-id--"
        },
        "name": "Developers"
    },
    {
        "description": " secret projects",
        "domain_id": "--domain-id--",
        "id": "--group-id--",
        "links": {
            "self": "http://identity:5000/v3/groups/--group-id--"
        },
        "name": "Secure Developers"
    },
],
"links": {
    "self": "http://identity:5000/v3/groups",
    "previous": null,
    "next": null
}
}

```

1.1.5.17 Show group (GET /v3/groups/{group_id})

Shows the specified group.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

group_id

Group ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

group

group object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	description domain_id id links name

description

Description of group

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	group	None

domain_id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	group	None

id

ID of the group

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	group	None

links

Link information of group

Data type	Cardinality	Parent element	Child element
Element	1..1	group	self

name

Group name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	group	None

Example of request

```
GET /v3/groups/--group-id--  
X-Auth-Token: MIIHGYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK  
Vary: X-Auth-Token  
Content-Type: application/json  
Content-Length: 281  
Date: Wed, 03 Sep 2014 05:18:18 GMT  
  
{  
  "group": {  
    "description": "general projects",  
    "domain_id": "--domain-id--",  
    "id": "--group-id--",  
    "links": {  
      "self": "http://identity:5000/v3/groups/--group-id--"  
    },  
    "name": "Developers"  
  }  
}
```

1.1.5.18 Update group (PATCH /v3/groups/{group_id})

Updates the specified group.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

group_id

Group ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

group

Group object (required)

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	description name

description

Description of group

Refer to "[Create group \(POST /v3/groups\)](#) on page 66" for details on input values

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	(group)	None

name

Group name

Refer to "[Create group \(POST /v3/groups\)](#) on page 66" for details on input values

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	(group)	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

group

group object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	description domain_id id links name

description

Description of group

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	group	None

domain_id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	group	None

id

ID of the group

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	group	None

links

Link information of group

Data type	Cardinality	Parent element	Child element
Element	1..1	group	self

name

Group name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	group	None

Example of request

```
PATCH /v3/groups/--group-id--
X-Auth-Token: MIIHGYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...

{
  "group": {
    "description": " Developers cleared for work on secret projects",
    "name": " Secure Developers"
  }
}
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 284
Date: Wed, 03 Sep 2014 05:36:36 GMT

{
  "group": {
    "description": "Developers cleared for work on secret projects",
    "domain_id": "--domain-id--",
    "id": "--group-id--",
    "links": {
      "self": "http://identity:5000/v3/groups/--group-id--"
    },
    "name": "Secure Developers"
  }
}
```

1.1.5.19 Delete group (DELETE /v3/groups/{group_id})

Deletes the specified group.

Tokens for the group will become invalid.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

group_id

Group ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

204:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

n/a

Example of request

```
DELETE /v3/groups/--group-id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content
Vary: X-Auth-Token
Content-Length: 0
```

1.1.5.20 List users in group (GET /v3/groups/{group_id}/users{?name,enabled})

Lists the users that belong to the specified group.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

group_id

Group ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

name

User name

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	n/a	None

Enabled

Enabled setting

Data type	Cardinality	Parent element	Child element
xsd:boolean	0..1	n/a	None

Response Headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

users

users object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	(user)

(user)

user object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	users	default_project_id description domain_id enabled id name locale links

default_project_id

Default project ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(user)	None

description

Description of user

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(user)	None

domain_id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(user)	None

enabled

Enabled setting

Data type	Cardinality	Parent element	Child element
xsd:boolean	1..1	(user)	None

id

User ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(user)	None

name

User name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(user)	None

locale

Email notification language

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(user)	None

links

Link information of user

Data type	Cardinality	Parent element	Child element
Element	1..1	(user)	self

links

API link information

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	self previous next

Example of request

```
GET /v3/groups/--group-id--/users
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 492
Date: Wed, 03 Sep 2014 05:50:28 GMT
```

```
{
  "users": [
    {
      "default_project_id": "--project-id--",
      "description": "admin user",
      "domain_id": "--domain-id--",
      "enabled": true,
      "id": "--user-id--",
```

```

        "links": {
          "self": "http://identity:5000/v3/users/--user-id--"
        },
        "locale": "ja",
        "name": "admin"
      },
      {
        "default_project_id": "--project-id--",
        "description": "another user",
        "domain_id": "--domain-id--",
        "enabled": true,
        "id": "--user-id--",
        "links": {
          "self": "http://identity:5000/v3/users/--user-id--"
        },
        "locale": "ja",
        "name": "someone"
      }
    ],
    "links": {
      "self": "http://identity:35357/v3/groups/--group-id--/users",
      "previous": null,
      "next": null
    }
  }
}

```

1.1.5.21 Add user to group (PUT /v3/groups/{group_id}/users/{user_id})

Adds the specified user to the specified group.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

group_id

Group ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

user_id

User ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

204:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

n/a

Example of request

```
PUT /v3/groups/--group-id--/users/--user-id--  
X-Auth-Token: MIIHGYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content  
Vary: X-Auth-Token  
Content-Length: 0  
Date: Thu, 04 Sep 2014 04:17:12 GMT
```

1.1.5.22 Remove user from group (DELETE /v3/groups/{group_id}/users/{user_id})

Removes the specified user from the specified group.

Tokens for the group will become invalid.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

group_id

Group ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

user_id

User ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

204:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

n/a

Example of request

```
DELETE /v3/groups/--group-id--/users/--user-id--  
X-Auth-Token: MIIHGYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content  
Vary: X-Auth-Token  
Content-Length: 0  
Date: Thu, 04 Sep 2014 04:26:14 GMT
```

1.1.5.23 Check whether user belongs to group (HEAD /v3/groups/{group_id}/users/{user_id})

Validates that the specified user belongs to the specified group.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

group_id

Group ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

user_id

User ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

204:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

n/a

Example of request

```
HEAD /v3/groups/--group-id--/users/--user-id--  
X-Auth-Token: MIIHGYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content  
Vary: X-Auth-Token  
Content-Length: 0  
Date: Thu, 04 Sep 2014 04:32:37 GMT
```

1.1.5.24 List roles (GET /v3/roles{?name })

Lists roles.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

name

Role name

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

roles

roles object

Data Type	Cardinality	Parent Element	Child Element(s)
Element	1..1	n/a	(role)

(role)

role object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	roles	id links name

id

Role ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(role)	None

links

Link information of role

Data type	Cardinality	Parent element	Child element
Element	1..1	(role)	self

name

Role name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(role)	None

links

API link information

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	self previous next

Example of request

```
GET /v3/roles
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 1768
Date: Thu, 04 Sep 2014 05:39:46 GMT

{
  "roles": [
    {
      "id": "--admin-role-id--",
      "links": {
        "self": "http://identity:5000/v3/roles/--admin-role-id--"
      },
      "name": "admin"
    },
    {
      "id": "--service-role-id--",
      "links": {
        "self": "http://identity:5000/v3/roles/--service-role-id--"
      },
      "name": "service"
    },
    {
      "id": "--member-role-id--",
      "links": {
        "self": "http://identity:5000/v3/roles/--member-role-id--"
      },
      "name": "_member_"
    }
  ],
  "links": {
    "self": "http://identity:5000/v3/roles",
    "previous": null,
    "next": null
  }
}
```

1.1.5.25 Show role (GET /v3/roles/{role_id})

Shows the specified role.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

role_id

Role ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

role

role object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	id links name

id

Role ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	role	None

links

Link information of role

Data type	Cardinality	Parent element	Child element
Element	1..1	role	self

name

Role name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	role	None

Example of request

```
GET /v3/roles/--role-id--
X-Auth-Token: MIIHhgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 235
Date: Thu, 04 Sep 2014 05:58:10 GMT

{
  "role": {
    "id": "--member-role-id--",
    "links": {
      "self": "http://identity:5000/v3/roles/--member-role-id--"
    },
    "name": "_member_"
  }
}
```

1.1.5.26 Grant role to user on domain (PUT /v3/domains/{domain_id}/users/{user_id}/roles/{role_id})

Grant the specified role to the specified user on the specified domain.

The granted role will become effective after the token is obtained again.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

domain_id

Domain ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

user_id

User ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

role_id

Role ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

204:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

n/a

Example of request

```
PUT /v3/domains/--domain-id--/users/--user-id--/roles/--role-id-  
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content  
Vary: X-Auth-Token  
Content-Length: 0  
Date: Thu, 04 Sep 2014 06:09:43 GMT
```

1.1.5.27 Grant role to group on domain (PUT /v3/domains/{domain_id}/groups/{group_id}/roles/{role_id})

Grants the specified role to the specified group on the specified domain.

The granted role will become effective after the token is obtained again.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

domain_id

Domain ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

group_id

Group ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

role_id

Role ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

204:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

n/a

Example of request

```
PUT /v3/domains/--domain-id--/groups/--group-id--/roles/--role-id--  
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content  
Vary: X-Auth-Token  
Content-Length: 0  
Date: Thu, 04 Sep 2014 09:51:33 GMT
```

1.1.5.28 List roles for user on domain (GET /v3/domains/{domain_id}/users/{user_id}/roles)

Lists roles for the specified user on the specified domain.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

domain_id

Domain ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

user_id

User ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

roles

roles object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	(role)

(role)

role object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	roles	id links name

id

Role ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(role)	None

links

Link information of role

Data type	Cardinality	Parent element	Child element
Element	1..1	(role)	self

name

Role name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(role)	None

links

API link information

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	self previous next

Example of request

```
GET /v3/domains/--domain-id--/users/--user-id--/roles
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 840
Date: Thu, 04 Sep 2014 06:40:04 GMT

{
  "roles": [
    {
      "id": "--admin-role-id--",
      "links": {
        "self": "http://identity:5000/v3/roles/--admin-role-id--"
      },
      "name": "admin"
    },
    {
      "id": "--service-role-id--",
      "links": {
        "self": "http://identity:5000/v3/roles/--service-role-id--"
      },
      "name": "service"
    },
    {
      "id": "--member-role-id--",
      "links": {
        "self": "http://identity:5000/v3/roles/--member-role-id--"
      },
      "name": "_member_"
    }
  ]
}
```

```

    },
    "links": {
      "self": "http://identity:5000/v3/domains/--domain-id--/users/--user-id--/roles",
      "previous": null,
      "next": null
    }
  }
}

```

1.1.5.29 List roles for group on domain (GET /v3/domains/{domain_id}/groups/{group_id}/roles)

Lists roles for the specified group on the specified domain.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

domain_id

Domain ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

group_id

Group ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

roles

roles object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	(role)

(role)

role object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	roles	id links name

id

Role ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(role)	None

links

Link information of role

Data type	Cardinality	Parent element	Child element
Element	1..1	(role)	self

name

Role name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(role)	None

links

API link information

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	self previous next

Example of request

```
GET /v3/domains/--domain-id--/groups/--group-id--/roles
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 841
Date: Thu, 04 Sep 2014 09:55:16 GMT

{
  "roles": [
    {
      "id": "--admin-role-id--",
      "links": {
        "self": "http://identity:5000/v3/roles/--admin-role-id--"
      },
      "name": "admin"
    },
    {
      "id": "--service-role-id--",
      "links": {
        "self": "http://identity:5000/v3/roles/--service-role-id--"
      },
      "name": "service"
    },
    {
      "id": "--member-role-id--",
      "links": {
        "self": "http://identity:5000/v3/roles/--member-role-id--"
      },
      "name": "_member_"
    }
  ],
  "links": {
    "self": "http://identity:5000/v3/domains/--domain-id--/groups/--group-id--/roles",
    "previous": null,
    "next": null
  }
}
```

1.1.5.30 Check whether user has role on domain (HEAD /v3/domains/{domain_id}/users/{user_id}/roles/{role_id})

Validates that the specified user has the specified role on the specified domain.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

domain_id

Domain ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

user_id

User ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

role_id

Role ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

204:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

n/a

Example of request

```
HEAD /v3/domains/--domain-id--/users/--user-id--/roles/--role-id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content
Vary: X-Auth-Token
Content-Length: 0
```

1.1.5.31 Check whether group has role on domain (HEAD /v3/domains/{domain_id}/groups/{group_id}/roles/{role_id})

Validates that the specified group has the specified role on the specified domain.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

domain_id

Domain ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

group_id

Group ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

role_id

Role ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

204:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

n/a

Example of request

```
HEAD /v3/domains/--domain-id--/groups/--group-id--/roles/--role-id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content
Vary: X-Auth-Token
Content-Length: 0
Date: Thu, 04 Sep 2014 10:00:05 GMT
```

1.1.5.32 Revoke role from user on domain (DELETE /v3/domains/{domain_id}/users/{user_id}/roles/{role_id})

Revokes the specified role from the specified user on the specified domain.

Tokens of users that have had a role revoked will become invalid, so a new token will have to be obtained.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

domain_id

Domain ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

user_id

User ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

role_id

Role ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

204:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

n/a

Example of request

```
DELETE /v3/domains/--domain-id--/users/--user-id--/roles/--role-id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content
Vary: X-Auth-Token
Content-Length: 0
Date: Thu, 04 Sep 2014 07:12:09 GMT
```

1.1.5.33 Revoke role from group on domain (DELETE /v3/domains/{domain_id}/groups/{group_id}/roles/{role_id})

Revokes the specified role from the specified group on the specified domain.

Tokens of users that belong to a group that has had a role revoked will become invalid, so a new token will have to be obtained.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

domain_id

Domain ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

group_id

Group ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

role_id

Role ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

204:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

n/a

Example of request

```
DELETE /v3/domains/--domain-id--/groups/--group-id--/roles/--role-id--  
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content  
Vary: X-Auth-Token  
Content-Length: 0  
Date: Thu, 04 Sep 2014 10:04:00 GMT
```

1.1.5.34 Grant role to user on project (PUT /v3/projects/{project_id}/users/{user_id}/roles/{role_id})

Grants the specified role to the specified user on the specified project.

Granting a role to a user for a specific project allows the user to access that project.

When a user is added, a member role is granted automatically to it so it can access the default project even if a role is not granted to it later.

The granted role will become effective after the token is obtained again.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

project_id

ID of the project (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

user_id

User ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

role_id

Role ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

204:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

n/a

Example of request

```
PUT /v3/projects/--project-id--/users/--user-id--/roles/--role-id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content
Vary: X-Auth-Token
Content-Length: 0
```

1.1.5.35 Grant role to group on project (PUT /v3/projects/{project_id}/groups/{group_id}/roles/{role_id})

Grants the specified role to the specified group on the specified project.

Granting a role to a group for a specific project allows users that belong to that group to access that project.

The granted role will become effective after the token is obtained again.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

project_id

ID of the project (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

group_id

Group ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

role_id

Role ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

204:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

n/a

Example of request

```
PUT /v3/projects/--project-id--/groups/--group-id--/roles/--role-id--
X-Auth-Token: MIIHgyJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content
Vary: X-Auth-Token
Content-Length: 0
Date: Fri, 05 Sep 2014 06:47:49 GMT
```

1.1.5.36 List roles for user on project (GET /v3/projects/{project_id}/users/{user_id}/roles)

Lists roles for the specified user on the specified project.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

project_id

ID of the project (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

user_id

User ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

roles

roles object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	(role)

(role)

role object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	roles	id links name

id

Role ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(role)	None

links

Link information of role

Data type	Cardinality	Parent element	Child element
Element	1..1	(role)	self

name

Role name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(role)	None

links

API link information

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	self previous next

Example of request

```
GET /v3/projects/--project-id--/users/--user-id--/roles
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 341
Date: Thu, 04 Sep 2014 11:48:16 GMT

{
  "roles": [
    {
      "id": "--role-id--",
      "links": {
        "self": "http://identity:5000/v3/roles/--role-id--"
      },
      "name": "cpf_observer"
    }
  ],
  "links": {
    "self": "http://identity:5000/v3/projects/--project-id--/users/--
user-id--/roles",
    "previous": null,
    "next": null
  }
}
```

1.1.5.37 List roles for group on project (GET /v3/projects/{project_id}/groups/{group_id}/roles)

Lists roles for the specified group on the specified project.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

project_id

ID of the project (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

group_id

Group ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

roles

roles object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	(role)

(role)

role object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	roles	id links name

id

Role ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(role)	None

links

Link information of role

Data type	Cardinality	Parent element	Child element
Element	1..1	(role)	self

name

Role name

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(role)	None

links

API link information

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	self previous next

Example of request

```
GET /v3/projects/--project-id--/groups/--group-id--/roles
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 342
Date: Fri, 05 Sep 2014 06:49:56 GMT

{
  "roles": [
    {
      "id": "--role-id--",
      "links": {
        "self": "http://identity:5000/v3/roles/--role-id--"
      },
      "name": "cpf_operator"
    }
  ],
  "links": {
    "self": "http://identity:5000/v3/projects/--project-id--/groups/--group-id--/roles",
    "previous": null,
    "next": null
  }
}
```

1.1.5.38 Check whether user has role on project (HEAD /v3/projects/{project_id}/users/{user_id}/roles/{role_id})

Validates that the specified user has the specified role on the specified project.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

project_id

ID of the project (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

user_id

User ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

role_id

Role ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

204:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

n/a

Example of request

```
HEAD /v3/projects/--project-id--/users/--user-id--/roles/--role-id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content
Vary: X-Auth-Token
Content-Length: 0
```

1.1.5.39 Check whether group has role on project (HEAD /v3/projects/{project_id}/groups/{group_id}/roles/{role_id})

Validates that the specified group has the specified role on the specified project.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

project_id

ID of the project (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

group_id

Group ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

role_id

Role ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

204:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

n/a

Example of request

```
HEAD /v3/projects/--project-id--/groups/--group-id--/roles/--role-id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content
Vary: X-Auth-Token
Content-Length: 0
Date: Fri, 05 Sep 2014 06:53:57 GMT
```

1.1.5.40 Revoke role from user on project (DELETE /v3/projects/{project_id}/users/{user_id}/roles/{role_id})

Revokes the specified role from the specified user on the specified project.

Tokens of users that have had a role revoked will become invalid, so a new token will have to be obtained.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

project_id

ID of the project (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

user_id

User ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

role_id

Role ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

204:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

n/a

Example of request

```
DELETE /v3/projects/--project-id--/users/--user-id--/roles/--role-id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content
Vary: X-Auth-Token
Content-Length: 0
Date: Thu, 04 Sep 2014 11:54:03 GMT
```

1.1.5.41 Revoke role from group on project (DELETE /v3/projects/{project_id}/groups/{group_id}/roles/{role_id})

Revokes the specified role from the specified group on the specified project.

Tokens of users that belong to a group that has had a role revoked will become invalid, so a new token will have to be obtained.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

project_id

ID of the project (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

group_id

Group ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

role_id

Role ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	None

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

204:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

n/a

Example of request

```
DELETE /v3/projects/--project-id--/groups/--group-id--/roles/--role-id--  
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content  
Vary: X-Auth-Token  
Content-Length: 0  
Date: Fri, 05 Sep 2014 07:04:55 GMT
```

1.1.5.42 List role assignments (GET /v3/role_assignments{?group.id,role.id,scope.domain.id,scope.project.id,user.id,effective})

Lists role assignments.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

group.id

ID of the group

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	n/a	n/a

role.id

Role ID

When specifying a role ID to filter the results, it is necessary to also specify one of the following: domain ID, project ID, group ID, or user ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	xsd:string	0..1

scope.domain.id

Domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	xsd:string	0..1

scope.project.id

Project ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	xsd:string	0..1

user.id

User ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	xsd:string	0..1

effective

Displays users that belong to the group, and role information assigned using INHERIT

Data type	Cardinality	Parent element	Child element
n/a	0..1	n/a	n/a

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

role_assignments

role_assignments object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	(role_assignment)

(role_assignment)

role_assignment object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	role_assignments	scope role user group links

scope

scope object

Data type	Cardinality	Parent element	Child element
Element	1..1	(role_assignment)	project domain OS-INHERIT:inherited_to

project

project object

Data type	Cardinality	Parent element	Child element
Element	0..1	scope	id

id

Project ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	project	n/a

domain

domain object

Data type	Cardinality	Parent element	Child element
Element	0..1	scope	id

id

Project ID or domain ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	project, domain	n/a

OS-INHERIT:inherited_to

INHERIT assignment destination

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	scope	n/a

role

role object

Data type	Cardinality	Parent element	Child element
Element	1..1	(role_assignment)	id

id

Role ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	role	n/a

user

user object

Data type	Cardinality	Parent element	Child element
Element	0..1	(role_assignment)	id

id

User ID

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	user	n/a

group

group object

Data type	Cardinality	Parent element	Child element
Element	0..1	(role_assignment)	id

id

ID of the group

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	group	n/a

links

links object

Data type	Cardinality	Parent element	Child element
Element	1..1	(role_assignment)	assignment membership

assignment

Link information of assignment

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	links	n/a

membership

Link information of membership

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	links	n/a

links

Link information

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	self previous next

Example of request

```
GET /v3/role_assignments?user.id=--user_id--&effective
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 484693
Date: Fri, 05 Sep 2014 09:00:51 GMT

{
  "role_assignments": [
    {
      "scope": {
        "project": {
          "id": "--project-id--"
        }
      },
      "role": {
        "id": "--role-id--"
      },
      "user": {
        "id": "--user-id--"
      },
      "links": {
        "assignment": "http://identity:5000/v3/projects/--project-id--/users/--user-id--/roles/--role-id--"
      }
    },
    ...
    {
      "scope": {
```

```

        "project": {
            "id": "--project-id--"
        },
        "OS-INHERIT:inherited_to": "projects"
    },
    "role": {
        "id": "--role-id--"
    },
    "user": {
        "id": "--user-id--"
    },
    "links": {
        "assignment": "http://identity:5000/v3/domains/--domain-id--/groups/--group-id--/roles/--role-id--/inherited_to_projects"
        "membership": "http://identity:5000/v3/groups/--group-id--/users/--user_id--"
    }
}
],
"links": {
    "self": "http://identity:5000/v3/role_assignments",
    "previous": null,
    "next": null
}
}

```

1.1.5.43 Create trust (POST /v3/OS-TRUST/trusts)

Creates a trust.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

trust

trust object (required)

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	expires_at impersonation project_id roles trustee_user_id trustor_user_id

expires_at

Datetime for the trust expiry. (required)

Input format:

"YYYY-MM-DDThh:mm:ss.ffffffZ"
("2015-02-27T18:30:59.999999Z")

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	trust	n/a

impersonation

The impersonation flag (required)

Input value

- true: Authenticate using the trustor information
- false: Authenticate using the trustee information

Data type	Cardinality	Parent element	Child element
xsd:boolean	1..1	trust	n/a

project_id

The project ID assigned to the role that is to be trusted (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	trust	n/a

roles

roles object (required)

Data type	Cardinality	Parent element	Child element
Element	1..1	trust	(role)

(role)

role object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	roles	name

name

The name of the role that is to be trusted (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(role)	n/a

trustee_user_id

The trustee user ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	trust	n/a

trustor_user_id

The trustor user ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	trust	n/a

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

201:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

trust

trust object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	expires_at impersonation project_id roles trustee_user_id trustor_user_id id remaining_uses role_links links

impersonation

The impersonation settings

Data type	Cardinality	Parent element	Child element
xsd:boolean	1..1	trust	n/a

roles_links

Link information of trust role

Data type	Cardinality	Parent element	Child element
Element	1..1	trust	self previous next

trustor_user_id

The trustor user ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	trust	n/a

links

Link information of trust

Data type	Cardinality	Parent element	Child element
Element	1..1	trust	self

roles

roles object

Data type	Cardinality	Parent element	Child element
Element	1..1	trust	(role)

(role)

role object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	(roles)	id links name

id

Role ID that is to be trusted

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(role)	n/a

links

Link information of role

Data type	Cardinality	Parent element	Child element
Element	1..1	(role)	self

name

Role name that is to be trusted

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(role)	n/a

remaining_uses

Number of times that the token still can be used

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	trust	n/a

expires_at

Trust expiry datetime

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	trust	n/a

trustee_user_id

The trustee user ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	trust	n/a

project_id

The project ID assigned to the role that is to be trusted

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	trust	n/a

id

Trust ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	trust	n/a

Example of request

```
POST /v3/OS-TRUST/trusts
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...

{
  "trust": {
    "expires_at": "2015-02-27T18:30:59.999999Z",
    "impersonation": true,
    "project_id": "--project-id--",
    "roles": [
      {
        "name": "--role-name--"
      }
    ],
    "trustee_user_id": "--trustee-user-id--",
    "trustor_user_id": "--trustor-user-id--"
  }
}
```

Example of response

```
HTTP/1.1 201 Created
Vary: X-Auth-Token
Content-Type: application/json
```

Content-Length: 2042
Date: Fri, 05 Sep 2014 07:50:42 GMT

```
{
  "trust": {
    "impersonation": true,
    "roles_links": {
      "self": "http://identity:5000/v3/OS-TRUST/trusts/--trust_id--/
roles",
      "previous": null,
      "next": null
    },
    "trustor_user_id": "--trustor_user_id--",
    "links": {
      "self": "http://identity:5000/v3/OS-TRUST/trusts/--trust_id--"
    },
    "roles": [
      {
        "id": "--role_id--",
        "links": {
          "self": "http://identity:5000/v3/roles/--role_id--"
        },
        "name": "--role_name--"
      }
    ],
    "remaining_uses": null,
    "expires_at": "2015-02-27T18:30:59.999999Z",
    "trustee_user_id": "--trustee_user_id--",
    "project_id": "--project_id--",
    "id": "--trust_id--"
  }
}
```

1.1.5.44 List trusts (GET /v3/OS-TRUST/trusts{?trustee_user_id,trustor_user_id})

Lists trusts.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

trustee_user_id

The trustee user ID

It is necessary to specify either "trustee_user_id" or "trutor_user_id". However, this can only be specified by the operator user.

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	xsd:string	0..1

trutor_user_id

The trutor user ID

It is necessary to specify either "trustee_user_id" or "trutor_user_id". However, this can only be specified by the operator user.

Data type	Cardinality	Parent element	Child element
xsd:string	0..1	n/a	n/a

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

links

Link information

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	self previous next

trusts

trusts object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	(trust)

(trust)

trust object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	trusts	impersonation trustor_user_id links remaining_uses

Data type	Cardinality	Parent element	Child element
			expires_at trustee_user_id project_id id

impersonation

The impersonation settings

Data type	Cardinality	Parent element	Child element
xsd:boolean	1..1	(trust)	n/a

trustor_user_id

The trustor user ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(trust)	n/a

links

Link information of trust

Data type	Cardinality	Parent element	Child element
Element	1..1	(trust)	self

remaining_uses

Number of times that the token still can be used

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(trust)	n/a

expires_at

Trust expiry datetime

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(trust)	n/a

trustee_user_id

The trustee user ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(trust)	n/a

project_id

The project ID assigned to the role that is to be trusted

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(trust)	n/a

id

Trust ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(trust)	n/a

Example of request

```
GET /v3/OS-TRUST/trusts
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 2042
Date: Fri, 05 Sep 2014 07:50:42 GMT

{
  "links": {
    "self": "http://identity:5000/v3/OS-TRUST/trusts",
    "previous": null,
    "next": null
  },
  "trusts": [
    {
      "impersonation": true,
      "trustor_user_id": "--trustor-user-id--",
      "links": {
        "self": "http://identity:5000/v3/OS-TRUST/trusts/--trust-
id--"
      },
      "remaining_uses": null,
      "expires_at": "2015-02-27T18:30:59.000000Z",
      "trustee_user_id": "--trustee-user-id--",
      "project_id": "--project-id--",
      "id": "--trust-id--"
    },
    {
      "impersonation": true,
      "trustor_user_id": "--trustor-user-id--",
      "links": {
        "self": "http://identity:5000/v3/OS-TRUST/trusts/--trust-
id--"
      },
      "remaining_uses": null,
      "expires_at": null,
      "trustee_user_id": "--trustee-user-id--",
      "project_id": "--project-id--",
      "id": "--trust-id--"
    }
  ]
}
```

1.1.5.45 Show trust (GET/v3/OS-TRUST/trusts/{trust_id})

Shows the specified trust.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

trust_id

Trust ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	n/a

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

trust

trust object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	impersonation roles_links trustor_user_id links roles remaining_uses exipires_at trustee_user_id project_id id

impersonation

The impersonation settings

Data type	Cardinality	Parent element	Child element
xsd:boolean	1..1	trust	n/a

roles_links

Link information of trust role

Data type	Cardinality	Parent element	Child element
Element	1..1	trust	self previous next

trustor_user_id

The trustor user ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	trust	n/a

links

Link information of trust

Data type	Cardinality	Parent element	Child element
Element	1..1	trust	self

roles

roles object

Data type	Cardinality	Parent element	Child element
Element	1..1	trust	id links

Data type	Cardinality	Parent element	Child element
			name

id

Role ID that is to be trusted

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	roles	n/a

links

Link information of role

Data type	Cardinality	Parent element	Child element
Element	1..1	roles	self

name

Role name that is to be trusted

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	roles	n/a

remaining_uses

Number of times that the token still can be used

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	trust	n/a

expires_at

Trust expiry datetime

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	trust	n/a

trustee_user_id

The trustee user ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	trust	n/a

project_id

The project ID assigned to the role that is to be trusted

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	trust	n/a

id

Trust ID

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	trust	n/a

Example of request

```
GET /v3/OS-TRUST/trusts/--trust-id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 714
Date: Fri, 05 Sep 2014 08:04:30 GMT

{
  "trust": {
    "impersonation": true,
    "roles_links": {
      "self": "http://identity:5000/v3/OS-TRUST/trusts/--trust-id--/"
    },
    "previous": null,
    "next": null
  },
  "trustor_user_id": "--trustor-user-id--",
  "links": {
    "self": "http://identity:5000/v3/OS-TRUST/trusts/--trust-id--"
  },
  "roles": [
    {
      "id": "--role-id--",
      "links": {
        "self": "http://identity:5000/v3/roles/--role-id--"
      },
      "name": "--role-name--"
    }
  ],
  "remaining_uses": null,
  "expires_at": "2015-02-27T18:30:59.999999Z",
  "trustee_user_id": "--trustee-user-id--",
  "project_id": "--project-id--",
  "id": "--trust-id--"
}
```

1.1.5.46 Delete trust (DELETE /v3/OS-TRUST/trusts/{trust_id})

Deletes the specified trust.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

trust_id

Trust ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	n/a

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

204:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

n/a

Example of request

```
DELETE /v3/OS-TRUST/trusts/--trust-id--  
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content  
Vary: X-Auth-Token  
Content-Length: 0  
Date: Fri, 05 Sep 2014 08:11:28 GMT
```

1.1.5.47 List trust roles (GET /v3/OS-TRUST/trusts/{trust_id}/roles)

Lists roles delegated by the specified trust.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

trust_id

Trust ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	n/a

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

links

Link information

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	self previous next

roles

roles object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	(role)

(role)

role object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	roles	id links name

id

Role ID that is to be trusted

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(role)	n/a

links

Link information of role

Data type	Cardinality	Parent element	Child element
Element	1..1	(role)	self

name

Role name that is to be trusted

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	(role)	n/a

Example of request

```
GET /v3/OS-TRUST/trusts/--trust-id--/roles
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 302
Date: Fri, 05 Sep 2014 08:15:12 GMT

{
  "links": {
    "self": "http://identity/v3/OS-TRUST/trusts/--trust-id--/roles",
    "previous": null,
    "next": null
  },
  "roles": [
    {
      "id": "--role-id--",
      "links": {
        "self": "http://identity:5000/v3/roles/--role-id--"
      },
      "name": "--role-name--"
    }
  ]
}
```

1.1.5.48 Show trust role (GET /v3/OS-TRUST/trusts/{trust_id}/roles/{role_id})

Shows the specified role of the specified trust.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

trust_id

Trust ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	n/a

role_id

Role ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	n/a

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
409:	Data conflict occurred
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

role

role object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	id links name

id

Role ID that is to be trusted

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	role	n/a

links

Link information of role

Data type	Cardinality	Parent element	Child element
Element	1..1	role	self

name

Role name that is to be trusted

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	role	n/a

Example of request

```
GET /v3/OS-TRUST/trusts/--trust_id--/roles/--role-id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 302
Date: Fri, 05 Sep 2014 08:15:12 GMT

{
  "role": {
    "id": "--role-id--",
    "links": {
      "self": "http://identity:5000/v3/roles/--role-id--"
    },
    "name": "--role-name--"
  }
}
```

1.1.5.49 Show user authentication method details (GET /v3/users/{user_id}/auth_type)

Shows details of authentication method for the specified user.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

user_id

User ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	n/a

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

user

user object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	auth_type

auth_type

Authentication method

Returns "password" or "cert"

- password: Password authentication
- cert: Certificate authentication + password authentication

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	user	n/a

Example of request

```
GET /v3/users/--user-id--/auth_type
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 350
Date: Tue, 02 Sep 2014 10:00:48 GMT
```

```
{
  "user": {
    "auth_type": "password"
  }
}
```

1.1.5.50 Update user authentication method details (PATCH / v3/users/{user_id}/auth_type)

Updates authentication method information for the specified user.

Request headers

Content-type

Indicates the format of content defined in the MIME specification.

Specify application/json. (required)

Data type	Cardinality
xsd:string	1..1

Accept

Indicates the accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
xsd:string	1..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
xsd:string	1..1

Request parameters

user_id

User ID (required)

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	n/a	n/a

user

user object (required)

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	auth_type

auth_type

Authentication method (required)

Returns "password" or "cert"

- password: Password authentication
- cert: Certificate authentication + password authentication

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	user	n/a

Response headers

HTTP status code

Returns the HTTP status code of the request.

One of the following values will be returned:

200:	Normal completion
400:	Invalid access (invalid parameter, etc.)
401:	Authentication error
403:	Cannot access (no privileges)
404:	No applicable resources
500:	Unexpected error
501:	Has not been implemented
503:	Cannot use service

Data type	Cardinality
int	1..1

Vary

By setting or changing the following header, notification is given that expressions can be requested in a different file format.

X-Auth-Token

Data type	Cardinality
xsd:string	1..1

Content-Type

Indicates the format of content defined in the MIME specification.

application/json

Data type	Cardinality
xsd:string	1..1

Content-Length

Indicates the length of an entity in bytes.

Data type	Cardinality
int	1..1

Date

Indicates the date when the request was created.

Data type	Cardinality
date	1..1

Response elements

user

user object

Data type	Cardinality	Parent element	Child element
Element	1..1	n/a	auth_type

auth_type

User authentication method

Returns "password" or "cert"

- password: Password authentication
- cert: Certificate authentication + password authentication

Data type	Cardinality	Parent element	Child element
xsd:string	1..1	user	n/a

Example of request

```
PATCH /v3/users/--user-id--/auth_type
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

```
{
  "user": {
    "auth_type": "cert"
  }
}
```

Example of response

```
HTTP/1.1 200 OK
Vary: X-Auth-Token
Content-Type: application/json
Content-Length: 350
Date: Tue, 02 Sep 2014 10:00:48 GMT
```

```
{
  "user": {
    "auth_type": "cert"
  }
}
```

Part 2: Key Management

Topics:

- *Key Management*

2.1 Key Management

2.1.1 API list

Item	API	Description
1	GET /v1/{tenant_id}/secrets List key metadata	Lists key metadata
2	GET /v1/{tenant_id}/secrets/{resource_id} Retrieve key metadata	Retrieves the specified key metadata
3	POST /v1/{tenant_id}/secrets Create key metadata	Creates key metadata
4	DELETE /v1/{tenant_id}/secrets/{resource_id} Delete key metadata	Deletes the specified key metadata
5	GET /v1/{tenant_id}/containers List key metadata containers	Lists key metadata containers
6	GET /v1/{tenant_id}/containers/{resource_id} Retrieve key metadata container	Retrieves the specified key metadata container
7	POST /v1/{tenant_id}/containers Create key metadata container	Creates key metadata container
8	DELETE /v1/{tenant_id}/containers/{resource_id} Delete key metadata container	Deletes the specified key metadata container

2.1.2 General requirements

This section describes general requirements to use this API.

- Unless otherwise stated, the request parameters must be sent by using HTTP GET or HTTP PUT.

2.1.3 API details

2.1.3.1 List key metadata (GET /v1/{tenant_id}/secrets)

Lists key metadata.

{tenant_id}: Tenant ID used to retrieve key metadata

Request headers

X-Auth-Token

Specify the authentication token.

Data type	Cardinality
String	1..1

Request parameters

limit

Maximum number of resources to return in the response (the default is 10)

Data type	Cardinality
int	0..1

offset

Starting index of resources to be listed (the default is 0)

Data type	Cardinality
int	0..1

Request body

n/a

Response headers

Status

The following error codes can be returned for the request.

One of the following values will be returned:

200:	Normal completion
401:	Authentication error (no authentication token, incorrect authentication token, etc.)
400:	Invalid access (invalid parameter, etc.)
403:	Cannot access (no privileges)
404:	No applicable resources
500:	Unexpected error

Data type	Cardinality
int	1..1

Response elements

secrets

Envelope of key metadata list

Data type	Cardinality	Parent element	Child element
Element	1..1	None	(secret)

(secret) Element name is not displayed in JSON

Envelope of key metadata

Data type	Cardinality	Parent element	Child element
Element	0..*	secrets	name status algorithm mode bit_length content_types expiration secret_ref updated created

name

Key name

Data type	Cardinality	Parent element	Child element
String	1..1	(secret)	None

status

Key status

Data type	Cardinality	Parent element	Child element
Enum(ACTIVE,ERROR)	1..1	(secret)	None

algorithm

Algorithm used to generate the key

Data Type	Cardinality	Parent Element	Child Element(s)
String	1..1	(secret)	None

mode

Mode of algorithm associated with the key

Data Type	Cardinality	Parent element	Child element
String	1..1	(secret)	None

bit_length

Bit range of the key

Data type	Cardinality	Parent element	Child element
int	1..1	(secret)	None

content_types

Accept header value required for browsing the payload

Data type	Cardinality	Parent element	Child element
String	0..1	(secret)	None

expiration

Key expiry datetime Value is returned in ISO-8601 format. When the expiry datetime is reached, the key is automatically deleted. If set to null, the key will not expiry (it will not be deleted automatically)

Data type	Cardinality	Parent element	Child element
String	1..1	(secret)	None

secret_ref

Key metadata resource URI

Data type	Cardinality	Parent element	Child element
String	1..1	(secret)	None

updated

Timestamp (UTC) of last update

Data type	Cardinality	Parent element	Child element
datetime	1..1	(secret)	None

created

Timestamp (UTC) of creation

Data type	Cardinality	Parent element	Child element
datetime	1..1	(secret)	None

total

Number of key metadata records registered for the tenant

Data type	Cardinality	Parent element	Child element
int	1..1	None	None

previous

The previous key metadata resource offset information in the retrieved key metadata list

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

next

The next key metadata resource offset information in the retrieved key metadata list

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

Example of request

```
GET /v1/a759452216fd41cf8ee5aba321cfbd49/secrets?limit=2&offset=3
X-Auth-Token: "JpZCI6ICJjM2VlNzA4YTZhZTI0ZGRmOTJjMDc4..."
```

Example of response

```
Status Code: 200 OK
Content-Length: 2446
Content-Type: application/json; charset=UTF-8

{
  "secrets": [
    {
      "status": "ACTIVE",
      "secret_ref": "http://<host>:9311/v1/a759452216fd41cf8ee5aba321cfbd49/secrets/82b63ed0-3ec7-4f3c-93b6-dde9a3c81b99",
      "updated": "2014-07-15T06:04:23.502093",
      "name": "key1",
      "algorithm": null,
      "created": "2014-07-15T06:04:23.490168",
      "content_types": {
        "default": "text/plain"
      },
      "mode": null,
      "bit_length": null,
      "expiration": "2015-02-28T19:14:44.180394"
    },
    {
      "total": 20,
      "next": "http://<host>:9311/v1/a759452216fd41cf8ee5aba321cfbd49/secrets?limit=1&offset=3",
      "previous": "http://<host>:9311/v1/a759452216fd41cf8ee5aba321cfbd49/secrets?limit=1&offset=1"
    }
  ]
}
```

2.1.3.2 Retrieve key metadata (GET /v1/{tenant_id}/secrets/{resource_id})

Retrieves the specified key metadata.

{tenant_id}: Tenant ID used to retrieve key metadata

{resource_id}: Resource ID of the key metadata to be retrieved

Request headers

X-Auth-Token

Specify the authentication token.

Data type	Cardinality
String	1..1

Accept

Specify the format to return the key metadata.

text/plain, application/octet-stream, or application/json.

- Accept: text/plain

The payload value will be returned in plain text format.

However, if the key metadata was registered using "payload_content_type": "application/octet-stream", the error code 406 will be returned and it will not be possible to reference the information.

- Accept: application/octet-stream

The payload value will be returned decrypted in base64 format.

- Accept: application/json

The metadata of the specified secret will be returned

Data type	Cardinality
String	1..1

Request parameters

n/a

Request body

n/a

Response headers

Status

The following error codes can be returned for the request.

One of the following values will be returned:

200:	Normal completion
401:	Authentication error (no authentication token, incorrect authentication token, etc.)
400:	Invalid access (invalid parameter, etc.)
403:	Cannot access (no privileges)
404:	No applicable resources
406:	An unsupported Accept was specified
500:	Unexpected error

Data type	Cardinality
int	1..1

Response elements

(secret) Element name is not displayed in JSON

Envelope of key metadata

Accept: Only returned if "application/json" was specified in the request

Data type	Cardinality	Parent element	Child element
Element	0..1	secrets	name status algorithm mode bit_length content_types expiration secret_ref updated created

name

Key name

Data type	Cardinality	Parent element	Child element
String	1..1	(secret)	None

status

Key status

Data type	Cardinality	Parent element	Child element
Enum(ACTIVE,ERROR)	1..1	(secret)	None

algorithm

Algorithm used to generate the key

Data type	Cardinality	Parent element	Child element
String	1..1	(secret)	None

mode

Mode of algorithm associated with the key

Data type	Cardinality	Parent element	Child element
String	1..1	(secret)	None

bit_length

Bit range of the key

Data type	Cardinality	Parent element	Child element
int	1..1	(secret)	None

content_types

Accept header value required for browsing the payload

Data type	Cardinality	Parent element	Child element
String	0..1	(secret)	None

expiration

Key expiry datetime Value is returned in ISO-8601 format. When the expiry datetime is reached, the key is automatically deleted. If set to null, the key will not expiry (it will not be deleted automatically)

Data type	Cardinality	Parent element	Child element
String	1..1	(secret)	None

secret_ref

Key metadata resource URI

Data type	Cardinality	Parent element	Child element
String	1..1	(secret)	None

updated

Timestamp (UTC) of last update

Data type	Cardinality	Parent element	Child element
datetime	1..1	(secret)	None

created

Timestamp (UTC) of creation

Data type	Cardinality	Parent element	Child element
datetime	1..1	(secret)	None

payload

Registered key metadata payload

Accept: text/plain or Accept: Only returned if "application/octet-stream" was specified in the request

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

Example of request

```
GET /v1/a759452216fd41cf8ee5aba321cfbd49/secrets/96e86d87-6602-4b99-ae41-5b737fe1288d
X-Auth-Token: "JpZCI6ICJjM2VlNzA4YTZhZTI0ZGRmOTJjMDc4..."
Accept: "text/plain"
```

Example of response

- Accept: application/json

```
Status Code: 200 OK
Content-Length: 377
Content-Type: application/json; charset=UTF-8

{
  "status": "ACTIVE",
  "secret_ref": "http://<host>:9311/v1/a759452216fd41cf8ee5aba321cfbd49/
secrets/96e86d87-6602-4b99-ae41-5b737fe1288d",
  "updated": "2014-07-15T06:17:08.082912",
  "name": "key1",
  "algorithm": "aes",
  "created": "2014-07-15T06:17:08.070916",
  "content_types": {
    "default": "text/plain"
  },
  "mode": "cbc",
  "bit_length": 256,
  "expiration": "2015-02-28T19:14:44.180394"
}
```

- Accept: text/plain

```
Status Code: 200 OK
Content-Length: 1626
Content-Type: text/plain; charset=UTF-8

-----BEGIN XXXX-----MIIEow...Rwg7Jp-----END XXXX-----
```

- Accept: application/octet-stream

```
Status Code: 200 OK
Content-Length: 1626
Content-Type: text/plain; charset=UTF-8

If "payload_content_type": "text/plain" was specified during
registration:
-----BEGIN XXXX-----MIIEow...Rwg7Jp-----END XXXX-----

If "payload_content_type": "application/octet-stream" and
"payload_content_encoding": "base64" were specified during registration:
}???"ZG=Iu?^axwM)198?}???? (binary data of decrypted payload in PEM
format)
```

2.1.3.3 Create key metadata (POST /v1/{tenant_id}/secrets)

Creates key metadata.

{tenant_id}: Tenant ID used to register key metadata

Request headers

X-Auth-Token

Specify the authentication token.

Data type	Cardinality
String	1..1

Content-Type

Specify the request body type.

Valid values: application/json

Data type	Cardinality
String	1..1

Request parameters

n/a

Request body

name

Key name

Valid characters: Halfwidth alphanumeric characters and halfwidth symbols

Number of characters: 1 to 255

If omitted, the resource ID of the key metadata is used

Data type	Cardinality
String	0..1

expiration

Key expiry datetime Value is returned in ISO-8601 format. When the expiry datetime is reached, the key is automatically deleted. If omitted, null is used, and the information will not be deleted automatically.

Format: YYYY-MM-DDThh:mm:ss.SSSSSS

Data type	Cardinality
datetime	0..1

payload

Payload of the key metadata to be registered.

While payload is optional, if it is specified, a null string cannot be used. To escape line feeds, specify "\n".

Line feeds can be specified as is.

Example: "-----BEGIN XXXX-----"

> MIIeOwIBAAKCAQEAuyWf1R49q5ccq60LoJ1MHf0IQ"

>-----END XXXX-----

If "text/plain" is specified for payload_content_type, the value must meet the following conditions:

- It must include a segment beginning with "-----BEGIN XXXX-----" and ending in "-----END XXXX-----"
- The segment beginning with "-----BEGIN XXXX-----" and ending in "-----END XXXX-----", only the following characters are valid:
 - Up to 64 characters per line
 - A-Z, a-z, 0-9, +/=

Number of characters: Unlimited (the actual limit is the number of bytes for Body)

Data type	Cardinality
String	0..1

payload_content_type

Format to use in the response for the key information payload

This is required if "payload" is specified

Valid values: "text/plain", "text/plain;charset=utf-8", "text/plain; charset=utf-8", "application/octet-stream"

Data type	Cardinality
Enum("text/plain", "text/plain;charset=utf-8", "text/plain; charset=utf-8", "application/octet-stream")	0..1

payload_content_encoding

Encryption format

This item cannot be specified if any of the following are specified for payload_content_type: "text/plain", "text/plain;charset=utf-8", "text/plain; charset=utf-8"

This item is required if "application/octet-stream" is specified for payload_content_type

Valid value: base64

Data type	Cardinality
Enum(base64)	0..1

Response headers

Status

The following error codes can be returned for the request.

One of the following values will be returned:

201:	Normal completion
401:	Authentication error (no authentication token, incorrect authentication token, etc.)
400:	Invalid access (invalid parameter, etc.)
403:	Cannot access (no privileges)
404:	No applicable resources
413:	The key metadata exceeds 10000 bytes
415:	An unsupported Content-Type was specified
500:	Unexpected error

Data type	Cardinality
int	1..1

Response Elements

secret_ref

Resource URI allocated to the registered key metadata

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

Example of request

```
POST /v1/a759452216fd41cf8ee5aba321cfbd49/secrets
X-Auth-Token: "JpZCI6ICJjM2VlNzA4YTZhZTI0ZGRmOTJjMDc4..."
Content-Type: "application/json"
Body:
{
  "name": "key1",
  "expiration": "2015-02-28T19:14:44.180394",
  "payload": "-----BEGIN XXXX-----MIIEow ... Rwg7Jp-----END XXXX-----",
  "payload_content_type": "text/plain",
  "payload_content_encoding": "base64"
}
```

Example of response

```
Status Code: 201 Created
Content-Length: 118
Content-Type: application/json; charset=UTF-8
Location: http://<host>:9311/ a759452216fd41cf8ee5aba321cfbd49/secrets/
a417d40d-cec7-4129-a5ad-afaac6fab603

{"secret_ref": "http://<host>:9311/v1/ a759452216fd41cf8ee5aba321cfbd49/
secrets/a417d40d-cec7-4129-a5ad-afaac6fab603"}
```

2.1.3.4 Delete key metadata (DELETE /v1/{tenant_id}/secrets/{resource_id})

Deletes the specified key metadata.

{tenant_id}: Tenant ID used to delete the key metadata

{resource_id}: Resource ID of the key metadata to be deleted

Request headers

X-Auth-Token

Specify the authentication token.

Data type	Cardinality
String	1..1

Request parameters

n/a

Request body

n/a

Response headers

Status

The following error codes can be returned for the request.

One of the following values will be returned:

204:	Normal completion
401:	Authentication error (no authentication token, incorrect authentication token, etc.)
400:	Invalid access (invalid parameter, etc.)
403:	Cannot access (no privileges)
404:	No applicable resources
500:	Unexpected error

Data type	Cardinality
int	1..1

Response elements

n/a

Example of request

```
DELETE /v1/a759452216fd41cf8ee5aba321cfbd49/secrets/a417d40d-cec7-4129-a5ad-  
afaac6fab603  
X-Auth-Token: "JpZCI6ICJjM2VlNzA4YTZhZTI0ZGRmOTJjMDc4..."
```

Example of response

```
Status Code: 204 No content  
Content-Length: 0
```

2.1.3.5 List key metadata containers (GET /v1/{tenant_id}/containers)

Lists key metadata containers.

{tenant_id}: Tenant ID used to retrieve a key metadata container

Request headers

X-Auth-Token

Specify the authentication token.

Data type	Cardinality
String	1..1

Request parameters

limit

Maximum number of resources to return in the response (the default is 10)

Data type	Cardinality
int	0..1

offset

Starting index of resources to be listed (the default is 0)

Data type	Cardinality
int	0..1

Request body

n/a

Response headers

Status

The following error codes can be returned for the request.

One of the following values will be returned:

200:	Normal completion
401:	Authentication error (no authentication token, incorrect authentication token, etc.)
400:	Invalid access (invalid parameter, etc.)
403:	Cannot access (no privileges)
404:	No applicable resources
500:	Unexpected error

Data type	Cardinality
int	1..1

Response elements

containers

Envelope of key metadata container list

Data type	Cardinality	Parent element	Child element
Element	1..1	None	(container)

(container)

Envelope of key metadata container

Data type	Cardinality	Parent element	Child element
Element	0..*	containers	status updated

Data type	Cardinality	Parent element	Child element
			name secret_refs

status

Status of key metadata container

Data type	Cardinality	Parent element	Child element
Enum(ACTIVE,ERROR)	1..1	(container)	None

updated

Timestamp (UTC) of last update

Data type	Cardinality	Parent element	Child element
datetime	1..1	(container)	None

name

Name of key metadata container

Data type	Cardinality	Parent element	Child element
String	1..1	(container)	None

created

Timestamp (UTC) of creation

Data type	Cardinality	Parent element	Child element
datetime	1..1	(container)	None

container_ref

Key metadata container resource URI

Data type	Cardinality	Parent element	Child element
String	1..1	(container)	None

secret_refs

Envelope of key metadata list registered in the key information container

Data type	Cardinality	Parent element	Child element
Element	1..1	None	(secret_ref_env)

(secret_ref_env)

Envelope of key metadata registered in the key information container

Data type	Cardinality	Parent element	Child element
Element	0..3	secret_refs	name secret_ref

name

The name of the key information for the key information container in which the key is registered

Data type	Cardinality	Parent element	Child element
String	1..1	(secret_ref_env)	None

secret_ref

URI of the key metadata registered in the key information container

Data type	Cardinality	Parent element	Child element
String	1..1	(secret_ref_env)	None

total

Number of key metadata containers registered for a tenant

Data type	Cardinality	Parent element	Child element
int	1..1	None	None

previous

The previous key metadata container resource offset information in the retrieved key metadata container list

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

next

The next key metadata container resource offset in the retrieved key metadata container list

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

Example of request

```
GET /v1/a759452216fd41cf8ee5aba321cfbd49/containers?limit=1&offset=2
X-Auth-Token: "JpZCI6ICJjM2VlNzA4YTZhZTI0ZGRmOTJjMDc4..."
```

Example of response

```
Status Code: 200 OK
Content-Length: 647
Content-Type: application/json; charset=UTF-8

{
  "total": 4,
  "next": "http://<host>:9311/v1/a759452216fd41cf8ee5aba321cfbd49/containers?limit=1&offset=3",
  "containers": [
    {
      "status": "ACTIVE",
      "updated": "2014-07-18T04:41:34.245613",
      "name": "container1",
```

```

"secret_refs": [
  {
    "secret_id": "82b63ed0-3ec7-4f3c-93b6-dde9a3c81b99",
    "name": "private_key"
  },
  {
    "secret_id": "e2c1ef34-2dac-4e77-8f20-3cd6386f9d87",
    "name": "intermediates"
  },
  {
    "secret_id": "e74530eb-0835-471a-ae05-392132ebce65",
    "name": "certificate"
  }
],
"created": "2014-07-18T04:41:34.245607",
"container_ref": "http://<host>:9311/v1/a759452216fd41cf8ee5aba321cfbd49/containers/ce0b7fcc-5963-47ba-bf44-3936e7b38381",
"type": "certificate"
},
{
  "previous": "http://<host>:9311/v1/a759452216fd41cf8ee5aba321cfbd49/containers?limit=1&offset=1"
}

```

2.1.3.6 Retrieve key metadata container (GET /v1/{tenant_id}/containers/{resource_id})

Retrieves the specified key metadata container.

{tenant_id}: Tenant ID used to retrieve a key metadata container

{resource_id}: Resource ID of the key metadata container to be retrieved

Request headers

X-Auth-Token

Specify the authentication token.

Data type	Cardinality
String	1..1

Request parameters

n/a

Request body

n/a

Response headers

Status

The following error codes can be returned for the request.

One of the following values will be returned:

200:	Normal completion
401:	Authentication error (no authentication token, incorrect authentication token, etc.)
400:	Invalid access (invalid parameter, etc.)
403:	Cannot access (no privileges)
404:	No applicable resources
500:	Unexpected error

Data type	Cardinality
int	1..1

Response elements

status

Status of key metadata container

Data type	Cardinality	Parent element	Child element
Enum(ACTIVE,ERROR)	1..1	None	None

updated

Timestamp (UTC) of last update

Data type	Cardinality	Parent element	Child element
datetime	1..1	None	None

name

Name of key metadata container

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

created

Timestamp (UTC) of creation

Data type	Cardinality	Parent element	Child element
datetime	1..1	None	None

container_ref

Key metadata container resource URI

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

secret_refs

Envelope of key metadata list registered in the key information container

Data type	Cardinality	Parent element	Child element
Element	1..1	None	(secret_ref_env)

(secret_ref_env)

Envelope of key metadata registered in the key information container

Data type	Cardinality	Parent element	Child element
Element	0..3	secret_refs	name secret_ref

name

The name of the key information for the key information container in which the key is registered

Data type	Cardinality	Parent element	Child element
String	1..1	(secret_ref_env)	None

secret_ref

URI of the key metadata registered in the key information container

Data type	Cardinality	Parent element	Child element
String	1..1	(secret_ref_env)	None

Example of request

```
GET /v1/a759452216fd41cf8ee5aba321cfbd49/containers/81d1dc32-019e-4caf-
b04e-49471f4f3aaf
X-Auth-Token: "JpZCI6ICJjM2VlNzA4YTZhZTI0ZGRmOTJjMDc4..."
```

Example of response

```
Status Code: 200 OK
Content-Length: 647
Content-Type: application/json; charset=UTF-8

{
  "status": "ACTIVE",
  "updated": "2014-08-01T08:04:25.038787",
  "name": "container1",
  "secret_refs": [
    {
      "secret_ref": "http://<host>:9311/v1/a759452216fd41cf8ee5aba321cfbd49/
secrets/087cf096-3947-4a54-8968-7b021cfe8196",
      "name": "private_key"
    },
    {
      "secret_ref": "http://<host>:9311/v1/a759452216fd41cf8ee5aba321cfbd49/
secrets/4bbcf05f-d15d-444c-ae9f-799746349a9f",
      "name": "certificate"
    },
    {
      "secret_ref": "http://<host>:9311/v1/a759452216fd41cf8ee5aba321cfbd49/
secrets/8573540e-ad7c-467a-a196-43cf6b5c3468",
      "name": "intermediates"
    }
  ]
}
```

```
}
],
"created": "2014-08-01T08:04:25.038781",
"container_ref": "http://<host>:9311/v1/a759452216fd41cf8ee5aba321cfbd49/containers/81d1dc32-019e-4caf-b04e-49471f4f3aaf",
"type": "certificate"
}
```

2.1.3.7 Create key metadata container (POST /v1/{tenant_id}/containers)

Creates key metadata container.

{tenant_id}: Tenant ID used to register a key metadata container

Request headers

X-Auth-Token

Specify the authentication token.

Data type	Cardinality
String	1..1

Content-Type

Specify the request body type.

Valid values: application/json

Data type	Cardinality
String	1..1

Request parameters

n/a

Request body

name

Name of key metadata container

Data type	Cardinality
String	0..1

type

Type of key metadata container

Valid values: certificate, generic

Data type	Cardinality
Enum(certificate, generic)	1..1

secret_refs

Envelope of key metadata list to be registered in the key metadata container

Includes (secret_ref_env)

Data type	Cardinality
Element	0..1

(secret_ref_env)

Envelope of key metadata to be registered in the key metadata container

Includes name and secret_ref

Data type	Cardinality
Element	0..3

name

Name of key metadata to be registered in the key metadata container

Valid values:

- If type is certificate
certificate, intermediates, private_key
- If type is generic
Any value
However,
 - Valid characters: Halfwidth alphanumeric characters and halfwidth symbols
 - Number of characters: 1 to 255
 - If omitted, null will be used

Data type	Cardinality
If type is certificate Enum(certificate, intermediates, private_key)	If type is certificate 1..1
If type is generic: String	If type is generic 0..1

secret_ref

URI of the key metadata to be registered in the key metadata container

Data type	Cardinality
String	1..1

Response headers

Status

The following error codes can be returned for the request.

One of the following values will be returned:

201:	Normal completion
401:	Authentication error (no authentication token, incorrect authentication token, etc.)
400:	Invalid access (invalid parameter, etc.)
403:	Cannot access (no privileges)
404:	No applicable resources
415:	An unsupported Content-Type was specified
500:	Unexpected error

Data type	Cardinality
int	1..1

Response Elements

container_ref

URI of the registered key metadata container

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

Example of request

```
POST /v1/a759452216fd41cf8ee5aba321cfbd49/containers
X-Auth-Token: "JpZCI6ICJjM2VlNzA4YTZhZTI0ZGRmOTJjMDc4..."
Content-Type: "application/json"
Body:
{
  "name": "container1",
  "type": "certificate",
  "secret_refs": [
    {
      "name": "private_key",
      "secret_ref": "http://<host>:9311/v1/a759452216fd41cf8ee5aba321cfbd49/secrets/087cf096-3947-4a54-8968-7b021cfe8196"
    },
    {
      "name": "certificate",
      "secret_ref": "http://<host>:9311/v1/a759452216fd41cf8ee5aba321cfbd49/secrets/4bbcf05f-d15d-444c-ae9f-799746349a9f"
    },
    {
      "name": "intermediates",
      "secret_ref": "http://<host>:9311/v1/a759452216fd41cf8ee5aba321cfbd49/secrets/8573540e-ad7c-467a-a196-43cf6b5c3468"
    }
  ]
}
```

Example of response

```
Status Code: 201 Created
Content-Length: 123
Content-Type: application/json; charset=UTF-8
```

Location: http://<host>:9311/ a759452216fd41cf8ee5aba321cfbd49/containers/a5330b02-ee46-4883-b8ea-4359925ebbf2

```
{"container_ref": "http://<host>:9311/v1/ a759452216fd41cf8ee5aba321cfbd49/containers/a5330b02-ee46-4883-b8ea-4359925ebbf2"}
```

2.1.3.8 Delete key metadata container (DELETE /v1/{tenant_id}/containers/{resource_id})

Deletes the specified key metadata container.

{tenant_id}: Tenant ID used to delete a key metadata container

{resource_id}: Resource ID of the key metadata container to be deleted

Request headers

X-Auth-Token

Specify the authentication token.

Data type	Cardinality
String	1..1

Request parameters

n/a

Request body

n/a

Response headers

Status

The following error codes can be returned for the request.

One of the following values will be returned:

204:	Normal completion
401:	Authentication error (no authentication token, incorrect authentication token, etc.)
400:	Invalid access (invalid parameter, etc.)
403:	Cannot access (no privileges)
404:	No applicable resources
500:	Unexpected error

Data type	Cardinality
int	1..1

Response elements

n/a

Example of request

```
DELETE /v1/a759452216fd41cf8ee5aba321cfbd49/containers/ a5330b02-ee46-4883-  
b8ea-4359925ebbf2  
X-Auth-Token: "JpZCI6ICJjM2VlNzA4YTZhZTI0ZGRmOTJjMDc4..."
```

Example of response

```
Status Code: 204 No content  
Content-Length: 0
```

Part 3: Software Management

Topics:

- *Software management*

3.1 Software management

3.1.1 API list

Item	API	Description
1	PUT /v1.0/software_support Register/update details on supported software	Registers details (instance ID, software ID, support ID) on a supported software, or updates a support ID that has already been registered.
2	GET /v1.0/software_support Retrieve details on a supported software	Retrieves details on all supported software.

3.1.2 General requirements

This section describes general requirements to use this API.

- Unless otherwise stated, the request parameters must be sent by using HTTP GET or HTTP PUT.

3.1.3 API details

3.1.3.1 Register/update details on supported software (PUT / v1.0/software_support)

Registers details (instance ID, software ID, support ID) on a supported software, or updates a support ID that has already been registered.

A change prohibition period has been set internally for registered support IDs. This refers to the period during which it is not possible to change a support ID from supported (spt_24h, spt_daytime) to not supported (nosupport).

This API determines whether changes to the support ID are allowed, based on the items below. If support ID cannot currently be changed, the 400 Bad Request error message will be returned.

1. Datetime (UTC) of execution of this API
2. Datetime (UTC) of the software registration (this information is returned by GET /v1.0/software_support in the UpdateDate field)
3. Change prohibition period

Formula: (1) - (2) >= (3)

Request headers

X-Auth-Token

Specify the authentication token.

Data type	Cardinality
String	1..1

Content-Type

Specify "Application/xml".

Data type	Cardinality
String	1..1

Request elements

SupportSoftwares

Details on all supported software (root element)

Data type	Cardinality	Parent element	Child element
String	1..1	None	SupportSoftware

SupportSoftware

Details on a retrieved supported software

Data type	Cardinality	Parent element	Child element
String	1..n	SupportSoftwares	InstanceID SoftwareID SupportID

InstanceID

Instance ID

Data type	Cardinality	Parent element	Child element
String	1..1	SupportSoftware	None

SoftwareID

Software ID

Refer to the "[Table 1: SoftwareID and SupportID values](#) on page 202" table below for details on the valid values.

Data type	Cardinality	Parent element	Child element
String	1..1	SupportSoftware	None

SupportID

Support ID

Refer to the "[Table 1: SoftwareID and SupportID values](#) on page 202" table below for details on the valid values.

Data type	Cardinality	Parent element	Child element
String	1..1	String	1..1

When changing support, it is necessary to specify the following values for SoftwareID and SupportID.

Table 1: SoftwareID and SupportID values

SoftwareID	SupportID	Initial setting	Remarks
W2k8R2SE	nosupport	B	Windows Server 2008 SE R2 SP1 64-bit Japanese version PL (no support for OS delivery service/virtual server import service)
	spt_daytime		Windows Server 2008 SE R2 SP1 64-bit Japanese version PL daytime support (support for OS delivery service/virtual server import service)
	spt_24h		Windows Server 2008 SE R2 SP1 64-bit Japanese version PL 24-hour support (support for OS delivery service/virtual server import service)
W2k8R2EE	nosupport	B	Windows Server 2008 EE R2 SP1 64-bit Japanese version PL (no support for OS delivery service/virtual server import service)
	spt_daytime		Windows Server 2008 EE R2 SP1 64-bit Japanese version PL daytime support (support for OS delivery service/virtual server import service)
	spt_24h		Windows Server 2008 EE R2 SP1 64-bit Japanese version PL 24-hour support (support for OS delivery service/virtual server import service)
W2k12R2SE	nosupport	B	Windows Server 2012 SE R2 64-bit Japanese version PL (no support for OS delivery service/virtual server import service)
	spt_daytime		Windows Server 2012 SE 64-bit Japanese version PL daytime support (support for OS delivery service/virtual server import service)
	spt_24h		Windows Server 2012 SE R2 64-bit Japanese version PL 24-hour support (support for OS delivery service/virtual server import service)
W2k12SE	nosupport	B	Windows Server 2012 SE 64-bit Japanese version PL (no support for OS delivery service/virtual server import service)
	spt_daytime		Windows Server 2012 SE 64-bit Japanese version PL daytime support (support for OS delivery service/virtual server import service)
	spt_24h		Windows Server 2012 SE 64-bit Japanese version PL 24-hour support (support for OS delivery service/virtual server import service)
RHEL	spt_daytime	B	Red Hat Enterprise Linux 6.5 64-bit English version daytime support (support for OS delivery service)
	spt_24h		Red Hat Enterprise Linux 6.5 64-bit English version 24-hour support (support for OS delivery service)
MSSQL2K14SE	nosupport	B	SQL Server 2014 SE 64-bit Japanese version (no support for software delivery service)
	spt_daytime		SQL Server 2014 SE 64-bit Japanese version daytime support (support for software delivery service)

SoftwareID	SupportID	Initial setting	Remarks
	spt_24h		SQL Server 2014 SE 64-bit Japanese version 24-hour support (support for software delivery service)
MSSQL2K14EE	nosupport	B	SQL Server 2014 EE 64-bit Japanese version (no support for software delivery service)
	spt_daytime		SQL Server 2014 EE 64-bit Japanese version daytime support (support for software delivery service)
	spt_24h		SQL Server 2014 EE 64-bit Japanese version 24-hour support (support for software delivery service)

Request parameters

n/a

Response headers

Content-Type

Returns "Application/xml".

Data type	Cardinality
String	1..1

Response elements

SupportSoftwares

Details on all supported software (root element)

Data type	Cardinality	Parent element	Child element
String	1..1	None	SupportSoftware

SupportSoftware

Details on a retrieved supported software

Data type	Cardinality	Parent element	Child element
String	1..n	SupportSoftwares	TenantID RegionID InstanceID Image ID SoftwareID SupportID UpdateDate

TenantID

Tenant ID

The tenant ID to which the user belongs.

Data type	Cardinality	Parent element	Child element
String	1..1	SupportSoftware	None

RegionID

Region ID

The region ID for which details on the software was registered/updated.

Data type	Cardinality	Parent element	Child element
String	1..1	SupportSoftware	None

InstanceID

Instance ID

Data type	Cardinality	Parent element	Child element
String	1..1	SupportSoftware	None

Image ID

Image ID

The image ID linked to the instance ID.

Data type	Cardinality	Parent element	Child element
String	1..1	SupportSoftware	None

SoftwareID

Software ID

Data type	Cardinality	Parent element	Child element
String	1..1	SupportSoftware	None

SupportID

Support ID

Data type	Cardinality	Parent element	Child element
String	1..1	SupportSoftware	None

UpdateDate

Update date

The datetime (UTC) of registration of details on the software or of the change from not supported (nosupport) to supported (spt_24h, spt_daytime).

Data type	Cardinality	Parent element	Child element
String	1..1	SupportSoftware	None

Example of request

```
PUT
/v1.0/software_support
```

```
X-Auth-Token:MIIZuwYJKoZIhvcNAQc...
Content-Type: application/xml
```

```
<SupportSoftwares>
  <SupportSoftware>
    <InstanceID>instance1</InstanceID>
    <SoftwareID>ws2012</SoftwareID>
    <SupportID>nosupport</SupportID>
  </SupportSoftware>
  <SupportSoftware>
    <InstanceID>instance1</InstanceID>
    <SoftwareID>sq2012</SoftwareID>
    <SupportID>spt_24h</SupportID>
  </SupportSoftware>
</SupportSoftwares>
```

Example of response

```
HTTP/1.1 200 OK
Date: Fri, 11 Sep 2015 05:27:35 GMT
Content-Length: 5000
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8"?>
<SupportSoftwares>
  <SupportSoftware>
    <TenantID>tenant1</TenantID>
    <RegionID>jp-east-1</RegionID>
    <InstanceID>instance1</InstanceID>
    <ImageID>image1</ImageID>
    <SoftwareID>ws2012</SoftwareID>
    <SupportID>nosupport</SupportID>
    <UpdateDate>2015-09-11</UpdateDate>
  </SupportSoftware>
  <SupportSoftware>
    <TenantID>tenant1</TenantID>
    <RegionID>jp-east-1</RegionID>
    <InstanceID>instance1</InstanceID>
    <ImageID>image1</ImageID>
    <SoftwareID>sq2012</SoftwareID>
    <SupportID>spt_24h</SupportID>
    <UpdateDate>2015-09-11</UpdateDate>
  </SupportSoftware>
</SupportSoftwares>
```

3.1.3.2 Retrieve details on supported software (GET /v1.0/software_support)

Retrieves details on all supported software.

Request headers

X-Auth-Token

Specify the authentication token.

Data type	Cardinality
String	1..1

Request parameters

TenantID

Specify the tenant ID.

Only the tenant ID to which the user belongs can be specified (the tenant ID is included in the authentication token). An error will be returned if a tenant ID that the user does not belong to is specified.

If omitted, the tenant ID that the user belongs to will be targeted.

Data type	Cardinality
String	0..1

InstanceID

Specify the instance ID.

If omitted, all instance IDs will be targeted.

Data type	Cardinality
String	0..1

SoftwareID

Specify the software ID.

If omitted, all Software IDs will be targeted.

SoftwareID is required if InstanceID is specified. An error will be returned if SoftwareID is specified but InstanceID is not.

Data type	Cardinality
String	0..1

SupportID

Specify the support ID.

If omitted, all support IDs will be targeted.

SupportID is required if SoftwareID is specified. An error will be returned if SupportID is specified but SoftwareID is not.

Data type	Cardinality
String	0..1

Response headers

Content-Type

Returns "Application/xml".

Data type	Cardinality
String	1..1

Response elements

SupportSoftwares

Details on all supported software (root element)

Data type	Cardinality	Parent element	Child element
String	1..1	None	SupportSoftware

SupportSoftware

Details on a retrieved supported software

Note: This tag is not displayed if the following condition is met:

If no details exist under the target SupportSoftware

Data type	Cardinality	Parent element	Child element
String	0..n	SupportSoftwares	TenantID InstanceID Image ID SoftwareID SupportID UpdateDate

TenantID

Tenant ID

Note: If the SupportSoftware tag is not displayed, this tag is not displayed either.

Data type	Cardinality	Parent element	Child element
String	0..1	SupportSoftware	None

InstanceID

Instance ID

Note: If the SupportSoftware tag is not displayed, this tag is not displayed either.

Data type	Cardinality	Parent element	Child element
String	0..1	SupportSoftware	None

Image ID

Image ID

Note: If the SupportSoftware tag is not displayed, this tag is not displayed either.

Data type	Cardinality	Parent element	Child element
String	0..1	SupportSoftware	None

SoftwareID

Software ID

Note: If the SupportSoftware tag is not displayed, this tag is not displayed either.

Data type	Cardinality	Parent element	Child element
String	0..1	SupportSoftware	None

SupportID

Support ID

Note: If the SupportSoftware tag is not displayed, this tag is not displayed either.

Data type	Cardinality	Parent element	Child element
String	0..1	SupportSoftware	None

UpdateDate

Update date

Note: If the SupportSoftware tag is not displayed, this tag is not displayed either.

Data type	Cardinality	Parent element	Child element
String	0..1	SupportSoftware	None

Example of request

```
GET
/v1.0/software_support?TenantID=tenant1&InstanceID=instance1
X-Auth-Token:MIIZuwYJKoZIhvcNAQc...
```

Example of response

When details on supported software exist:

```
HTTP/1.1 200 OK
Date: Sun, 31 Aug 2014 00:00:00 GMT
Content-Length: 5000
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8"?>
<SupportSoftwares>
  <SupportSoftware>
    <TenantID>tenant1</TenantID>
    <InstanceID>instance1</InstanceID>
    <ImageID>image1</ImageID>
    <SoftwareID>RHEL</SoftwareID>
  <SupportID>nosupport</SupportID>
    <UpdateDate>2014.8.31</UpdateDate>
  </SupportSoftware>
  <SupportSoftware>
    <TenantID>tenant1</TenantID>
    <InstanceID>instance1</InstanceID>
    <ImageID>RHEL</ImageID>
    <SoftwareID>sq2012</SoftwareID>
  <SupportID>spt_24h</SupportID>
    <UpdateDate>2014.8.31</UpdateDate>
  </SupportSoftware>
  <SupportSoftware>
    <TenantID>tenant1</TenantID>
    <InstanceID>instance1</InstanceID>
    <ImageID>RHEL</ImageID>
    <SoftwareID>sq2012</SoftwareID>
  <SupportID>spt_daytime</SupportID>
    <UpdateDate>2014.8.31</UpdateDate>
  </SupportSoftware>
</SupportSoftwares>
```

When details on supported software do not exist:

```
HTTP/1.1 200 OK
Date: Sun, 31 Aug 2014 00:00:00 GMT
Content-Length: 5000
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8"?>
<SupportSoftwares/>
```

Part 4: Monitoring Service

Topics:

- [*Monitoring service*](#)

4.1 Monitoring service

4.1.1 API list

Item	API	Description
1	GET /v2/meters List meters	Lists meters, based on the specified query.
2	GET /v2/meters/{meter_name} List samples for meter	Lists samples for the specified meter.
3	POST /v2/meters/{meter_name} Add samples to meter	Add samples to the specified meter.
4	GET /v2/meters/{meter_name}/statistics Show meter statistics	Retrieves sample statistics for samples of the specified meter based on the specified query.
5	GET /v2/alarms List alarms	Lists alarms, based on the specified query.
6	POST /v2/alarms Create alarm	Creates an alarm.
7	GET /v2/alarms/{alarm_id} Show alarm details	Show details on the specified alarm.
8	PUT /v2/alarms/{alarm_id} Update alarm	Updates the specified alarm.
9	DELETE /v2/alarms/{alarm_id} Delete alarm	Deletes the specified alarm.
10	GET /v2/alarms/{alarm_id}/state Show alarm state	Shows the state of the specified alarm.
11	PUT /v2/alarms/{alarm_id}/state Update alarm state	Sets the state of the specified alarm.
12	GET /v2/alarms/{alarm_id}/history Show alarm history	Show the history of the specified alarm, based on the specified query.
13	GET /v2/resources List resources	Lists resources, based on the specified query.
14	GET /v2/resources/{resource_id} Show resource details	Shows details on the specified resource.

The following symbols are used to indicate permission/prohibition of API access in each preset role.

Item	API	Contractor Role (cpf_org_manager)	Administrator Role (cpf_admin)	System Owner Role (cpf_systemowner)	Operator Role (cpf_operator)	Observer Role (cpf_observer)
1	GET /v2/meters	N	A	B	B	B
2	GET /v2/meters/{meter_name}	N	A	B	B	B
3	POST /v2/meters/{meter_name}	N	A	B	N	N
4	GET /v2/meters/{meter_name}/statistics	N	A	B	B	B
5	GET /v2/alarms	N	A	B	B	B
6	POST /v2/alarms	N	A	B	N	N
7	GET /v2/alarms/{alarm_id}	N	A	B	B	B
8	PUT /v2/alarms/{alarm_id}	N	A	B	N	N
9	DELETE /v2/alarms/{alarm_id}	N	A	B	N	N
10	GET /v2/alarms/{alarm_id}/state	N	A	B	B	N
11	PUT /v2/alarms/{alarm_id}/state	N	A	B	B	N
12	GET /v2/alarms/{alarm_id}/history	N	A	B	B	B
13	GET /v2/resources	N	A	B	B	B
14	GET /v2/resources/{resource_id}	N	A	B	B	B

- A: Allowed on all projects in the user's own domain
- B: Allowed only on projects that the user belongs to
- N: Not allowed

Custom roles and API support are described in the table below. Refer to the role management service specification/API for details on custom roles.



Custom roles are not provided as of December 1, 2015.

Caution

Item	API	Custom role name
1	GET /v2/meters List meters	met_list_meters
2	GET /v2/meters/{meter_name} List samples for meter	met_list_samples
3	POST /v2/meters/{meter_name} Add samples to meter	met_create_sample
4	GET /v2/meters/{meter_name}/statistics Show meter statistics	met_list_statistics
5	GET /v2/alarms	met_list_alarms

Item	API	Custom role name
	List alarms	
6	POST /v2/alarms Create alarm	met_create_alarm
7	GET /v2/alarms/{alarm_id} Show alarm details	met_get_alarm
8	PUT /v2/alarms/{alarm_id} Update alarm	met_update_alarm
9	DELETE /v2/alarms/{alarm_id} Delete alarm	met_delete_alarm
10	GET /v2/alarms/{alarm_id}/state Show alarm state	met_get_alarm_state
11	PUT /v2/alarms/{alarm_id}/state Update alarm state	met_set_alarm_state
12	GET /v2/alarms/{alarm_id}/history Show alarm history	met_list_history
13	GET /v2/resources List resources	met_list_resources
14	GET /v2/resources/{resource_id} Show resource details	met_get_resource

4.1.2 Glossary

Term	Description
meter	A resource measurement item (such as performance information). These items comprise name, unit, and type. The following three types are available:

Term	Description
	cumulative: Value that increases in proportion to time (cumulative value). gauge: Fluctuating value. Value that fluctuates according to the time (discrete value, fluctuating value). delta: Value for which the amount of change is obtained at each collection interval, in regard to values that are always increasing or decreasing (variation).
alarm	Threshold value setting for meters. Actions can be set for threshold conditions.
sample	Time-series data associated with a meters. Sample data is stored for two weeks, and earlier samples are deleted automatically.
Resource	Measurement targets. (examples: instances, volumes and images)
Source	Information showing the collection source of the measurement data. The default meter source is "fcx".

4.1.3 General requirements

If a value in the request parameter contains a character that cannot be used as is in the URL, it must be encoded using UTF-8.

4.1.4 Common API items

The following lists request header information common to the APIs.

Request headers

X-Auth-Token

Specifies authentication tokens.

Data type	Cardinality
String	1..1

Content-Type

Specify the following if the POST or PUT method is used:

"application/json"

Data type	Cardinality
String	0..1

4.1.5 Common API error codes

The following lists error information common to the APIs.

Status

The following error codes can be returned for the request.

400:	An invalid parameter was specified, or there is an error in the JSON data format specified in the request body.
401:	Authentication error. An authentication token does not exist or contains an error.
404:	A URL that does not exist or an incorrect URL was specified.
500:	Service internal error.
503:	The service cannot be used temporarily.
504:	Processing was not completed within a certain period (one minute).

Data type	Cardinality
int	1..1

The following error information is returned:

Response headers

Content-Length

Request length excluding the header (in bytes).

Data type	Cardinality
String	1..1

Content-Type

Type of contents.

text/plain:	If the status is 401.
application/json:	If the status is not 401.

Data type	Cardinality
String	1..1

Date

Datetime of the response.

Data type	Cardinality
String	1..1

WWW-Authenticate

URL of the authentication service (only output for authentication errors).

Data type	Cardinality
String	0..1

Response elements

error_message

Container for error information.

Data type	Cardinality	Parent element	Child element
Element	1..1	None	debuginfo faultcode faultstring

debuginfo

Debug information.

Data type	Cardinality	Parent element	Child element
String	1..1	error_message	None

faultcode

Error code.

Data type	Cardinality	Parent element	Child element
String	1..1	error_message	None

faultstring

Error message.

Data type	Cardinality	Parent element	Child element
String	1..1	error_message	None

Example of response

```
{
  "error_message": {
    "debuginfo": null,
    "faultcode": "Client",
    "faultstring": "Invalid input for field/attribute limit. Value: 'a'.
unable to convert to int"
  }
}
```

4.1.6 API details

4.1.6.1 List meters (GET /v2/meters)

Lists meters, based on the specified query.

Request headers

Refer to "[Common API items](#)" on page 214".

Request parameters

q.field

Specifies the following fields for query.

- resource_id: ID of the resource.
- source: Source meter.
- user_id: ID of the user that created the meter.

If omitted, all meters will be targeted.

Data type	Cardinality
String	0..10

q.op

Specifies the comparison operator described below.

- If q.field is "resource_id":
eq: Equal to
- If q.field is "source":
eq: Equal to
- If q.field is user_id:
eq: Equal to

If omitted, "eq" is used.

Data type	Cardinality
String	0..10

q.value

Query data value.

Specifies the following data value targeted for comparison.

- If q.field is "resource_id":
Resource ID
- If q.field is "source":
Source
- If q.field is user_id:
User ID

Valid characters: Fullwidth characters, halfwidth alphanumeric characters and halfwidth symbols

Number of characters: 1 to 255

Data type	Cardinality
String	0..10

limit

Maximum number of meters to retrieve.

Range: 1 to 1440

If omitted, "1440" is used.

Data type	Cardinality
Int	0..1

offset

Number of meters to offset.

If omitted, "0" is used.

Data type	Cardinality
Int	0..1

Response headers

Status

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 215" if the state is error.

Data type	Cardinality
Int	1..1

Response elements

List (in JSON format) of meters based on the specified query.

Refer to "[type Meter](#) on page 243" for details.

Example of request

Example 1: List all meters.

```
curl -H 'X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x...' \
'https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/meters'
```

Example 2: List the meters concerning the specified user and resource.

```
curl -H 'X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x...' \
'https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/meters?q.field=
user_id&q.op=eq&q.value=0382c98eaf574d1ab5751a3e938b744d&q.field=
resource_id&q.op=eq&q.value=my_resource'
```

Example of response

```
[
  {
    "meter_id": "ZGVtb19yZXNvdXJjZTAwMyt0ZXN0bWV0ZXIwMDU=\n",
    "name": "my_meter",
    "project_id": "610678ac162147c4a5e838190a80994e",
    "resource_id": "my_resource",
```

```

    "source": "89b0b9f21b414cd39354a1b8056aef87:my_source",
    "type": "gauge",
    "unit": "test",
    "user_id": "0382c98eaf574d1ab5751a3e938b744d"
  },
  {
    "meter_id": "ZGVtb19yZXNvdXJjZTAwMyt0ZXN0bWV0ZXIwMDY=\n",
    "name": "my_meter",
    "project_id": "610678ac162147c4a5e838190a80994e",
    "resource_id": "my_resource2",
    "source": "89b0b9f21b414cd39354a1b8056aef87:my_source",
    "type": "gauge",
    "unit": "test",
    "user_id": "0382c98eaf574d1ab5751a3e938b744d"
  }
]

```

4.1.6.2 List samples for meter (GET /v2/meters/{meter_name})

Lists samples for the specified meter.

{meter_name}: Name of the meter from which to retrieve samples.

Request headers

Refer to "[Common API items](#) on page 214".

Request parameters

q.field

Specifies the following fields for query.

- resource_id: ID of the resource.
- source: Source meter.
- timestamp: Datetime of the sample.
 - If timestamp is omitted, the following will be used: "current time - 1 day <= timestamp < current time".
 - If only the start time is specified, the following will be used for end datetime: "start datetime + 1 day < timestamp".
 - If only the end time is specified, the following will be used for start datetime: "end datetime - 1 day >= timestamp".
- user_id: ID of the user that created the meter.

If omitted, all samples will be targeted.

Data type	Cardinality
String	0..10

q.op

Specifies the comparison operator described below.

- If q.field is "resource_id":
 - eq: Equal to
- If q.field is "source":
 - eq: Equal to
- If q.field is "timestamp":

gt: Greater than

ge: Greater than or equal to

lt: Less than

le: Less than or equal to

If omitted, "eq" is used.

Data type	Cardinality
String	0..10

q.value

Specifies the following data value targeted for comparison.

- If q.field is "resource_id":
Resource ID
- If q.field is "source":
Source
- If q.field is "timestamp":
Datetime (YYYY-MM-DDThh:mm:ss)

Valid characters: Fullwidth characters, halfwidth alphanumeric characters and halfwidth symbols

Number of characters: 1 to 255

Data type	Cardinality
String	0..10

limit

Maximum number of samples to retrieve.

Range: 1 to 1440

If omitted, "1440" is used.

Data type	Cardinality
Int	0..1

offset

Number of sample to offset.

If omitted, "0" is used.

Data type	Cardinality
Int	0..1

Response headers

Status

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 215" if the state is error.

Data type	Cardinality
Int	1..1

Response elements

List (in JSON format) of the samples based on the specified query.

Refer to "[type OldSample](#) on page 244" for details.

Example of request

Example 1: List samples within the specified time range.

```
curl -H 'X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x...' \
'https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/meters/my_meter?
q.field=timestamp&q.op=gt&q.value=2014-10-22T00:00:00&q.field=timestamp&
q.op=lt&q.value=2014-10-23T00:00:00'
```

Example 2: List samples concerning the specified resource.

```
curl -H 'X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x...' \
'https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/meters/my_meter?
q.field=resource_id&q.op=eq&q.value=my_resource'
```

Example of response

```
[
  {
    "counter_name": "my_meter",
    "counter_type": "gauge",
    "counter_unit": "%",
    "counter_volume": 0.0,
    "project_id": "bc835c72f50b48c89ad7ee8a89806bb1",
    "recorded_at": "2014-10-22T00:02:50.171418",
    "resource_id": "my_resource",
    "resource_metadata": {
      "my_metadata": "test",
    },
    "source": "bc835c72f50b48c89ad7ee8a89806bb1:my_source",
    "timestamp": "2014-10-22T00:02:49",
    "user_id": "22fa5e38788d40988b8aa28e749f7a84"
  },
  {
    "counter_name": "my_meter",
    "counter_type": "gauge",
    "counter_unit": "%",
    "counter_volume": 10.0,
    "project_id": "bc835c72f50b48c89ad7ee8a89806bb1",
    "recorded_at": "2014-10-22T00:01:12.511325",
    "resource_id": "my_resource",
    "resource_metadata": {
      "my_metadata": "test",
    },
    "source": "bc835c72f50b48c89ad7ee8a89806bb1:my_source",
    "timestamp": "2014-10-22T00:01:12",
    "user_id": "22fa5e38788d40988b8aa28e749f7a84"
  },
]
```

4.1.6.3 Add samples to meter (POST /v2/meters/{meter_name})

Adds samples to the specified meter.

{meter_name}: Name of the meter to which to add samples. Note that the specified value cannot start with "fcx.(dot)".



Caution

Alarm evaluation (threshold monitoring) is performed in accordance with the monitoring interval (60 seconds) specified for the monitoring service. Therefore, depending on the timing of when a sample is added, it may become a target for alarm evaluation only in the next monitoring interval, not the current one.

Request headers

Refer to "[Common API items](#) on page 214".

Request parameters

None.

Request body

Specifies a list of samples to be added in JSON format.

Up to 20 samples can be specified at once (the meter names must all be the same).

Also, the meter name specified for {meterName} must match the name specified for counter_name in Request body.

Refer to "[type OldSample](#) on page 244" for details.

Response headers

Status

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 215" if the state is error.

Data type	Cardinality
Int	1..1

Response elements

List (in JSON format) of the samples added.

Refer to "[type OldSample](#) on page 244" for details.

Example of request

Example: Add a sample to meter "my_meter".

```
curl -X POST -H 'Content-Type: application/json' \
-H 'X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x...' \
-d requestBody "https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/
meters/my_meter"
```

Request body (JSON format)

```
[
  {
    "counter_name": "my_meter",
    "counter_type": "gauge",
    "counter_unit": "instance",
    "counter_volume": 2.0,
    "resource_id": "my_resource",
    "resource_metadata": {
      "my_metadata": "test",
      "my_metadata2": "test2"
    },
    "source": "my_source",
    "timestamp": "2014-06-12T07:01:07.428799"
  }
]
```

Example of response

```
[
  {
    "counter_name": "my_meter",
    "counter_type": "gauge",
    "counter_unit": "instance",
    "counter_volume": 2.0,
    "message_id": "5a016f38-5b39-11e4-9966-fa163e0aad81",
    "project_id": "39bd0d0341484a1a88f8ecdb1b21311c",
    "resource_id": "my_resource",
    "resource_metadata": {
      "my_metadata": "test",
      "my_metadata2": "test2"
    },
    "source": "39bd0d0341484a1a88f8ecdb1b21311c:my_source",
    "timestamp": "2014-06-12T07:01:07.428799",
    "user_id": "9953aae1953a4caab3cc278e3018cf68"
  }
]
```

4.1.6.4 Show meter statistics (GET /v2/meters/{meter_name}/statistics)

Computes and lists statistics for samples in the specified time range.

{meter_name}: Name of the meter from which to retrieve samples.

Request headers

Refer to "[Common API items](#) on page 214".

Request parameters

q.field

Specifies the following fields for query.

- resource_id: ID of the resource.
- source: Source meter.
- timestamp: Aggregation start/end time
 - If timestamp is omitted, the search conditions are set with "timestamp >= *currentTime* - (period x 1440)" (*1) as the aggregation start time, and "timestamp < *currentTime*" as the aggregation end time (when the period is 60 (seconds), the range will be up to one day).

- If only the aggregation start time is specified for timestamp, the search conditions are set with the following as the aggregation end time: "*aggregationStartTime* + (period x 1440) < timestamp" (*1).
- If only the aggregation end time is specified for timestamp, the search conditions are set with the following as the aggregation start time: "*aggregationEndTime* - (period x 1440) >= timestamp" (*1).
- An error will occur if the range (seconds) of the aggregation start and end times for timestamp is larger than the (period x 1440) value.

*1: If the (period x 1440) value is more than 1209600 (two weeks), it will be handled as 1209600.

- *user_id*: ID of the user that created the meter.

If omitted, the aggregate results of all samples of the specified meter will be output.

Data type	Cardinality
String	0..10

q.op

Specifies the comparison operator described below.

- If *q.field* is "*resource_id*":
eq: Equal to
- If *q.field* is "*source*":
eq: Equal to
- If *q.field* is "*timestamp*":
gt: Greater than
ge: Greater than or equal to
lt: Less than
le: Less than or equal to
- If *q.field* is *user_id*:
eq: Equal to

If omitted, "eq" is used.

Data type	Cardinality
String	0..10

q.value

Specifies the following data value targeted for comparison.

- If *q.field* is "*resource_id*":
Resource ID
- If *q.field* is "*source*":
Source
- If *q.field* is "*timestamp*":
Datetime (YYYY-MM-DDThh:mm:ss)
- If *q.field* is *user_id*:
User ID

Valid characters: Fullwidth characters, halfwidth alphanumeric characters and halfwidth symbols

Number of characters: 1 to 255

Data type	Cardinality
String	0..10

groupby

Specifies the following field if aggregating by field.

- resource_id
- user_id

If omitted, aggregation will not be performed by field.

Data type	Cardinality
String	0..1

period

Specifies the aggregation interval (seconds).

Range: 60 to 1209600 (can only be specified in multiples of 60)

If omitted, the aggregate results of all samples of the specified range are output.

Data type	Cardinality
int	0..1

aggregate.func

Specifies the following aggregation functions.

- avg: average value
- count: number of samples
- max: maximum value
- min: minimum value
- sum: total value

If omitted, the results of all aggregation functions will be output.

Data type	Cardinality
String	0..10

Response headers

Status

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 215" if the state is error.

Data type	Cardinality
Int	1..1

Response elements

Returns a list of aggregation results in JSON format.

Refer to "[type Statistics](#) on page 247" for details.

Example of request

Example 1: Specify the datetime of the sample and the user ID for "groupby", and retrieve statistics by user within a specific time range.

```
curl -H 'X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x...' \
'https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/meters/my_meter/
statistics?
groupby=user_id&q.field=timestamp&q.op=gt&q.value=2014-10-22T00:00:00&
q.field=timestamp&q.op=lt&q.value=2014-10-23T00:00:00'
```

Example 2: Specify the aggregation interval and aggregation function, and retrieve the maximum and minimum values on an hourly basis.

```
curl -H 'X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x...' \
'https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/meters/my_meter/
statistics?period=3600&aggregate.func=max&aggregate.func=min'
```

Example of response

```
[
  {
    "avg": 0.041790414908881302,
    "count": 1716,
    "duration": 89950.0,
    "duration_end": "2014-10-23T00:59:22",
    "duration_start": "2014-10-22T00:00:12",
    "groupby": {
      "user_id": "f2ee0c983abf4c65aa44b3328b8a484f"
    },
    "max": 0.314285714285714,
    "min": 0.0172413793103448,
    "period": 0,
    "period_end": "2014-10-23T00:59:22",
    "period_start": "2014-10-22T00:00:12",
    "sum": 71.712351983640303,
    "unit": "%"
  },
  {
    "avg": 0.048886882955332202,
    "count": 905,
    "duration": 89858.0,
    "duration_end": "2014-10-23T00:59:05",
    "duration_start": "2014-10-22T00:01:27",
    "groupby": {
      "user_id": "0d6293fbdf8948f090b8195bebd8ee8b"
    },
    "max": 0.36956521739130399,
    "min": 0.0280373831775701,
    "period": 0,
    "period_end": "2014-10-23T00:59:05",
    "period_start": "2014-10-22T00:01:27",
    "sum": 44.242629074575603,
    "unit": "%"
  }
]
```

4.1.6.5 List alarms (GET /v2/alarms)

Lists alarms, based on the specified query.

Request headers

Refer to "[Common API items](#)" on page 214".

Request parameters

q.field

Specifies the following fields for query.

- alarm_id: ID of the alarm
- enabled: Enable/disable alarm evaluation
- name: Name of the alarm
- user_id: The ID of the user that created the alarm

If omitted, all of the targeted alarms are output.

Data type	Cardinality
String	0..10

q.op

Specifies the comparison operator described below.

- If q.field is alarm_id:
eq: Equal to
- If q.field is enabled:
eq: Equal to
- If q.field is name:
eq: Equal to
- If q.field is user_id:
eq: Equal to

If omitted, "eq" is used.

Data type	Cardinality
String	0..10

q.value

Specifies the following data value targeted for comparison.

- If q.field is alarm_id:
Alarm ID
- If q.field is enabled:
true: Enabled
false: Disabled
- If q.field is name:
Alarm name
- If q.field is user_id:
User ID

Valid characters: Fullwidth characters, halfwidth alphanumeric characters and halfwidth symbols

Number of characters: 1 to 255

Data type	Cardinality
String	0..10

limit

Maximum number of alarms to retrieve.

Range: 1 to 1440

If omitted, "1440" is used.

Data type	Cardinality
Int	0..1

offset

Number of alarm items to offset.

If omitted, "0" is used.

Data type	Cardinality
Int	0..1

Response headers

Status

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 215" if the state is error.

Data type	Cardinality
Int	1..1

Response elements

List (in JSON format) of the alarms based on the specified query.

Refer to "[type Alarm](#) on page 249" for details.

Example of request

Example 1: List alarms.

```
curl -H 'X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x...' \
'https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/alarms'
```

Example 2: List alarms with alarm evaluation enabled.

```
curl -H 'X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x...' \
'https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/alarms?
q.field=enabled&q.value=true'
```

Example of response

```
[
  {
    "alarm_actions": [],
    "alarm_id": "55c6a768-e8ab-487b-b724-892b0ad4fc2a",
    "description": "testAlarm",
    "enabled": true,
    "insufficient_data_actions": [],
    "name": "my_alarm",
    "ok_actions": [],
    "project_id": "39bd0d0341484a1a88f8ecdb1b21311c",
    "repeat_actions": false,
    "state": "insufficient data",
    "state_timestamp": "2014-10-22T05:20:46.795969",
    "threshold_rule": {
      "comparison_operator": "gt",
      "evaluation_periods": 1,
      "exclude_outliers": false,
      "meter_name": "my_meter",
      "period": 120,
      "query": [],
      "statistic": "avg",
      "threshold": 0.0
    },
    "time_constraints": [],
    "timestamp": "2014-10-22T05:15:54.954117",
    "type": "threshold",
    "user_id": "9953aae1953a4caab3cc278e3018cf68"
  }
]
```

4.1.6.6 Create alarm (POST /v2/alarms)

Creates an alarm.



Caution

Alarm evaluation (threshold monitoring) is performed in accordance with the monitoring interval (60 seconds) specified for the monitoring service. Therefore, depending on the timing of when an alarm is created, it may be evaluated only in the next monitoring cycle, not the current one.

Request headers

Refer to "[Common API items](#) on page 214".

Request parameters

None.

Request body

Specifies information (in JSON format) on the alarm to be created.

Refer to "[type Alarm](#) on page 249" for details.

Response Headers

Status

If normal, the following status is returned.

201: Normal completion

If an error occurs, the following status code is returned in addition to "[Common API error codes](#) on page 215".

409: An alarm with the same name already exists

Data type	Cardinality
Int	1..1

Response elements

Returns information (in JSON format) on the created alarm.

Refer to "[type Alarm](#) on page 249" for details.

Example of request

Example: Create an alarm that executes an email and message queue action when an alarm state occurs.

```
curl -X POST -H "Content-Type: application/json" \
-H "X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x..." \
-d requestBody "https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/alarms"
```

Request body (JSON format)

```
{
  "alarm_actions": [
    { "\service\: \"mail\", \"action\: \"send\", \"parameters\: {} }",
    { "\service\: \"queue\", \"action\: \"send\", \"parameters\:
{ \"queue_name\: \"myqueue\" } }"
  ],
  "name": "my_alarm ",
  "repeat_actions": false,
  "threshold_rule": {
    "meter_name": "my_meter",
    "threshold": 99.0
  },
  "type": "threshold"
}
```

Example of response

```
{
  "alarm_actions": [
    { "\service\: \"mail\", \"action\: \"send\", \"parameters\: {} }",
    { "\service\: \"queue\", \"action\: \"send\", \"parameters\:
{ \"queue_name\: \"myqueue\" } }"
  ],
  "alarm_id": "8aa66462-e17b-480f-9493-909ffdb2179e",
  "description": "Alarm when cpu_util is eq a avg of 99.0 over 60
seconds",
  "enabled": true,
  "insufficient_data_actions": [],
  "name": "my_alarm",
  "ok_actions": [],
  "project_id": "22ef168c58d94872a66c90d74297136a",
  "repeat_actions": false,
  "state": "insufficient data",
  "state_timestamp": "2014-10-22T08:42:23.817799",
  "threshold_rule": {
```

```

    "comparison_operator": "eq",
    "evaluation_periods": 1,
    "exclude_outliers": false,
    "meter_name": "my_meter",
    "period": 60,
    "query": [],
    "statistic": "avg",
    "threshold": 99.0
  },
  "time_constraints": [],
  "timestamp": "2014-10-22T08:42:23.817799",
  "type": "threshold",
  "user_id": "13d97e9c31454563b8aa78b0b2e92385"
}

```

4.1.6.7 Show alarm details (GET /v2/alarms/{alarm_id})

Show details on the specified alarm.

{alarm_id}: ID of the alarm

Request headers

Refer to "[Common API items](#) on page 214".

Request parameters

None.

Response Headers

Status

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 215" if the state is error.

Data type	Cardinality
Int	1..1

Response elements

Information (in JSON format) on the specified alarm.

Refer to "[type Alarm](#) on page 249" for details.

Example of request

Example: Show information on the specified alarm.

```

curl -H 'X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x...' \
'https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/
alarms/801bad91-1176-4143-8448-0f83ea755c88'

```

Example of response

```
{
  "alarm_actions": [
    "{ \"service\": \"mail\", \"action\": \"send\", \"parameters\":{} }",
    "{ \"service\": \"queue\", \"action\": \"send\", \"parameters\":
{ \"queue_name\": \"myqueue\" } }"
  ],
  "alarm_id": "801bad91-1176-4143-8448-0f83ea755c88",
  "description": "Alarm when cpu_util is eq a avg of 99.0 over 60
seconds",
  "enabled": true,
  "insufficient_data_actions": [],
  "name": "my_alarm",
  "ok_actions": [],
  "project_id": "22ef168c58d94872a66c90d74297136a",
  "repeat_actions": false,
  "state": "insufficient data",
  "state_timestamp": "2014-10-22T08:39:10.896493",
  "threshold_rule": {
    "comparison_operator": "eq",
    "evaluation_periods": 1,
    "exclude_outliers": false,
    "meter_name": "my_meter",
    "period": 60,
    "query": [],
    "statistic": "avg",
    "threshold": 99.0
  },
  "time_constraints": [],
  "timestamp": "2014-10-22T08:39:10.896493",
  "type": "threshold",
  "user_id": "13d97e9c31454563b8aa78b0b2e92385"
}
```

4.1.6.8 Update alarm (PUT /v2/alarms/{alarm_id})

Updates the specified alarm.

{alarm_id}: ID of the alarm.

Request headers

Refer to "[Common API items](#) on page 214".

Request parameters

None.

Request body

Specifies information (in JSON format) on the alarm to be updated.

Refer to "[type Alarm](#) on page 249" for details.

Response Headers

Status

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 215" if the state is error.

Data type	Cardinality
Int	1..1

Response elements

Information (in JSON format) on the updated alarm.

Refer to "[type Alarm](#) on page 249" for details.

Example of request

Example: Update the target alarm evaluation from "enabled" to "disabled".

```
curl -X PUT -H 'Content-Type: application/json' \
-H 'X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x...' \
-d requestBody 'https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/alarms/8278b049-ca2b-4e05-99c9-641c0b692edd'
```

Request body (JSON format)

```
{
  "enabled": false,
  "name": "my_alarm",
  "threshold_rule": {
    "comparison_operator": "gt",
    "meter_name": "my_meter",
    "threshold": 0.0
  },
  "type": "threshold"
}
```

Example of response

```
{
  "alarm_actions": [],
  "alarm_id": "8278b049-ca2b-4e05-99c9-641c0b692edd",
  "description": "Alarm when my_meter is gt a avg of 0.0 over 60 seconds",
  "enabled": false,
  "insufficient_data_actions": [],
  "name": "my_alarm",
  "ok_actions": [],
  "project_id": "39bd0d0341484a1a88f8ecdb1b21311c",
  "repeat_actions": false,
  "state": "insufficient data",
  "state_timestamp": "2014-10-24T08:43:30.682976",
  "threshold_rule": {
    "comparison_operator": "gt",
    "evaluation_periods": 1,
    "exclude_outliers": false,
    "meter_name": "my_meter",
    "period": 60,
    "query": [],
    "statistic": "avg",
    "threshold": 0.0
  },
  "time_constraints": [],
  "timestamp": "2014-10-24T08:51:14.940014",
  "type": "threshold",
  "user_id": "9953aae1953a4caab3cc278e3018cf68"
}
```

4.1.6.9 Delete alarm (DELETE /v2/alarms/{alarm_id})

Deletes the specified alarm.

{alarm_id}: ID of the alarm.

Request headers

Refer to "[Common API items](#) on page 214".

Request parameters

None.

Response Headers

Status

If normal, the following status is returned.

204: Normal completion

Refer to "[Common API error codes](#) on page 215" if the state is error.

Data type	Cardinality
Int	1..1

Response elements

None.

Example of request

Example: Delete the specified alarm.

```
curl -X DELETE -H "Content-Type: application/json" \
-H "X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x..." \
'https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/alarms/801bad91-1176-4143-8448-0f83ea755c88'
```

Example of response

None.

4.1.6.10 Show alarm state (GET /v2/alarms/{alarm_id}/state)

Shows the state of the specified alarm.

{alarm_id}: ID of the alarm.

Request headers

Refer to "[Common API items](#) on page 214".

Request parameters

None.

Response Headers

Status

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 215" if the state is error.

Data type	Cardinality
Int	1..1

Response elements

None

State of the current alarm. One of the following values is used.

- ok
- insufficient data
- alarm

Data type	Cardinality	Parent element	Child element
Enum	1..1	None	None

Example of request

Example: Show the state of the specified alarm.

```
curl -H 'X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x...' \
'https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/alarms/078af3e0-
c197-44cc-b6b6-85de5ee5d548/state'
```

Example of response

```
"alarm"
```

4.1.6.11 Update alarm state (PUT /v2/alarms/{alarm_id}/state)

Sets the state of the specified alarm.

{alarm_id}: ID of the alarm.

Request headers

Refer to "[Common API items](#) on page 214".

Request parameters

None.

Request body

state

Sets the state of the specified alarm.

- ok
- insufficient data
- alarm

It is necessary to enclose the value with double quotation marks (").

Data type	Cardinality
Enum	1..1

Response headers

Status

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 215" if the state is error.

Data type	Cardinality
Int	1..1

Response elements

None

State of the updated alarm. One of the following states will be returned.

- ok
- insufficient data
- alarm

Data type	Cardinality	Parent element	Child element
Enum	1..1	None	None

Example of request

Example: Update the state of the specified alarm to "alarm".

```
curl -X PUT -H 'X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x...' \
-H 'Content-Type: application/json' -d '"alarm"' \
'https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/alarms/078af3e0-
c197-44cc-b6b6-85de5ee5d548/state'
```

Example of response

```
"alarm"
```

4.1.6.12 Show alarm history (GET /v2/alarms/{alarm_id}/history)

Shows the history of the specified alarm, based on the specified query.

{alarm_id}: ID of the alarm.

Request headers

Refer to "[Common API items](#) on page 214".

Request parameters

q.field

Specifies the following fields for query.

- timestamp: Datetime of the alarm history
- type: Alarm type

If omitted, the entire history of the specified alarm is output.

Data type	Cardinality
String	0..10

q.op

Specifies the comparison operator described below.

- If q.field is "timestamp":
 - gt: Greater than
 - ge: Greater than or equal to
 - lt: Less than
 - le: Less than or equal to
- If q.field is "type":
 - eq: Equal to

If omitted, "eq" is used.

Data type	Cardinality
String	0..10

q.value

Specifies the following data value targeted for comparison.

- If q.field is "timestamp":
 - Datetime (YYYY-MM-DDThh:mm:ss)
- If q.field is "type":
 - creation
 - rule change
 - state transition
 - deletion
 - action

Data type	Cardinality
String	0..10

limit

Specifies the maximum number of alarm histories to retrieve.

Range: 1 to 1440

If omitted, "1440" is used.

Data type	Cardinality
Int	0..1

offset

Specifies the number of alarm history offset items to retrieve.

If omitted, "0" is used.

Data type	Cardinality
Int	0..1

Response headers

Status

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 215" if the state is error.

Data type	Cardinality
Int	1..1

Response elements

List (in JSON format) of the history of the specified alarm, based on the specified query.

Refer to "[type AlarmChange](#) on page 258" for details.

Example of request

Example 1: Show the history of the specified alarm.

```
curl -H 'X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x...' \
'https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/alarms/55c6a768-
e8ab-487b-b724-892b0ad4fc2a/history'
```

Example 2: Show the history of the specified alarm within the specified time range.

```
curl -H 'X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x...' \
'https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/alarms/
55c6a768-e8ab-487b-b724-892b0ad4fc2a/history?q.field=timestamp&q.op=
gt&q.value=2014-10-22T00:00:00&q.field=timestamp&q.op=lt&q.value=
2014-10-24T00:00:00'
```

Example of response

```
[
  {
```

```

    "alarm_id": "55c6a768-e8ab-487b-b724-892b0ad4fc2a",
    "detail": "{ \"state\": \"alarm\" }",
    "event_id": "0c83ea48-d2c0-4cf9-8e54-fbec463c313",
    "on_behalf_of": "39bd0d0341484a1a88f8ecdb1b21311c",
    "project_id": "39bd0d0341484a1a88f8ecdb1b21311c",
    "timestamp": "2014-10-22T05:16:47.683476",
    "type": "state transition",
    "user_id": "9953aae1953a4caab3cc278e3018cf68"
  },
  {
    "alarm_id": "55c6a768-e8ab-487b-b724-892b0ad4fc2a",
    "detail": "{ \"alarm_actions\": [], \"user_id\": \"9953aae1953a4caab3cc278e3018cf68\", \"name\": \"my_alarm\", \"state\": \"insufficient data\", \"timestamp\": \"2014-10-22T05:15:54.954117\", \"enabled\": true, \"state_timestamp\": \"2014-10-22T05:15:54.954117\", \"rule\": { \"meter_name\": \"my_meter\", \"evaluation_periods\": 1, \"period\": 120, \"statistic\": \"avg\", \"threshold\": 0.0, \"query\": [], \"comparison_operator\": \"gt\", \"exclude_outliers\": false }, \"alarm_id\": \"55c6a768-e8ab-487b-b724-892b0ad4fc2a\", \"time_constraints\": [], \"insufficient_data_actions\": [], \"repeat_actions\": false, \"ok_actions\": [], \"project_id\": \"39bd0d0341484a1a88f8ecdb1b21311c\", \"type\": \"threshold\", \"description\": \"testAlarm\" }",
    "event_id": "5846db80-b465-40c1-a158-e4a178ceb0ed",
    "on_behalf_of": "39bd0d0341484a1a88f8ecdb1b21311c",
    "project_id": "39bd0d0341484a1a88f8ecdb1b21311c",
    "timestamp": "2014-10-22T05:15:54.954117",
    "type": "creation",
    "user_id": "9953aae1953a4caab3cc278e3018cf68"
  }
]

```

4.1.6.13 List resources (GET /v2/resources)

Lists resources, based on the specified query.

Request headers

Refer to "[Common API items](#) on page 214".

Request parameters

q.field

Specifies the following fields for query.

- resource_id: ID of the resource.
- source: Source meter.
- user_id: ID of the user that created the meter.

If omitted, all resources are retrieved.

Data type	Cardinality
String	0..10

q.op

Specifies the comparison operator described below.

- If q.field is "resource_id":
eq: Equal to
- If q.field is "source":

- eq: Equal to
- If q.field is user_id:

eq: Equal to

If omitted, "eq" is used.

Data type	Cardinality
String	0..10

q.value

Query data value.

Specifies the following data value targeted for comparison.

- If q.field is "resource_id":
Resource ID
- If q.field is "source":
Source
- If q.field is user_id:
User ID

Valid characters: Fullwidth characters, halfwidth alphanumeric characters and halfwidth symbols

Number of characters: 1 to 255

Data type	Cardinality
String	0..10

meter_links

Specifies whether to retrieve meter link.

- 0: Do not retrieve
- Other than 0: Retrieve

If omitted, "other than 0" (retrieve) is used.

Data type	Cardinality
Int	0..1

limit

Maximum number of resources to retrieve.

Range: 1 to 1440

If omitted, "1440" is used.

Data type	Cardinality
Int	0..1

offset

Number of resource items to offset.

If omitted, "0" is used.

Data type	Cardinality
Int	0..1

Response headers

Status

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 215" if the state is error.

Data type	Cardinality
Int	1..1

Response elements

List (in JSON format) of the resources, based on the specified conditions.

Refer to "[type Resource](#) on page 261" for details.

Example of request

Example 1: List all resources.

```
curl -H 'X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x...' \
'https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/resources'
```

Example 2: .List only up to a certain number of resources.

```
curl -H 'X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x...' \
'https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/resources?limit=100'
```

Example of response

```
[
  {
    "links": [
      {
        "href": "https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/resources/bef3d406-a050-4854-821e-c3024d286e03",
        "rel": "self"
      }
    ],
    "project_id": "7c4f776d782049108a6255aaff940629",
    "resource_id": "bef3d406-a050-4854-821e-c3024d286e03",
    "source": "fcx",
    "user_id": "bc880de0722e4c78b2cb5afd9838ad11"
  },
  {
    "links": [
      {
        "https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/resources/d4415484-a4c1-4f05-a910-e55cba5e4984",
        "rel": "self"
      }
    ]
  }
]
```

```

    },
    "project_id": "7c4f776d782049108a6255aaff940629",
    "resource_id": "d4415484-a4c1-4f05-a910-e55cba5e4984",
    "source": "fcx",
    "user_id": "bc880de0722e4c78b2cb5afd9838ad11"
  }
]

```

4.1.6.14 Show resource details (GET /v2/resources/{resource_id})

Shows details on the specified resource.

{resource_id}: ID of the target resource.

Request headers

Refer to "[Common API items](#) on page 214".

Request parameters

None.

Response Headers

Status

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 215" if the state is error.

Data type	Cardinality
Int	1..1

Response elements

Information (in JSON format) on the specified alarm.

Refer to "[type Resource](#) on page 261" for details.

Example of request

Example: Show details on the specified resource.

```

curl -H 'X-Auth-Token: ImFkbWluVVJMIjogImh0dHA6Ly8xMC4x...' \
'https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/resources/instance-00007e28-5082f0cb-4288-4779-b45c-666feb03c663-tapaaf7378c-f6'

```

Example of response

```

{
  "links": [
    {

```

```

    "href": "https://telemetry.jp-east-1.cloud.global.fujitsu.com/
v2/resources/instance-00007e28-5082f0cb-4288-4779-b45c-666feb03c663-
tapaaf7378c-f6",
    "rel": "self"
  },
  {
    "href": "https://telemetry.jp-east-1.cloud.global.fujitsu.com/
v2/meters/fcx.compute.network.incoming.bytes.rate?
q.field=resource_id&q.value=instance-00007e28-5082f0cb-4288-4779-
b45c-666feb03c663-tapaaf7378c-f6",
    "rel": "fcx.compute.network.incoming.bytes.rate"
  },
  {
    "href": "https://telemetry.jp-east-1.cloud.global.fujitsu.com/
v2/meters/fcx.compute.network.outgoing.bytes.rate?
q.field=resource_id&q.value=instance-00007e28-5082f0cb-4288-4779-
b45c-666feb03c663-tapaaf7378c-f6",
    "rel": "fcx.compute.network.outgoing.bytes.rate"
  },
  {
    "href": "https://telemetry.jp-east-1.cloud.global.fujitsu.com/
v2/meters/fcx.compute.network.incoming.bytes?
q.field=resource_id&q.value=instance-00007e28-5082f0cb-4288-4779-
b45c-666feb03c663-tapaaf7378c-f6",
    "rel": "fcx.compute.network.incoming.bytes"
  },
  {
    "href": "https://telemetry.jp-east-1.cloud.global.fujitsu.com/
v2/meters/fcx.compute.network.outgoing.bytes?
q.field=resource_id&q.value=instance-00007e28-5082f0cb-4288-4779-
b45c-666feb03c663-tapaaf7378c-f6",
    "rel": "fcx.compute.network.outgoing.bytes"
  }
],
"project_id": "7c4f776d782049108a6255aaff940629",
"resource_id": "instance-00007e28-5082f0cb-4288-4779-b45c-666feb03c663-
tapaaf7378c-f6",
"source": "fcx",
"user_id": "bc880de0722e4c78b2cb5afd9838ad11"
}

```

4.1.7 Data type

4.1.7.1 type Meter

meter_id

ID of the meter.

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

name

Name of the meter.

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

project_id

ID of the project that owns the resource.

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

resource_id

ID of the resource.

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

source

Source of the resource.

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

type

Type of the meter.

- gauge: Discrete value, fluctuating value
- delta: Differential value
- cumulative: Cumulative value

Data type	Cardinality	Parent element	Child element
Enum	1..1	None	None

unit

Unit of the meter.

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

user_id

ID of the user who created the resource or the user who last updated the meter.

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

4.1.7.2 type OldSample

counter_name

Name of the meter.

Valid characters: Fullwidth characters, halfwidth alphanumeric characters and halfwidth symbols

Number of characters: 1 to 255

Must be the same value as {*meterName*} specified in the URL during creation. Note that the specified value cannot start with "fcx. (dot)".

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

counter_type

Type of the meter.

- gauge: Discrete value, fluctuating value
- delta: Differential value
- cumulative: Cumulative value

Data type	Cardinality	Parent element	Child element
Enum	1..1	None	None

counter_unit

Unit of the meter.

Valid characters: Halfwidth alphanumeric characters and halfwidth symbols

Number of characters: 1 to 255

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

counter_volume

The actual measured value

Range: -1E+308 to +1E+308

Data type	Cardinality	Parent element	Child element
Float	1..1	None	None

message_id

This item is not specified during creation of the sample.

Note that this item may not be returned or may be returned with null value.

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

project_id

ID of the project that owns the resource.

If omitted during creation of the sample, the project_id of the user that executed the API is used.

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

recorded_at

Timestamp (UTC) of creation of the sample

Format: "YYYY-MM-DDThh:mm:ss.SSSSSS"

Even if this value is specified during creation of the sample, it will be ignored (a value is set automatically).

Data type	Cardinality	Parent element	Child element
Datetime	0..1	None	None

resource_id

ID of the resource.

Valid characters: Fullwidth characters, halfwidth alphanumeric characters and halfwidth symbols

Number of characters: 1 to 255

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

resource_metadata

Arbitrary metadata associated with the resource.

Contains multiple metadata key pairs in the following JSON format:

"{key1:value1, key2:value2, ...}"

Valid characters: Fullwidth characters, halfwidth alphanumeric characters and halfwidth symbols

Number of characters: 1 to 255

Maximum number of metadata items that can be specified: 10

Key names containing more than one period (.) will be returned with the second and subsequent periods replaced with colons (:). If this is an issue, use another character such as underscore (_) instead.

Data type	Cardinality	Parent element	Child element
dict(String,String)	0..1	None	None

source

Source where the sample comes from.

Valid characters: Fullwidth characters, halfwidth alphanumeric characters and halfwidth symbols

Number of characters: 1 to 255

The value is recorded using the format below (where *project_id* is the project_id specified during creation of the sample).

"project_id:source"

If omitted during creation of the sample, this element will be recorded as "fcx".

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

timestamp

Timestamp (UTC) of measurement of the sample.

Format: "YYYY-MM-DDThh:mm:ss.SSS"

hh, mm, ss and SSS can be omitted.

If omitted, the time will become "0".

Example: If "2014-07-07T09:55" is specified, the timestamp becomes "2014-07-07T09:55:00.000".

The valid range is from two weeks beforehand to 2 hours afterward.

If omitted during creation of the sample, the value will be set automatically.

Data type	Cardinality	Parent element	Child element
Datetime	0..1	None	None

user_id

ID of the user who created the resource or the user who last updated the meter.

If omitted during creation of the sample, the ID of the user that executed the API is used.

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

4.1.7.3 type Statistics

aggregate

Specified aggregate value.

This is only output when aggregate.func is specified in the request parameter.

Data type	Cardinality	Parent element	Child element
dict(String,Float)	0..1	None	None

avg

Average value of the aggregate result.

Data type	Cardinality	Parent element	Child element
Float	0..1	None	None

count

Number of samples in the aggregate result.

Data type	Cardinality	Parent element	Child element
int	0..1	None	None

duration

Difference in time between duration_end and duration_start (seconds).

Data type	Cardinality	Parent element	Child element
Float	0..1	None	None

duration_end

Datetime (UTC) of the newest sample among the target samples.

Format: "YYYY-MM-DDThh:mm:ss"

Data type	Cardinality	Parent element	Child element
Datetime	0..1	None	None

duration_start

Datetime (UTC) of the oldest sample among the target samples.

Format: "YYYY-MM-DDThh:mm:ss"

Data type	Cardinality	Parent element	Child element
Datetime	0..1	None	None

groupby

Field information of the aggregation group.

This is only output when groupby is specified in the request parameter.

Data type	Cardinality	Parent element	Child element
dict(String,String)	0..1	None	None

max

Maximum value of the aggregate result.

Data type	Cardinality	Parent element	Child element
Float	0..1	None	None

min

Minimum value of the aggregate result.

Data type	Cardinality	Parent element	Child element
Float	0..1	None	None

period

The value specified for period in the request parameter.

The difference in time (seconds) between the period end (period_end) and period start (period_start).

Data type	Cardinality	Parent element	Child element
int	0..1	None	None

period_end

End datetime (UTC) of the aggregation period (period).

Format: "YYYY-MM-DDThh:mm:ss"

Data type	Cardinality	Parent element	Child element
Datetime	0..1	None	None

period_start

Start datetime (UTC) of the aggregation period (period).

Format: "YYYY-MM-DDThh:mm:ss"

Data type	Cardinality	Parent element	Child element
Datetime	1..1	None	None

sum

Total value of the aggregate result.

Data type	Cardinality	Parent element	Child element
Float	0..1	None	None

unit

Unit of the aggregate result.

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

4.1.7.4 type Alarm

alarm_actions

Actions to execute when the alarm state changes to "alarm".

Specify "[type AlarmAction](#) on page 252" in JSON format.

Maximum number of lists: 5

Example:

```
"{\\"service\\": \\"queue\\", \\"action\\": \\"send\\", \\"parameters\\": { \\"queue_name\\": \\"myqueue\\" } }"
```

Refer to "[type AlarmAction](#) on page 252" for details.

Data type	Cardinality	Parent element	Child element
list(AlarmAction)	0..1	None	None

alarm_id

ID of the alarm.

Even if this value is specified, it will be ignored.

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

combination_rule

Monitoring settings using a combination of other alarms.

This item is required when "combination" is specified for type.

"combination_rule" and "threshold_rule" are mutually exclusive.

Refer to "[type AlarmCombinationRule](#) on page 256" for details.

Data type	Cardinality	Parent element	Child element
AlarmCombinationRule	0..1	None	None

description

Alarm description

Valid characters: Fullwidth characters, halfwidth alphanumeric characters and halfwidth symbols

Number of characters: 1 to 1023

If omitted during creation, a value based on the specified `threshold_rule` or the content of the `combination_rule` is used.

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

enabled

Enable/disable alarm evaluation.

- true: Enabled
- false: Disabled

If false, alarm evaluation (threshold value monitoring) will not be performed.

If omitted during creation, "true" is used.

Data type	Cardinality	Parent element	Child element
Boolean	0..1	None	None

insufficient_data_actions

Actions to execute when the alarm state changes to "insufficient data".

Specify "[type AlarmAction](#) on page 252" in JSON format.

Maximum number of lists: 5

Example:

```
"{\\"service\\": \\"queue\\", \\"action\\": \\"send\\", \\"parameters\\": { \\"queue_name\\": \\"myqueue\\" } }"
```

Refer to "[type AlarmAction](#) on page 252" for details.

Data type	Cardinality	Parent element	Child element
list(AlarmAction)	0..1	None	None

name

Alarm name.

Specify a unique value within the project to which the user that creates the alarm belongs.

Valid characters: Fullwidth characters, halfwidth alphanumeric characters and halfwidth symbols

Number of characters: 1 to 255

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

ok_actions

Actions to execute when the alarm state changes to "ok"

Specify "[type AlarmAction](#) on page 252" in JSON format.

Maximum number of lists: 5

Example:

```
"{\\"service\\": \\"queue\\", \\"action\\": \\"send\\", \\"parameters\\": { \\"queue_name\\": \\"myqueue\\" } }"
```

Refer to "[type AlarmAction](#) on page 252" for details.

Data type	Cardinality	Parent element	Child element
list(AlarmAction)	0..1	None	None

project_id

Project ID

If omitted during creation, the project_id of the user that executed the API is used.

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

repeat_actions

Whether the actions should be re-executed.

Specify whether the actions should be re-executed on each alarm evaluation, even if the alarm state does not change.

- true: Re-execute the action
- false: Do not re-execute the action

If omitted during creation, "false" is used.

If "repeat_actions" is set to true, actions may be executed on each alarm evaluation, depending on the alarm state. Be aware that a large volume of emails may be sent, particularly if an email send action is specified for the alarm.

If you want to change the value of "repeat_actions" for each action, create each action as a separate alarm.

Data type	Cardinality	Parent element	Child element
Boolean	0..1	None	None

state

Alarm state. One of the following values is used.

- ok
- insufficient data
- alarm

The alarm state immediately after creation is "insufficient data". The appropriate state is then set on the next alarm evaluation (approximately 1 minute).

Data type	Cardinality	Parent element	Child element
Enum	1..1	None	None

state_timestamp

The datetime (UTC) when the alarm state was last updated.

Format: "YYYY-MM-DDThh:mm:ss.SSSSSS"

Even if this value is specified, it will be ignored.

Data type	Cardinality	Parent element	Child element
Datetime	0..1	None	None

threshold_rule

Alarm threshold monitoring setting.

This item is required when "threshold" is specified for type.

"combination_rule" and "threshold_rule" are mutually exclusive.

Refer to "[type AlarmThresholdRule](#) on page 254" for details.

Data type	Cardinality	Parent element	Child element
AlarmThresholdRule	0..1	None	None

time_constraints

Sets the expiry period of alarm evaluation.

Refer to "[type AlarmTimeConstraint](#) on page 257" for details.

Data type	Cardinality	Parent element	Child element
AlarmTimeConstraint	0..1	None	None

timestamp

Last update datetime of the alarm.

Format: "YYYY-MM-DDThh:mm:ss.SSSSSS"

Even if this value is specified, it will be ignored.

Data type	Cardinality	Parent element	Child element
Datetime	0..1	None	None

type

Alarm type. Specify the following:

- threshold: Alarm triggered based on threshold value
- combination: Alarm comprising a combination of alarms

Data type	Cardinality	Parent element	Child element
Enum	1..1	None	None

user_id

ID of the user that created the alarm.

If omitted during creation, the ID of the user that executed the API is used.

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

4.1.7.5 type AlarmAction

- Trust token for executing actions

If any the following is specified for "service", a trust token will be created for the user that executed the API when the API is called for creating an alarm or updating an alarm (only when the user executes the API for the first time):

- autoscale
- compute

- queue

This trust token will be used to execute actions, so be sure not to delete it. The trust token will be created with the following values for their attributes (refer to the management API for details on the trust token):

- expires_at: null
- impersonation: false
- project_id: Project ID of the user that executed the API for creating an alarm or updating an alarm
- remaining_uses: null
- trustee_user_id: User ID of the monitoring service (trustee)
- trustor_user_id: ID of the user (trustor) that executed the API for creating an alarm or updating an alarm

If this trust token or the trustor (trustor_user_id) is deleted, an error will occur when executing an action. In such cases, execute the API for creating an alarm or updating an alarm, and try creating a trust token again.

- Email recipients of email send actions

Email recipients must be users assigned to the following roles in their own domain:

- Contractor (cpf_org_manager)
- Administrator (cpf_admin)

service

Specifies the target service of an action.

- autoscale: Autoscale
- compute: Compute
- queue: Message queue
- mail: Email

Data type	Cardinality	Parent element	Child element
Enum	0..1	None	None

action

Specifies the action to be executed.

The actions that can be specified differ for each service.

- If the service is autoscale:
 - signal: Signal notification
- If the service is compute:
 - stop: Stop the instance
 - terminate: Terminate the instance
- If the service is queue:
 - send: Send a message
- If the service is mail:
 - send: Send an email

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

parameters

Specifies the parameters of an action.

The content to be specified differs for each service.

- If the service is autoscale:
The value specified when creating a stack using the template deploy service is set.
 - stack_name: Stack name.
 - stack_id: Stack ID.
 - resource_name: Autoscale policy name.
- If the service is compute:
server_id: ID of the target instance.
- If the service is queue:
queue_name: Name of the queue of recipients.
- If the service is mail:
Specify a null object ({} for the value.

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

4.1.7.6 type AlarmThresholdRule

comparison_operator

Specifies the comparison operator to use against the sample value statistics and threshold value (if "gt" is specified, the comparison performed will be "statistic > threshold").

- eq: Equal to
- gt: Greater than
- ge: Greater than or equal to
- lt: Less than
- le: Less than or equal to

If omitted, "eq" is used.

Data type	Cardinality	Parent element	Child element
Enum	0..1	None	None

evaluation_periods

Number of periods for evaluating the threshold.

Range: 1 to "period" x evaluation_periods <= 86400.

If omitted, "1" is used.

Data type	Cardinality	Parent element	Child element
int	0..1	None	None

exclude_outliers

Specifies whether to exclude sample data that lies outside a certain standard for alarm evaluation.

- true: Exclude
- false: Do not exclude

Find the standard deviation of the target sample data, and exclude sample data that lies more than two standard deviations outside the mean.

If omitted, "false" is used.

Data type	Cardinality	Parent element	Child element
Boolean	0..1	None	None

meter_id

Name of the meter for threshold monitoring.

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

period

Period for determining the threshold (seconds).

Range: 60 to period x evaluation_periods <= 86400 (multiples of 60)

If omitted, 60 seconds is used.

Data type	Cardinality	Parent element	Child element
int	0..1	None	None

query

Query setting for searching for samples to calculate the statistics.

Maximum number of lists: 10

"field": May contain the following values for the field to be used in the comparison:

- resource_id: ID of the resource.
- source: Source meter.
- user_id: ID of the user that created the meter.

"op": May contain the following operators to be used in the comparison:

- If field is the resource_id:
eq: Equal to
- If field is the source:
eq: Equal to
- If field is the user_id:
eq: Equal to

"value": May contain the following values to be used in the comparison:

- If field is the resource_id:
Resource ID
- If field is the source:
Source
- If field is the user_id:
User ID

Valid characters: Fullwidth characters, halfwidth alphanumeric characters and halfwidth symbols

Number of characters: 1 to 255

If omitted, sample query will not be performed.

If the project of the user that issued the API for creation differs from the project specified using the "project_id", the following will be inserted automatically:

```
{
  "field": "project_id",
  "value": "valueSpecifiedUsingProject_Id",
  "op": "eq"
}
```

Refer to "[type Query](#) on page 261" for details.

Data type	Cardinality	Parent element	Child element
list(Query)	0..1	None	None

statistic

Specifies the aggregation method to be used in the comparison against the threshold.

- avg: average value
- count: number of samples
- max: maximum value
- min: minimum value
- sum: total value

If omitted, "avg" is used.

Data type	Cardinality	Parent element	Child element
Enum	0..1	None	None

threshold

Specifies the threshold.

Range: -1E+308 to +1E+308

Data type	Cardinality	Parent element	Child element
float	1..1	None	None

4.1.7.7 type AlarmCombinationRule

alarm_ids

List of alarm IDs to be combined.

Maximum number of lists: 5

Data type	Cardinality	Parent element	Child element
list(String)	1..1	None	None

operator

Specifies the evaluation operator for the combination:

- or
- and

If omitted, "and" is used.

Data type	Cardinality	Parent element	Child element
Enum	0..1	None	None

4.1.7.8 type AlarmTimeConstraint

description

Description of the time constraint.

Valid characters: Fullwidth characters, halfwidth alphanumeric characters and halfwidth symbols

Number of characters: 1 to 1023

If omitted during creation, a value based on the content of the specified start and duration is used.

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

duration

Duration (seconds) of the constraint.

The timeframe calculated by adding "duration" to the start datetime (specified in "start") becomes the alarm evaluation expiry period.

Range: 60 to 86400

Data type	Cardinality	Parent element	Child element
int	1..1	None	None

name

Name of the constraint.

Valid characters: Fullwidth characters, halfwidth alphanumeric characters and halfwidth symbols

Number of characters: 1 to 255

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

start

Start datetime of the constraint, in cron format.

"Minutes hours days months day of week"

The range of each of the field values is as follows (refer to the cron format for details).

- Minutes: 0 to 59
- Hours: 0 to 23
- Days: 1 to 31
- Day of week: 0 to 7 (0, 7: Sunday, 1: Monday, ..., 6: Saturday)

Example: If the start time is 8:50 daily:

"50 8 * * *"

Data type	Cardinality	Parent element	Child element
cron	1..1	None	None

timezone

Time zone of the datetime specified in "start".

Specify a time zone prescribed by IANA.

Example: "Asia/Tokyo"

If omitted, "UTC" is used.

Data type	Cardinality	Parent element	Child element
Datetime	1..1	None	None

4.1.7.9 type AlarmChange

alarm_id

ID of the alarm.

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

detail

Details (in JSON format) of the change.

Refer to "[Table 2: Details of the alarm history](#) on page 259" below for details.

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

event_id

ID of the change event.

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

on_behalf_of

ID of the project.

Data type	Cardinality	Parent element	Child element
cron	0..1	None	None

project_id

ID of the project.

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

timestamp

Change datetime of the alarm.

Format: "YYYY-MM-DDThh:mm:ss.SSSSSS"

Data type	Cardinality	Parent element	Child element
Datetime	0..1	None	None

type

Type of alarm history.

- creation: Create
- change: Change
- state transition: State transition
- deletion: Delete
- action: Action

Data type	Cardinality	Parent element	Child element
Enum	0..1	None	None

user_id

ID of the user.

Data type	Cardinality	Parent element	Child element
String	0..1	None	None

Table 2: Details of the alarm history

type	Description
creation	Information (in JSON format) on a new alarm. Refer to " type Alarm on page 249" for details (note that fields such as "threshold_rule" and "combination_rule" are changed to "rule").
change	Information (in JSON format) on a changed alarm. Refer to " type Alarm on page 249" for details (note that fields such as "threshold_rule" and "combination_rule" are changed to "rule").
state transition	Value (in JSON format) of the "state" field of an alarm after transition.
deletion	Information (in JSON format) on a deleted alarm. Refer to " type Alarm on page 249" for details (note that fields such as "threshold_rule" and "combination_rule" are changed to "rule").
action	Contain the following (in JSON format): • action_state: Execution result of the action • Succeeded: If the action was successful • Failed: If the action failed • action: Information of the executed action • region: Region name • reason: Reason why the action was executed • alarm: Information on the alarm • Refer to "type Alarm on page 249" for details (note that fields such as "threshold_rule" and "combination_rule" are changed to "rule"). • previous: State of the alarm before transition • error: Error information of the action execution result (status code).

type	Description
	error_message: Error message of alarm execution (if action_state is "Failed").

If action_state is "Failed", check the relevant details based on the action service and value of "error":

Table 3: Action execution errors

Target service	error	Description	Action
autoscale	401	The user does not have the privileges to perform operations on the specified stack.	Create the alarm again as a user that has privileges to perform operations on the target stack.
	404	The specified stack or resource does not exist.	Check the stack ID, stack name, and resource name, and change them to the correct value if necessary.
	500	Internal error.	Contact Fujitsu technical support.
	503	The service cannot be used temporarily.	Contact Fujitsu technical support.
compute	401	The user does not have the privileges to perform operations on the specified instance.	Create the alarm again as a user that has privileges to perform operations on the target instance.
	404	The specified instance does not exist.	Check the specified instance ID, and change it to the correct value if necessary.
	500	Internal error.	Contact Fujitsu technical support.
	503	The service cannot be used temporarily.	Contact Fujitsu technical support.
queue	400	The specified queue does not exist.	Check the specified queue name, and change it to the correct value if necessary.
	403	The number of messages in the queue has reached the upper limit or the user does not have privileges to perform operations on the specified queue.	If the number of messages in the queue has reached the upper limit, delete messages from the queue. If the user does not have privileges, create the alarm again as a user that has privileges to perform operations on the specified queue.
	500	Internal error.	Contact Fujitsu technical support.
	503	The service cannot be used temporarily.	Contact Fujitsu technical support.

Target service	error	Description	Action
mail	500	Internal error.	Contact Fujitsu technical support.
	503	The service cannot be used temporarily.	Contact Fujitsu technical support.

4.1.7.10 type Query

field

Name of the field to be used in the query.

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

op

Specifies the comparison operator described below.

- eq: Equal to
- gt: Greater than
- ge: Greater than or equal to
- lt: Less than
- le: Less than or equal to

If omitted, "eq" is used.

Data type	Cardinality	Parent element	Child element
Enum	0..1	None	None

value

Query data value.

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

4.1.7.11 type Resource

links

List containing a self link and associated meter links.

Data type	Cardinality	Parent element	Child element
list(Link)	1..1	None	None

project_id

ID of the project that owns the resource.

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

resource_id

ID of the resource.

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

source

Source of the resource.

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

user_id

ID of the user who created the resource or the user who last updated the meter.

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

4.1.7.12 type Link

href

URL of link.

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

rel

Name of link.

- **self**: Link to own resource
- **meterName**: Link to meter (sample)

Data type	Cardinality	Parent element	Child element
String	1..1	None	None

4.1.8 Note: How to troubleshoot alarm actions

4.1.8.1 Note: How to troubleshoot alarm actions

This section describes how to use the API to perform a check when an action specified for an alarm is not executed. The procedure is as follows. The target alarm ID and timeframe information are required for the check.

1. Check the alarm history
2. Check the alarm details
3. Check the meter statistics

4.1.8.2 Check the alarm history

Execute the show alarm history API to check the action execution state of the alarm.

Example format

```
curl -s -H "X-Auth-Token: ..." "https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/alarms/alarmId/history?q.field=timestamp&q.op=ge&q.value=startDatetime&q.field=timestamp&q.op=lt&q.value=endDatetime"
```

- Replace *alarmId* with the ID of the alarm.
- Specify the datetimes using the format "YYYY-MM-DDThh%3Amm%3Ass".
 - YYYY: Year, MM: Month, DD: Day, hh: Hour, mm: minutes, ss: seconds. The first half of the query concerns the start datetime, and the latter half concerns the end datetime (*startDatetime* <= timestamp < *endDatetime*). Specify the timeframe to be checked (in UTC).
 - "%3A" is the encoded value for ":". Specify it as is.
- Refer to "[Show alarm history \(GET /v2/alarms/{alarm_id}/history\)](#)" on page 236 for details on the parameters.

Example of request

The example below retrieves the history entries for the alarm "2a5d914d-ac5c-474d-8550-58098f668a66" recorded on July 18, 2015 between 00:00:00 and 01:00:00(UTC):

```
curl -s -H "X-Auth-Token: ..." "https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/alarms/2a5d914d-ac5c-474d-8550-58098f668a66/history?q.field=timestamp&q.op=ge&q.value=2015-07-18T00%3A00%3A00&q.field=timestamp&q.op=lt&q.value=2015-07-18T01%3A00%3A00"
```

Example of response

```
[
  {
    "alarm_id": "2a5d914d-ac5c-474d-8550-58098f668a66",
    "detail": "{\"notification_resource\": \"\", \"region\": \"jp-east-1\", \"action_state\": \"Succeeded\", \"reason\": \"Remaining as alarm due to 1 samples outside threshold, most recent: 0.0\", \"error\": \"\", \"action\": \"http://orchestration-cfn.jp-east-1.internal.cloud.global.fujitsu.com/v1/signal/arn%3Aopenstack%3Aheat%3A%3Acd1e2866ebda406bb16b8196022e2692%3Astacks%2Faz1_test_stack_vm%32F548ae98a-a0bc-43bd-aff5-a4146f783585%2Fresources%2Fscalein_policy?Timestamp=2015-07-17T05%3A34%3A21Z&SignatureMethod=HmacSHA256&AWSAccessKeyId=cab5efa3009b4f00817b354b0744601e&SignatureVersion=2&Signature=FKLe2NAPryuVZUCybv%2F%2Ffmd21xw%2BYApUSridiKE5M%2FE%3D\", \"alarm\": {\"alarm_actions\": [\"http://orchestration-cfn.jp-east-1.internal.cloud.global.fujitsu.com/v1/signal/arn%3Aopenstack%3Aheat%3A%3Acd1e2866ebda406bb16b8196022e2692%3Astacks%2Faz1_test_stack_vm%32F548ae98a-a0bc-43bd-aff5-a4146f783585%2Fresources%2Fscalein_policy?Timestamp=2015-07-17T05%3A34%3A21Z&SignatureMethod=HmacSHA256&AWSAccessKeyId=cab5efa3009b4f00817b354b0744601e&SignatureVersion=2&Signature=FKLe2NAPryuVZUCybv%2F%2Ffmd21xw%2BYApUSridiKE5M%2FE%3D\"], \"description\": \"Scale-in if the average CPU < 15% for 1 minutes\", \"state\": \"alarm\", \"timestamp\": \"2015-07-17T05:34:28.674867\", \"enabled\": true, \"state_timestamp\": \"2015-07-17T05:35:52.188434\", \"rule\": {\"meter_name\": \"fcx.compute.cpu_util\", \"evaluation_periods\": 1, \"period\": 60, \"statistic\": \"avg\", \"threshold\": 15.0, \"query\": [{\"field\": \"metadata.user_metadata.groupname\", \"value\":
```

```
\az1_test_stack_vm3-auto_scaling_group- h5ve5jy5pbf\", \"op\": \"eq\"},
{ \"field\": \"project_id\", \"value\": \"c52b2f54d96a4c28ba9a318eae9c843c\",
  \"op\": \"eq\"}], \"comparison_operator\": \"lt\", \"exclude_outliers\":
false}, \"alarm_id\": \"2a5d914d-ac5c-474d-8550-58098f668a66\", \"time_
constraints\": [], \"insufficient_data_actions\": [], \"repeat_actions\":
true, \"user_id\": \"2cc0568f5daf4ac694a49f3b32a42dfc\", \"project_id\":
\"c52b2f54d96a4c28ba9a318eae9c843c\", \"type\": \"threshold\", \"name\":
\"az1_test_stack_vm3-scalein_alarm-fzps2blpsiq1 \", \"previous\": \"alarm
\"}]",
  "event_id": "02c06d0e-f78d-463c-a775-c63b337e771d",
  "on_behalf_of": "c52b2f54d96a4c28ba9a318eae9c843c",
  "project_id": "c52b2f54d96a4c28ba9a318eae9c843c",
  "timestamp": "2015-07-18T00:01:00.182820",
  "type": "action",
  "user_id": "2cc0568f5daf4ac694a49f3b32a42dfc"
},
...
]
```

- The action execution history is shown for items with "action" set for the "type" value.
- If the "action" history exists, check the "action_state" value inside the "detail" values.
 - If "action_state" is "Succeeded", this indicates that the action was executed successfully.
 - If "action_state" is "Failed", this indicates that the action was executed but ended in error. Check the "error" and "error_message" values inside the "detail" values, then refer to ["Table 3: Action execution errors" on page 260](#) and address the error accordingly.
 - If the "action" history does not exist, the action has not been executed. Perform the steps below to check if the alarm threshold has been exceeded.

4.1.8.3 Check the alarm details

Execute the show alarm details API to check details of the alarm.

Example format

```
curl -s -H "X-Auth-Token: ..." "https://telemetry.jp-
east-1.cloud.global.fujitsu.com/v2/alarms/alarmId"
```

- Replace *alarmId* with the ID of the alarm.
- Refer to ["Show alarm details \(GET /v2/alarms/{alarm_id}\)" on page 231](#) for details on the parameters.
- If the alarm does not exist (because it has already been deleted, for example), an error will occur.

Example of request

The example below retrieves the details of the alarm "2a5d914d-ac5c-474d-8550-58098f668a66":

```
curl -s -H "X-Auth-Token: ..." "https://telemetry.jp-
east-1.cloud.global.fujitsu.com/v2/alarms/2a5d914d-
ac5c-474d-8550-58098f668a66"
```

Example of response

```
{
  "alarm_actions": [
```

```

"http://orchestration-cfn.jp-east-1.internal.cloud.global.fujitsu.
com/v1/signal/arn%3Aopenstack%3Aheat%3A%3Acd1e2866ebda406bb16b8196022e2692
%3Astacks%2Faz1_test_stack_vm3%2F548ae98a-a0bc-43bd-aff5-a4146f783585
%2Fresources%2Fscaleout_policy?Timestamp=2015-07-17T05%3A34%3A21Z
&SignatureMethod=HmacSHA256&AWSAccessKeyId=cab5efa3009b4f00817b354b0744601e
&SignatureVersion=2&Signature=FKLe2NApryuVZUCybV%2F%2Ffmd21xw
%2BYApUSridiKE5M%2FE%3D"
],
"alarm_id": "2a5d914d-ac5c-474d-8550-58098f668a66",
"description": "Scale-out if the average CPU > 80% for 1 minutes",
"enabled": true,
"insufficient_data_actions": [],
"name": "az1_test_stack_vm3-scalein_alarm-fzps2blpsiq1",
"ok_actions": [],
"project_id": "c52b2f54d96a4c28ba9a318eae9c843c",
"repeat_actions": true,
"state": "alarm",
"state_timestamp": "2015-07-29T00:14:13.832040",
"threshold_rule": {
  "comparison_operator": "gt",
  "evaluation_periods": 1,
  "exclude_outliers": false,
  "meter_name": "fcx.compute.cpu_util",
  "period": 60,
  "query": [
    {
      "field": "metadata.user_metadata.groupname",
      "op": "eq",
      "value": "az1_test_stack_vm3-auto_scaling_group-
h5ve5jiy5pbf"
    },
    {
      "field": "project_id",
      "op": "eq",
      "value": "c52b2f54d96a4c28ba9a318eae9c843c"
    }
  ],
  "statistic": "avg",
  "threshold": 80.0
},
"time_constraints": [],
"timestamp": "2015-07-17T05:34:28.674867",
"type": "threshold",
"user_id": "2cc0568f5daf4ac694a49f3b32a42dfc"
}

```

- Note the following:
 - "enabled": Indicates whether alarm evaluation is enabled. When set to "false", actions are not executed.
 - "alarm_actions", "ok_actions", "insufficient_actions": Contain the actions to execute when the alarm transitions to the state. If the item is not set, no action is executed when the alarm transitions to the state.
 - "threshold_rule": Contains the items below, which can be checked in the statistics of subsequent samples:
 - "comparison_operator": Comparison operator to use against the threshold.
 - "meter_name": Name of the meter for threshold monitoring.
 - "period": Statistic interval when retrieving statistics of a sample.
 - "query": Conditions to retrieve statistics from meter samples for threshold monitoring. The items "field", "op", "value" comprise one condition.
 - "statistics": Aggregation method used to compare against the threshold.
 - "threshold": Threshold value.

4.1.8.4 Check the meter statistics

Execute the show meter statistics API to retrieve sample statistics, and check if the conditions exceed the threshold.

Example format

```
curl -s -H "X-Auth-Token: $TOKEN" "https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/meters/meterSpecifiedInThresholdRule/statistics?period=periodSpecifiedInThresholdRule&q.field=timestamp&q.op=ge&q.value=YYYY-MM-DDThh%3Amm%3Ass&q.field=timestamp&q.op=lt&q.value=YYYY-MM-DDThh%3Amm%3Ass&q.field=fieldSpecifiedInThresholdRule&q.op=opSpecifiedInThresholdRule&q.value=valueSpecifiedInThresholdRule"
```

- Specify the values of each item of "threshold_rule" obtained when checking the alarm details.
- Specify the query ("q") fields "field", "op", and "value", for each condition in the threshold rule.
- Specify the datetimes using the format "YYYY-MM-DDThh%3Amm%3Ass".
 - YYYY: Year, MM: Month, DD: Day, hh: Hour, mm: minutes, ss: seconds. The first half of the query concerns the start datetime, and the latter half concerns the end datetime (*startDatetime* <= timestamp < *endDatetime*). Specify the timeframe to be checked (in UTC).
 - "%3A" is the encoded value for ":". Specify it as is.
- Refer to ["Show meter statistics \(GET /v2/meters/{meter_name}/statistics\)"](#) on page 223 for details on the parameters.

Example of request

The example below retrieves meter statistics based on the parameters specified for the threshold alarm:

```
curl -s -H "X-Auth-Token: ..." "https://telemetry.jp-east-1.cloud.global.fujitsu.com/v2/meters/fcx.compute.cpu_util/statistics?period=60&q.field=timestamp&q.op=ge&q.value=2015-07-18T00%3A00%3A00&q.field=timestamp&q.op=lt&q.value=2015-07-18T01%3A00%3A00&q.field=metadata.user_metadata.groupname&q.op=eq&q.value=az1_test_stack_vm3-auto_scaling_group-h5ve5jiy5pbf"
```

Example of response

```
[
  {
    "avg": 0.0,
    "count": 1,
    "duration": 0.0,
    "duration_end": "2015-07-18T00:14:49",
    "duration_start": "2015-07-18T00:14:49",
    "groupby": null,
    "max": 0.0,
    "min": 0.0,
    "period": 60,
    "period_end": "2015-07-18T00:01:00",
    "period_start": "2015-07-18T00:00:00",
    "sum": 0.0,
    "unit": "%"
  },
  ...
  {
    "avg": 0.40000000000000002,
    "count": 1,
    "duration": 0.0,
```

```

        "duration_end": "2015-07-18T00:41:54",
        "duration_start": "2015-07-18T00:41:54",
        "groupby": null,
        "max": 0.40000000000000002,
        "min": 0.40000000000000002,
        "period": 60,
        "period_end": "2015-07-18T01:00:00",
        "period_start": "2015-07-18T00:59:00",
        "sum": 0.40000000000000002,
        "unit": "%"
    }
]

```

- Check if there are sample statistics that satisfy the threshold conditions (specified in "threshold" and "comparison_operator" items of "threshold_rule") of the alarm in the specified timeframe.

Part 5: Role Management

Topics:

- *Role management function*

5.1 Role management function

5.1.1 Role management

Note: The custom role feature is not supported as at the time of issue of this document.

5.1.2 API list

Item	API	Description
1	POST /v1/custom_roles Create custom roles	Creates a custom role with the specified privileges
2	GET /v1/custom_roles/{?domain_id} List custom roles	Lists custom roles
3	GET /v1/custom_roles/{custom_role_id} Show custom role	Shows details on the specified custom role
4	PATCH /v1/custom_roles/{custom_role_id} Update custom role	Updates the specified custom role
5	DELETE /v1/custom_roles/{custom_role_id} Delete custom role	Deletes the specified custom role
6	DELETE /v1/custom_roles/ {custom_role_id}/force_delete Force delete custom role	Force deletes the specified custom role
7	PUT /v1/projects/{project_id}/users/ {user_id}/custom_roles/{custom_role_id} Assign custom role to user on project	Assigns the specified custom role to the specified user on the specified project.
8	PUT /v1/projects/{project_id}/groups/ {group_id}/custom_roles/{custom_role_id} Assign custom role to group on project	Assigns the specified custom role to the specified group on the specified project.
9	GET /v1/projects/{project_id}/users/ {user_id}/custom_roles List custom roles for user on project	Lists the custom roles assigned to the specified user on the specified project.
10	GET /v1/projects/{project_id}/groups/ {group_id}/custom_roles List custom roles for group on project	Lists the custom roles assigned the specified group on the specified project.
11	HEAD /v1/projects/{project_id}/users/ {user_id}/custom_roles/{custom_role_id} Check whether user has custom role on project	Validates that the specified user has the specified custom role on the specified project.

Item	API	Description
12	HEAD /v1/projects/{project_id}/groups/{group_id}/custom_roles/{custom_role_id} Check whether group has custom role on project	Validates that the specified group has the specified custom role on the specified project.
13	DELETE /v1/projects/{project_id}/users/{user_id}/custom_roles/{custom_role_id} Revoke custom role from user on project	Revokes the specified custom role from the specified user on the specified project.
14	DELETE /v1/projects/{project_id}/groups/{group_id}/custom_roles/{custom_role_id} Revoke custom role from group on project	Revokes the specified custom role from the specified group on the specified project.
15	GET /v1/custom_role_assignments{?domain_id,project_id,user_id,group.id,custom_role_id,effective} List custom role assignments	Lists custom role assignments.
16	GET /v1/roles{?service_id} List service privileges	Lists service privileges

5.1.3 Glossary

Term	Description
Role	Information used to assign permissions to people or group. A role can be used to identify APIs that a user can use. Roles comprise preset roles (used by management) and custom roles (used by the role management service).
Preset role	Role handled by management. The APIs that can be operated by this role are predefined.
Custom role	Role that is handled by role management and for which the privileges can be set freely. Multiple privileges can be granted to this type of role.
Custom role name	Name used to identify a custom role. Unique within the domain.
ID of the custom role	ID used to identify a custom role. Unique within the system.
Privilege	Permission to execute a specific API (operation). Prepared for the API of each service.
Privilege name	Name used to identify a privilege. Unique within the system.

5.1.4 Common API items

The following lists request header information common to the APIs.

Request headers

Content-type

The format of content defined in the MIME specification.

Specify the following if there is a request body in the POST, PATCH, or PUT method:

application/json

Data type	Cardinality
String	1..1

Accept

The accept format defined in the MIME specification.

Specify application/json. (optional)

Data type	Cardinality
String	0..1

X-Auth-Token

Valid authentication token

Data type	Cardinality
String	1..1

5.1.5 Common API error codes

The following lists error information (response) common to the APIs.

Response Headers

HTTP status code

Returns the HTTP status code of the request.

400:	Invalid access (invalid parameter, etc.)
401:	Authentication error (authentication token does not exist, authentication token has expired, or contains an error)
403:	Cannot access (no privileges)
404:	No applicable resources
405:	Method error
409:	Data conflict occurred
500:	Unexpected error
503:	Cannot use service

Data type	Cardinality
Int	1..1

Content-Type

The format of content defined in the MIME specification.

text/plain:	If the status is 401.
application/json:	If the status is not 401.

Data type	Cardinality
String	1..1

Content-Length

Request length excluding the header (in bytes).

Data type	Cardinality
Int	1..1

Date

Datetime of the response.

Data type	Cardinality
String	1..1

Response elements (if the status is 401)

Returns the text below:

```
"Authentication required"
```

Response elements (if the status is not 401 or 500)

error

error object

Data type	Cardinality	Parent element	Child element
Element	1..1	None	code title message

code

Status code

Data type	Cardinality	Parent element	Child element
String	1..1	error	None

title

Error summary

Data type	Cardinality	Parent element	Child element
String	1..1	error	None

message

Error messages

Data type	Cardinality	Parent element	Child element
String	1..1	error	None

Example of response

If the same custom role exists in the domain when creating a custom role:

```
{
  "error": {
    "code": 409,
    "title": "Conflict",
    "message": "60000: Specified name is already exists in the domain.
(name=--custom_role_name--, domain=--domain_id--"
  }
}
```

Authentication error:

```
Authentication required
```

Authorization error:

```
{
  "error": {
    "code": 403,
    "title": "Forbidden",
    "message": "50006: Specified token does not have rights of API."
  }
}
```

5.1.6 API details

5.1.6.1 Create custom role (POST /v1/custom_roles)

Creates a custom role with the specified privileges.

Empty custom roles without any privileges can also be created.

Request headers

Refer to "[Common API items](#) on page 271".

Request parameters

n/a

Request body

custom_role

custom_role object (required)

Data type	Cardinality	Parent element	Child element
Element	1..1	None	name domain_id description roles

name

Name of the custom role (required)

Input value

- 4 to 64 characters
- Halfwidth alphanumeric characters and the following symbols:
Plus (+), equal sign (=), comma (,), period (.), at-sign (@), hyphen (-), underscore (_)

Data type	Cardinality	Parent element	Child element
String	1..1	custom_role	None

domain_id

ID of the domain that the custom role will belong to (required)

Data type	Cardinality	Parent element	Child element
String	1..1	custom_role	None

description

Description of the custom role

Input value

- Up to 255 characters

Data type	Cardinality	Parent element	Child element
String	0..1	custom_role	None

roles

roles object (Required)

Data type	Cardinality	Parent element	Child element
Element	1..1	custom_role	(role)

(role)

role object (object name is not displayed)

0 to 600 roles can be specified.

Data type	Cardinality	Parent element	Child element
Element	0..n	roles	name

name

Privilege name

Data type	Cardinality	Parent element	Child element
String	0..1	(role)	None

Response headers

HTTP status code

If normal, the following status is returned.

201: Normal completion

Refer to "[Common API error codes](#) on page 271" if the state is error.

Data type	Cardinality
int	1..1

Response elements

custom_role

custom_role object

Data type	Cardinality	Parent element	Child element
Element	1..1	None	id name domain_id description roles

id

ID of the custom role

Data type	Cardinality	Parent element	Child element
String	1..1	custom_role	None

name

Custom role name

Data type	Cardinality	Parent element	Child element
String	1..1	custom_role	None

domain_id

ID of the domain that the custom role belongs to

Data type	Cardinality	Parent element	Child element
String	1..1	custom_role	None

description

Description of the custom role

Data type	Cardinality	Parent element	Child element
String	1..1	custom_role	None

roles

roles object

Data type	Cardinality	Parent element	Child element
Element	1..1	custom_role	(role)

(role)

role object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	0..n	roles	name

name

Privilege name

Data type	Cardinality	Parent element	Child element
String	0..1	(role)	None

Example of request

```
POST /v1/custom_roles
X-Auth-Token: MIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC ...

{
  "custom_role": {
    "name": "custom_role name",
    "domain_id": "--domain-id--",
    "description": "coustom_role description",
    "roles": [
```

```

        {
            "name": "--role_name--"
        },
        {
            "name": "    ...    "
        },
        {
            "name": "--role_name--"
        }
    ]
}

```

Example of response

```

HTTP/1.1 201 Created
Content-Type: application/json
Content-Length: XXX
Date: Mon, 01 May 2015 09:00:00 GMT

{
    "custom_role": {
        "id": "--custom_role-id--",
        "name": "custom_role name",
        "domain_id": "--domain-id--",
        "description": "coustom_role description",
        "roles": [
            {
                "name": "--role_name--"
            },
            {
                "name": "    ...    "
            },
            {
                "name": "--role_name--"
            }
        ]
    }
}

```

5.1.6.2 List custom roles (GET /v1/custom_roles{?domain_id})

Lists custom roles.

Empty custom roles without any privileges are also returned.

Request headers

Refer to "[Common API items](#) on page 271".

Request parameters

domain_id

Domain ID

Data type	Cardinality
String	0..1

Request body

n/a

Response headers

HTTP status code

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 271" if the state is error.

Data type	Cardinality
int	1..1

Response elements

custom_roles

custom_roles object

Data type	Cardinality	Parent element	Child element
Element	1..1	None	(custom_role)

(custom_role)

custom_role object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	0..n	custom_roles	id name domain_id description roles

id

ID of the custom role

Data type	Cardinality	Parent element	Child element
String	1..1	(custom_role)	None

name

Custom role name

Data type	Cardinality	Parent element	Child element
String	1..1	(custom_role)	None

domain_id

ID of the domain that the custom role belongs to

Data type	Cardinality	Parent element	Child element
String	1..1	(custom_role)	None

description

Description of the custom role

Data type	Cardinality	Parent element	Child element
String	1..1	(custom_role)	None

roles

roles object

Data type	Cardinality	Parent element	Child element
Element	1..1	(custom_role)	(role)

(role)

role object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	0..n	roles	name

name

Privilege name

Data type	Cardinality	Parent element	Child element
String	0..1	(role)	None

Example of request

```
GET /v1/custom_roles?domain_id=--domain-id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: XXX
Date: Mon, 01 May 2015 09:00:00 GMT

{
  "custom_roles": [
    {
      "id": "--custom_role-id--",
      "name": "custom_role name",
      "domain_id": "--domain-id--",
      "description": "coustom_role description",
      "roles": [
        {
          "name": "--role_name--"
        },
        {
          "name": "    ...    "
        }
      ]
    }
  ]
}
```

```

    },
    {
      "name": "--role_name--"
    }
  ]
},
{
  "id": "--custom_role-id--",
  "name": "custom_role name",
  "domain_id": "--domain-id--",
  "description": "coustom_role description",
  "roles": [
    {
      "name": "--role_name--"
    },
    {
      "name": "      ...      "
    },
    {
      "name": "--role_name--"
    }
  ]
}
]
}
}

```

5.1.6.3 Show custom role (GET /v1/custom_roles/{custom_role_id})

Shows details on the specified custom role.

Empty custom roles without any privileges are also returned.

Request headers

Refer to "[Common API items](#) on page 271".

Request parameters

custom_role_id

ID of the custom role (required)

Data type	Cardinality
String	1..1

Request body

n/a

Response headers

HTTP status code

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 271" if the state is error.

Data type	Cardinality
int	1..1

Response elements

custom_role

custom_role object

Data type	Cardinality	Parent element	Child element
Element	1..1	None	id name domain_id description roles

id

ID of the custom role

Data type	Cardinality	Parent element	Child element
String	1..1	custom_role	None

name

Custom role name

Data type	Cardinality	Parent element	Child element
String	1..1	custom_role	None

domain_id

ID of the domain that the custom role belongs to

Data type	Cardinality	Parent element	Child element
String	1..1	custom_role	None

description

Description of the custom role

Data type	Cardinality	Parent element	Child element
String	1..1	custom_role	None

roles

roles object

Data type	Cardinality	Parent element	Child element
Element	1..1	custom_role	(role)

(role)

role object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	0..n	roles	name

name

Privilege name

Data type	Cardinality	Parent element	Child element
String	0..1	(role)	None

Example of request

```
GET /v1/custom_roles/--custom_role_id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: XXX
Date: Mon, 01 May 2015 09:00:00 GMT

{
  "custom_role": {
    "id": "--custom_role_id--",
    "name": "custom_role name",
    "domain_id": "--domain_id--",
    "description": "coustom_role description",
    "roles": [
      {
        "name": "--role_name--"
      },
      {
        "name": "    ...    "
      },
      {
        "name": "--role_name--"
      }
    ]
  }
}
```

5.1.6.4 Update custom role (PATCH /v1/custom_roles/{custom_role_id})

Updates the specified custom role.

The name, description, and privileges cannot be updated.

If increasing or decreasing privileges for a custom role already assigned, assign of the role and revoke of the role have to be done to role management.

Also, if a role has been revoked, tokens of users that have had a role revoked will become invalid, so a new token will have to be obtained.

Request headers

Refer to "[Common API items](#) on page 271".

Request parameters

custom_role_id

ID of the custom role (required)

Data type	Cardinality
String	1..1

Request body

custom_role

custom_role object (required)

Data type	Cardinality	Parent element	Child element
Element	1..1	None	name description roles

name

Custom role name

Input value

- 4 to 64 characters
- Halfwidth alphanumeric characters and the following symbols:
Plus (+), equal sign (=), comma (,), period (.), at-sign (@), hyphen (-), underscore (_)

Data type	Cardinality	Parent element	Child element
String	0..1	custom_role	None

description

Description of the custom role

Input value

- Up to 255 characters

Data type	Cardinality	Parent element	Child element
String	0..1	custom_role	None

roles

roles object

Data type	Cardinality	Parent element	Child element
Element	0..1	custom_role	(role)

(role)

role object (object name is not displayed)

0 to 600 roles can be specified.

Data type	Cardinality	Parent element	Child element
Element	0..n	roles	name

name

Privilege name

Data type	Cardinality	Parent element	Child element
String	0..1	(role)	None

Response headers

HTTP status code

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 271" if the state is error.

Data type	Cardinality
int	1..1

Response elements

custom_role

custom_role object

Data type	Cardinality	Parent element	Child element
Element	1..1	None	id name domain_id description roles

id

ID of the custom role

Data type	Cardinality	Parent element	Child element
String	1..1	custom_role	None

name

Custom role name

Data type	Cardinality	Parent element	Child element
String	1..1	custom_role	None

domain_id

ID of the domain that the custom role belongs to

Data type	Cardinality	Parent element	Child element
String	1..1	custom_role	None

description

Description of the custom role

Data type	Cardinality	Parent element	Child element
String	1..1	custom_role	None

roles

roles object

Data type	Cardinality	Parent element	Child element
Element	1..1	custom_role	(role)

(role)

role object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	0..n	roles	name

name

Privilege name

Data type	Cardinality	Parent element	Child element
String	0..1	(role)	None

Example of request

```
PATCH /v1/custom_roles/--custom_role_id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC ...

{
  "custom_role": {
    "name": "custom_rolename",
    "description": "coustom_role description",
    "roles": [
      {
        "name": "--role_name--"
      },
      {
        "name": "    ...    "
      },
      {
        "name": "--role_name--"
      }
    ]
  }
}
```

Example of response

```

HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: XXX
Date: Mon, 01 May 2015 09:00:00 GMT

{
  "custom_role": {
    "id": "--custom_role-id--",
    "name": "custom_role name",
    "domain_id": "--domain_id--",
    "description": "coustom_role description",
    "roles": [
      {
        "name": "--role_name--"
      },
      {
        "name": "          "
      },
      {
        "name": "--role_name--"
      }
    ]
  }
}

```

5.1.6.5 Delete custom role (DELETE /v1/custom_roles/{custom_role_id})

Deletes the specified custom role.

Custom roles that have already been assigned cannot be deleted.

Request headers

Refer to "[Common API items](#) on page 271".

Request parameters

custom_role_id

ID of the custom role (required)

Data type	Cardinality
String	1..1

Request body

n/a

Response headers

HTTP status code

If normal, the following status is returned.

204: Normal completion

Refer to "[Common API error codes](#) on page 271" if the state is error.

Data type	Cardinality
int	1..1

Response elements

n/a

Example of request

```
DELETE /v1/custom_roles/--custom_role_id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content
Content-Length: 0
Date: Mon, 01 May 2015 09:00:00 GMT
```

5.1.6.6 Force delete custom role (DELETE /v1/custom_roles/{custom_role_id}/force_delete)

Force deletes the specified custom role.

Even custom roles that have already been assigned are deleted.

Role revocation is automatically performed for management if the role has already been assigned.

Tokens of users that have had a role revoked will become invalid, so a new token will have to be obtained.

Request headers

Refer to "[Common API items](#) on page 271".

Request parameters

custom_role_id

ID of the custom role (required)

Data type	Cardinality
String	1..1

Request body

n/a

Response headers

HTTP status code

If normal, the following status is returned.

204: Normal completion

Refer to "[Common API error codes](#) on page 271" if the state is error.

Data type	Cardinality
int	1..1

Response elements

n/a

Example of request

```
DELETE /v1/custom_roles/--custom_role_id--/force_delete
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content
Content-Length: 0
Date: Mon, 01 May 2015 09:00:00 GMT
```

5.1.6.7 Assign custom role to user on project (PUT /v1/projects/{project_id}/users/{user_id}/custom_roles/{custom_role_id})

Assigns the specified custom role to the specified user on the specified project.

Role grant will be performed for management based on the information of the custom role.

The assigned custom role will become effective after the token is obtained again.

Request headers

Refer to "[Common API items](#) on page 271".

Request parameters

project_id

ID of the project (required)

Data type	Cardinality
String	1..1

user_id

User ID (required)

Data type	Cardinality
String	1..1

custom_role_id

ID of the custom role (required)

Data type	Cardinality
String	1..1

Request body

n/a

Response headers

HTTP status code

If normal, the following status is returned.

204: Normal completion

Refer to "[Common API error codes](#) on page 271" if the state is error.

Data type	Cardinality
int	1..1

Response elements

n/a

Example of request

```
PUT /v1/projects/--project_id--/users/--user_id--/custom_roles/--
custom_role_id--
X-Auth-Token: MIIHGYJKoZIhvcNAQcCoIIIDzCCCAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content
Content-Length: 0
Date: Mon, 01 May 2015 09:00:00 GMT
```

5.1.6.8 Assign custom role to group on project (PUT /v1/projects/{project_id}/groups/{group_id}/custom_roles/{custom_role_id})

Assigns the specified custom role to the specified group on the specified project.

Role grant will be performed for management based on the information of the custom role.

The assigned custom role will become effective after the token is obtained again.

Request headers

Refer to "[Common API items](#) on page 271".

Request parameters

project_id

ID of the project (required)

Data type	Cardinality
String	1..1

group_id

Group ID (required)

Data type	Cardinality
String	1..1

custom_role_id

ID of the custom role (required)

Data type	Cardinality
String	1..1

Request body

n/a

Response headers

HTTP status code

If normal, the following status is returned.

204: Normal completion

Refer to "[Common API error codes](#) on page 271" if the state is error.

Data type	Cardinality
int	1..1

Response elements

n/a

Example of request

```
PUT /v1/projects/--project_id--/groups/--group_id--/custom_roles/--  
custom_role_id--  
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content  
Content-Length: 0  
Date: Mon, 01 May 2015 09:00:00 GMT
```

5.1.6.9 List custom roles for user on project (GET /v1/projects/{project_id}/users/{user_id}/custom_roles)

Lists the custom roles assigned for the specified user on the specified project.

If no custom roles have been assigned to the specified user on the specified project, blank data will be returned.

Request headers

Refer to "[Common API items](#) on page 271".

Request parameters

project_id

ID of the project (required)

Data type	Cardinality
String	1..1

user_id

User ID (required)

Data type	Cardinality
String	1..1

Request body

n/a

Response headers

HTTP status code

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 271" if the state is error.

Data type	Cardinality
int	1..1

Response elements

custom_roles

custom_roles object

Data type	Cardinality	Parent element	Child element
Element	1..1	None	(custom_role)

(custom_role)

custom_role object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	0..n	custom_roles	id name

id

ID of the custom role

Data type	Cardinality	Parent element	Child element
String	1..1	(custom_role)	None

name

Custom role name

Data type	Cardinality	Parent element	Child element
String	1..1	(custom_role)	None

Example of request

```
GET /v1/projects/--project_id--/users/--user_id--/custom_roles
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: XXX

Date: Mon, 01 May 2015 09:00:00 GMT
{
  "custom_roles": [
    {
      "id": "--custom_role-id--",
      "name": "custom_role name"
    },
    {
      "id": "--custom_role_id--",
      "name": "custom_role name"
    }
  ]
}
```

5.1.6.10 List custom roles for group on project (GET /v1/projects/{project_id}/groups/{group_id}/custom_roles)

Lists the custom roles assigned to the specified group on the specified project.

If no custom roles have been assigned to the specified group on the specified project, blank data will be returned.

Request headers

Refer to "[Common API items](#) on page 271".

Request parameters

project_id

ID of the project (required)

Data type	Cardinality
String	1..1

group_id

Group ID (required)

Data type	Cardinality
String	1..1

Request body

n/a

Response headers

HTTP status code

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 271" if the state is error.

Data type	Cardinality
int	1..1

Response elements

custom_roles

custom_roles object

Data type	Cardinality	Parent element	Child element
Element	1..1	None	(custom_role)

(custom_role)

custom_role object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	0..n	custom_roles	id name

id

ID of the custom role

Data type	Cardinality	Parent element	Child element
String	1..1	(custom_role)	None

name

Custom role name

Data type	Cardinality	Parent element	Child element
String	1..1	(custom_role)	None

Example of request

```
GET /v1/projects/--project_id--/groups/--group_id--/custom_roles
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: XXX

Date: Mon, 01 May 2015 09:00:00 GMT
{
  "custom_roles": [
    {
      "id": "--custom_role_id--",
      "name": "custom_role name"
    },
    {
      "id": "--custom_role_id--",
      "name": "custom_role name"
    }
  ]
}
```

5.1.6.11 Check whether user has custom role on project (HEAD /v1/projects/{project_id}/users/{user_id}/custom_roles/{custom_role_id})

Validates that the specified user has the specified custom role on the specified project.

Request headers

Refer to "[Common API items](#) on page 271".

Request parameters

project_id

ID of the project (required)

Data type	Cardinality
String	1..1

user_id

User ID (required)

Data type	Cardinality
String	1..1

custom_role_id

ID of the custom role (required)

Data type	Cardinality
String	1..1

Request body

n/a

Response headers

HTTP status code

If normal, the following status is returned.

204: Custom role has already been assigned

Refer to "[Common API error codes](#) on page 271" if the state is error.

Data type	Cardinality
int	1..1

Response elements

n/a

Example of request

```
HEAD /v1/projects/--project_id--/users/--user_id--/custom_roles/--
custom_role_id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content
Content-Length: 0
Date: Mon, 01 May 2015 09:00:00 GMT
```

5.1.6.12 Check whether group has custom role on project (HEAD /v1/projects/{project_id}/groups/{group_id}/custom_roles/{custom_role_id})

Validates that the specified group has the specified custom role on the specified project.

Request headers

Refer to "[Common API items](#) on page 271".

Request parameters

`project_id`

ID of the project (required)

Data type	Cardinality
String	1..1

`group_id`

Group ID (required)

Data type	Cardinality
String	1..1

`custom_role_id`

ID of the custom role (required)

Data type	Cardinality
String	1..1

Request body

n/a

Response headers

HTTP status code

If normal, the following status is returned.

204: Custom role has already been assigned

Refer to "[Common API error codes](#) on page 271" if the state is error.

Data type	Cardinality
int	1..1

Response elements

n/a

Example of request

```
HEAD /v1/projects/--project_id--/groups/--group_id--/custom_roles/--  
custom_role_id--  
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content  
Content-Length: 0  
Date: Mon, 01 May 2015 09:00:00 GMT
```

5.1.6.13 Revoke custom role from user on project (DELETE / v1/projects/{project_id}/users/{user_id}/custom_roles/{custom_role_id})

Revokes the specified custom role from the specified user on the specified project.

Role revocation will be performed for management based on the information of the custom role.

The custom role itself will not be deleted.

Tokens of users that have had a custom role revoked will become invalid, so a new token will have to be obtained.

Request headers

Refer to "[Common API items](#) on page 271".

Request parameters

project_id

ID of the project (required)

Data type	Cardinality
String	1..1

user_id

User ID (required)

Data type	Cardinality
String	1..1

custom_role_id

ID of the custom role (required)

Data type	Cardinality
String	1..1

Request body

n/a

Response headers

HTTP status code

If normal, the following status is returned.

204: Normal completion

Refer to "[Common API error codes](#) on page 271" if the state is error.

Data type	Cardinality
int	1..1

Response elements

n/a

Example of request

```
DELETE /v1/projects/--project_id--/users/--user_id--/custom_roles/--
custom_role_id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content
Content-Length: 0
Date: Mon, 01 May 2015 09:00:00 GMT
```

5.1.6.14 Revoke custom role from group on project (DELETE /v1/projects/{project_id}/groups/{group_id}/custom_roles/{custom_role_id})

Revokes the specified custom role from the specified group on the specified project.

Role revocation will be performed for management based on the information of the custom role.

The custom role itself will not be deleted.

Tokens of users that belong to a group that has had a custom role revoked will become invalid, so a new token will have to be obtained.

Request headers

Refer to "[Common API items](#)" on page 271".

Request parameters

project_id

ID of the project (required)

Data type	Cardinality
String	1..1

group_id

Group ID (required)

Data type	Cardinality
String	1..1

custom_role_id

ID of the custom role (required)

Data type	Cardinality
String	1..1

Request body

n/a

Response headers

HTTP status code

If normal, the following status is returned.

204: Normal completion

Refer to "[Common API error codes](#) on page 271" if the state is error.

Data type	Cardinality
int	1..1

Response elements

n/a

Example of request

```
DELETE /v1/projects/--project_id--/groups/--group_id--/custom_roles/--
custom_role_id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 204 No Content
Content-Length: 0
Date: Mon, 01 May 2015 09:00:00 GMT
```

5.1.6.15 List custom role assignments (GET /v1/ custom_role_assignments? {domain_id,project_id,user_id,group_id,custom_role_id,effective})

Lists custom role assignments within own domain.

You can filter by user, group and custom role.

If "effective" is specified, custom roles assigned to a group will be included in the list of custom roles assigned to the users that belong to that group.

However, if both "effective" and "user_id" are specified, the "effective" have no effect.

Request headers

Refer to "[Common API items](#) on page 271".

Request parameters

domain_id

Domain ID (required)

The response will be filtered by the specified domain.

Data type	Cardinality
String	1..1

project_id

Project ID

The response will be filtered by the specified project.

Data type	Cardinality
String	0..1

user_id

User ID

The response will be filtered by the specified user.

Data type	Cardinality
String	0..1

group_id

ID of the group

The response will be filtered by the specified group.

Data type	Cardinality
String	0..1

custom_role_id

ID of the custom role

The response will be filtered by the specified custom role.

Data type	Cardinality
String	0..1

effective

Specified whether to list custom roles assigned to groups that the user belongs to.

Data type	Cardinality
String	0..1

Request body

n/a

Response headers

HTTP status code

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 271" if the state is error.

Data type	Cardinality
int	1..1

Response elements

role_assignments

role_assignments object

Data type	Cardinality	Parent element	Child element
Element	1..1	None	(role_assignment)

(role_assignment)

role_assignment object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	0..n	role_assignments	custom_role domain project user group

custom_role

custom_role object

Data type	Cardinality	Parent element	Child element
Element	0..1	(role_assignment)	id

id (custom_role object)

ID of the custom role

Data type	Cardinality	Parent element	Child element
String	0..1	custom_role	None

domain

domain object

Data type	Cardinality	Parent element	Child element
Element	0..1	(role_assignment)	id

id (domain object)

Domain ID

Data type	Cardinality	Parent element	Child element
String	0..1	domain	None

project

project object

Data type	Cardinality	Parent element	Child element
Element	0..1	(role_assignment)	id

id (project object)

Project ID

Data type	Cardinality	Parent element	Child element
String	0..1	project	None

user

user object

Data type	Cardinality	Parent element	Child element
Element	0..1	(role_assignment)	id

id (user object)

User ID

Data type	Cardinality	Parent element	Child element
String	0..1	user	None

group

group object

Data type	Cardinality	Parent element	Child element
Element	0..1	(role_assignment)	id

id (group object)

ID of the group

Data type	Cardinality	Parent element	Child element
String	0..1	group	None

Example of request

- List the custom role assignments within the domain:

```
GET /v1/custom_role_assignments?domain_id=--domain_id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

- List the custom roles assigned to specified user within the domain:

```
GET /v1/custom_role_assignments?domain_id=--domain_id--&user_id=--
user_id--
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

- List the custom role assignments within the domain:

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: XXX
Date: Mon, 01 May 2015 09:00:00 GMT

{
  "role_assignments": [
    {
      "custom_role": {
        "id": "--custom_role_id--"
      },
      "project": {
        "id": "--project_id--"
      },
      "user": {
        "id": "--user_id--"
      }
    },
    {
      "custom_role": {
        "id": "--custom_role_id--"
      },
      "project": {
        "id": "--project_id--"
      },
      "group": {
        "id": "--group_id--"
      }
    }
  ]
}
```

- List the custom roles assigned to specified user within the domain:

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: XXX
Date: Mon, 01 May 2015 09:00:00 GMT

{
  "role_assignments": [
    {
      "custom_role": {
        "id": "--custom_role_id--"
      },
      "project": {
        "id": "--project_id--"
      },
      "user": {
        "id": "--user_id--"
      }
    },
    {
      "custom_role": {
        "id": "--custom_role_id--"
      },
      "project": {
        "id": "--project_id--"
      },
      "user": {
        "id": "--user_id--"
      }
    }
  ]
}
```

```
}  
  ]  
}
```

5.1.6.16 List service privileges (GET /v1/roles{?service_id})

Lists service privileges.

You can filter by service ID.

Request headers

Refer to "[Common API items](#) on page 271".

Request parameters

service_id

Service ID

Refer to "[Service list](#) on page 306" for details on service IDs that can be specified.

Data type	Cardinality
String	0..1

Request body

n/a

Response headers

HTTP status code

If normal, the following status is returned.

200: Normal completion

Refer to "[Common API error codes](#) on page 271" if the state is error.

Data type	Cardinality
int	1..1

Response elements

services

services object

Data type	Cardinality	Parent element	Child element
Element	1..1	None	(service)

(service)

service object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	services	name

Data type	Cardinality	Parent element	Child element
			id type roles

name

Service name

Data type	Cardinality	Parent element	Child element
String	1..1	(service)	None

id

Service ID

Data type	Cardinality	Parent element	Child element
String	1..1	(service)	None

type

Service type

Data type	Cardinality	Parent element	Child element
String	1..1	(service)	None

roles

roles object

Data type	Cardinality	Parent element	Child element
String	1..1	(service)	(role)

(role)

role object (object name is not displayed)

Data type	Cardinality	Parent element	Child element
Element	1..n	roles	name

name

Privilege name

Data type	Cardinality	Parent element	Child element
String	1..1	(role)	None

Example of request

```
GET /v1/roles
X-Auth-Token: MIIIHgYJKoZIhvcNAQcCoIIIDzCCCAAsCAQExC...
```

Example of response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: XXX
Date: Mon, 01 May 2015 09:00:00 GMT

{
  "services": [
    {
      "name": "--service_name--",
      "id": "--service_id--",
      "type": "--type--",
      "roles": [
        {
          "name": "role_name"
        },
        {
          "name": "    ...    "
        },
        {
          "name": "role_name"
        }
      ]
    },
    {
      "name": "--service_name--",
      "id": "--service_id--",
      "type": "--type--",
      "roles": [
        {
          "name": "role_name"
        },
        {
          "name": "    ...    "
        },
        {
          "name": "role_name"
        }
      ]
    }
  ]
}
```

5.1.6.17 Service list

The table below lists the service IDs that can be specified by this API:

[As at October, 2015]

Service	Service name	Service type	Service ID
Management	identityv3	identityv3	cc6f50d496884ef0a751acb2e1eceedd
Contract management	contract	contract	1b35fa74ae0e46ebbc2014f976fec0e1
Role management	rolemanagement	rolemanagement	5bc90099f0ad490c811239a6a3a8f853
Certificate management	certificate	certificate	0bd9a971e97d4c15af6b94311e4e9c15
Key management	keymanagement	keystore	07f309b0ef9d42758ea4de47bdca9c32

Service	Service name	Service type	Service ID
Monitoring service	telemetry	metering	54ee7596f0e1433cb8db6201be2cf772
Compute	compute	compute	3e19093f50cc4590973c8953e2c327f9
Image	image	image	ea850dab0e964e12a9f66787ee8623ae
Storage	blockstorage	volume	0ec640e57e4d4374841d2ab7b292f2c2
		volumev2	9bf82d0466714eee86e304ab3301aec9
Autoscale	autoscale	autoscale	4f158b2836434c7ca6ee47e40a3ee56c
Template	orchestration	orchestration	0dafa2a9240c41268c37818979769c88
Load balancer	loadbalancing	loadbalancing	15ef761fa00a438985213aec7b6fb18a
Network	networking	networking	6cf37e33dc7140b9b032faabfa53a53e
Import a virtual server	vmimport	vmimport	c73fa07c3b604b4f89d5a2b9c4621cf2
DNS	dns	dns	7426c97af5174c1abdb8b84ba02227ce
Database	database	database	75c0280f15844d7a9eb22b1ad5a978e8
Message queue	queue	queue	4a9ab69b74ec4948a0a6958177d30387
Email send	mail	mail	d4601f51af8f43f3b0e3409e4cbac690
Network connector extension	networking-ex	network-ex	d4937aa1275c41378bf2ae1dbe829c68

5.1.7 Privilege list

Location services

API	Policy role	Reference
GET /v2/{tenant_id}/servers/{server_id}	com_get	API reference (Foundation Service)
GET /v2/{tenant_id}/servers/detail	com_get_all	

Virtual server

API	Policy role	Reference
GET /v2/{tenant_id}/servers	com_get_all	API reference (Foundation Service)
POST /v2/{tenant_id}/servers	com_create(*1,2,3,4)	
GET /v2/{tenant_id}/servers/detail{? changes-since,image,flavor,name, marker,limit,status,host}	com_get_all	
PUT /v2/{tenant_id}/servers/{server_id}	com_update(*5)	
DELETE /v2/{tenant_id}/servers/{server_id}	com_delete(*5)	

API	Policy role	Reference
POST /v2/{tenant_id}/servers/{server_id}/action	com_reboot(*5)	
POST /v2/{tenant_id}/servers/{server_id}/action	com_rebuild(*3,5)	
POST /v2/{tenant_id}/servers/{server_id}/action	com_resize(*5)	
POST /v2/{tenant_id}/servers/{server_id}/action	com_confirm_resize(*5)	
POST /v2/{tenant_id}/servers/{server_id}/action	com_revert_resize(*5)	
GET /v2/{tenant_id}/images/detail {?changes-since,server,name,status, marker,limit,type}	img_get	
GET /v2/{tenant_id}/images/{image_id}	img_get	
DELETE /v2/{tenant_id}/images/{image_id}	img_delete	
GET /v2/{tenant_id}/images/{image_id}/metadata	com_image_meta_get	
POST /v2/{tenant_id}/images/{image_id}/metadata	com_image_meta_create (*3)	
PUT /v2/{tenant_id}/images/{image_id}/metadata	com_image_meta_update (*3)	
GET /v2/{tenant_id}/images/{image_id}/metadata/{key}	com_image_meta_get	
PUT /v2/{tenant_id}/images/{image_id}/metadata/{key}	com_image_meta_update (*3)	
DELETE /v2/{tenant_id}/images/{image_id}/metadata/{key}	com_image_meta_del (*3)	
POST /v2/{tenant_id}/servers	com_create	
POST /v2/{tenant_id}/servers	com_create	
GET /v2/{tenant_id}/servers/{server_id}	com_get	
GET /v2/{tenant_id}/servers/detail	com_get_all	
GET /v2/{tenant_id}/servers	com_get_all	
GET /v2/{tenant_id}/servers/{server_id}	com_get	
GET /v2/{tenant_id}/servers/detail	com_get_all	
POST /v2/{tenant_id}/servers	com_create(*1,2,3,4)	
GET /v2/{tenant_id}/servers/{server_id}	com_get	
GET /v2/{tenant_id}/servers/detail	com_get_all	

API	Policy role	Reference
GET /v2/{tenant_id}/images/{image_id}	com_image_get	
GET /v2/{tenant_id}/images/detail	com_image_get_all	
POST /v2/{tenant_id}/servers	com_create	
GET /v2/{tenant_id}/servers/{server_id}	com_get	
GET /v2/{tenant_id}/servers/detail	com_get_all	
POST /v2/{tenant_id}/servers	com_create(*1,2,3,4)	
GET /v2/{tenant_id}/servers/{server_id}	com_get	
GET /v2/{tenant_id}/servers/detail	com_get_all	
POST /v2/{tenant_id}/servers	com_create(*1,2,3,4)	
GET /v2/{tenant_id}/servers{?changes-since,image,flavor,name,marker,limit,status,host}	com_get_all	
POST /v2/{tenant_id}/servers/{server_id}/os-volume_attachments	com_vlm_attach_update(*5,7)	
GET /v2/{tenant_id}/servers/{server_id}/os-volume_attachments	com_vlm_attach_refer(*5,7)	
GET /v2/{tenant_id}/servers/{server_id}/os-volume_attachments/{attachment_id}	com_vlm_attach_refer(*5,7)	
DELETE /v2/{tenant_id}/servers/{server_id}/os-volume_attachments/{attachment_id}	com_vlm_attach_update(*5,6,7)	
POST /v2/{tenant_id}/servers/{server_id}/action	com_start	
POST /v2/{tenant_id}/servers/{server_id}/action	com_stop	
GET /v2/{tenant_id}/flavors	com_flavor_list	
GET /v2/{tenant_id}/flavors/{flavor_id}	com_flavor_get	
POST /v2/{tenant_id}/servers/{server_id}/os-interface	com_attach_i_update(*4,5,8,9,10,11,12,13,14,15)	
GET /v2/{tenant_id}/servers/{server_id}/os-interface	com_attach_i_refer(*5,13)	
GET /v2/{tenant_id}/servers/{server_id}/os-interface/{attachment_id}	com_attach_i_refer(*5,13)	
DELETE /v2/{tenant_id}/servers/{server_id}/os-interface/{attachment_id}	com_attach_i_update(*5,8,10,11,13,14)	
GET /v2/{tenant_id}/os-server-groups	com_ser_grps_refer	

API	Policy role	Reference
POST /v2/{tenant_id}/os-server-groups	com_ser_grps_update	
GET /v2/{tenant_id}/os-server-groups/{ServerGroup_id}	com_ser_grps_refer	
DELETE /v2/{tenant_id}/os-server-groups/{ServerGroup_id}	com_ser_grps_update	
POST /v2/{tenant_id}/servers/{server_id}/action	com_shelve(*3,5,16)	
POST /v2/{tenant_id}/servers/{server_id}/action	com_unshelve(*2,3,5,16)	
POST /v2/{tenant_id}/servers/{server_id}/metadata	com_create_meta	

Autoscale

API	Policy role	Reference
POST /v1/{tenant_id}/stacks/{stack_name}/{stack_id}/resources/{resource_name}/signal	orch_resource_signal	API reference (Foundation Service)
GET /v1/{tenant_id}/stacks/{stack_name}/{stack_id}/resources/{resource_name}	orch_resource_show	
POST /autoscale_schedulers	orch_scheduler_list	
DELETE /autoscale_schedulers/{name}	orch_scheduler_delete	
GET /autoscale_schedulers	orch_scheduler_create	

Import a virtual server

API	Policy role	Reference
POST /v1/imageimport	vm_import	API reference (Foundation Service)
GET /v1/imageimport/{import_id}/status	vm_get_status	
GET /v1/imageimport{?start, limit}	vm_list	

Other (common)

API	Policy role	Reference
GET /v2/{tenant_id}/os-keypairs	com_keypairs_index	API reference (Foundation Service)
POST /v2/{tenant_id}/os-keypairs	com_keypairs_create	
DELETE /v2/{tenant_id}/os-keypairs/{keypair_name}	com_keypairs_delete	
GET /v2/{tenant_id}/os-keypairs/{keypair_name}	com_keypairs_show	
POST /v2/{tenant_id}/servers/{server_id}/action	com_console_output	
GET /v2/{tenant_id}/images/detail	img_get_images	

API	Policy role	Reference
GET /v2/{tenant_id}/images/{image_id}	img_get_image	
GET /v2/{tenant_id}/servers/{server_id}/os-server-password	com_server_password(*5)	
PATCH /v2/images/{image_id}	img_modify_image(*3)	
GET /v2/images{?limit,marker,name,visibility,member_status,owner,status,size_min,size_max,sort_key,sort_dir,tag}	img_get_images	
GET /v2/images{?limit,marker,name,visibility,member_status,owner,status,size_min,size_max,sort_key,sort_dir,tag}	img_get_images	
DELETE /v2/images/{image_id}	img_delete_image(*3)	
POST /v2/images/{image_id}/members	img_add_member	
GET /v2/images/{image_id}/members	img_get_members	
GET /v2/images/{image_id}/members/{member_id}	img_get_member	
DELETE /v2/images/{image_id}/members/{member_id}	img_delete_member	
PUT /v2/images/{image_id}/members/{member_id}	img_modify_member	

System storage

API	Policy role	Reference
GET /v2/{tenant_id}/types	bstg_get_all_types	API reference (Foundation Service)
GET /v2/{tenant_id}/types/{volume_type_id}	bstg_get_type	
GET /v2/{tenant_id}/volumes	bstg_get_all	
GET /v2/{tenant_id}/volumes/detail	bstg_get_all	
GET /v2/{tenant_id}/volumes/{volume_id}	bstg_get	
DELETE /v2/{tenant_id}/volumes/{volume_id}	bstg_delete(*2)	
GET /v1.1/{tenant_id}/os-volumes	bstg_get_all	
GET /v1.1/{tenant_id}/os-volumes/detail	bstg_get_all(*7)	
POST /v1.1/{tenant_id}/os-volumes	bstg_create(*7,18)	
GET /v1.1/{tenant_id}/os-volumes/{volume_id}	bstg_get_all	
DELETE /v1.1/{tenant_id}/os-volumes/{volume_id}	bstg_delete(*2,7)	
POST /v1.1/{tenant_id}/os-snapshots	bstg_create_snapshot(*2,7)	

API	Policy role	Reference
GET /v1.1/{tenant_id}/os-snapshots	bstg_get_all_snapshots (*7)	
GET /v1.1/{tenant_id}/os-snapshots/detail	bstg_get_all_snapshots (*7)	
GET /v1.1/{tenant_id}/os-snapshots/{snapshot_id}	bstg_get_all_snapshots (*7)	
DELETE /v1.1/{tenant_id}/os-snapshots/{snapshot_id}	bstg_delete_snapshot (*7,18)	
POST /v2/{tenant_id}/volumes	bstg_create	
PUT /v2/{tenant_id}/volumes/{volume_id}	bstg_update(*2)	
POST /v2/{tenant_id}/volumes/{volume_id}/action	bstg_cpy_vlm_to_img	
POST /v2/{tenant_id}/volumes/{volume_id}/action	bstg_extend	

Snapshots

API	Policy role	Reference
GET /v2/{tenant_id}/snapshots	bstg_get_all_snapshots	API reference (Foundation Service)
GET /v2/{tenant_id}/snapshots/detail	bstg_get_all_snapshots	
GET /v2/{tenant_id}/snapshots/{snapshot_id}	bstg_get_snapshot	
DELETE /v2/{tenant_id}/snapshots/{snapshot_id}	bstg_delete_snapshot (*18)	
POST /v2/{tenant_id}/snapshots	bstg_create_snapshot (*2)	
PUT /v2/{tenant_id}/snapshots/{snapshot_id}	bstg_update_snapshot (*2)	
POST /v2/{tenant_id}/snapshots/{snapshot_id}/action	bstg_fcx_restore_snapshot (*2,6,18,19)	

Database

API	Policy role	Reference
POST /v1.0/{tenantId}/instances	db_create_dbinstance	API reference (Application Platform Service)
DELETE /v1.0/{tenantId}/instances/{instanceId}	db_delete_dbinstance	
PUT /v1.0/{tenantId}/instances/{instanceId}	db_modify_dbinsntace	

API	Policy role	Reference
POST /v1.0/{tenantId}/instances/{instanceId}	db_restore_dbinstane_dbsnapshot	
POST /v1.0/{tenantId}/instances/{instanceId}	db_restore_dbinstance_pointintime	
POST /v1.0/{tenantId}/instances/{instanceId}/action	db_start_dbinstance	
POST /v1.0/{tenantId}/instances/{instanceId}/action	db_stop_dbinstance	
POST /v1.0/{tenantId}/instances/{instanceId}/action	db_reboot_dbinstance	
POST /v1.0/{tenantId}/instances	db_create_readreplica	
GET /v1.0/{tenantId}/instances/{instanceId}	db_describe_dbinstance	
GET /v1.0/{tenantId}/instance/	db_describe_dbinstances	
POST /v1.0/{tenantId}/snapshots	db_create_dbsnapshot	
DELETE /v1.0/{tenantId}/snapshots/{snapshotId}	db_delete_dbsnapshot	
POST /v1.0/{tenantId}/snapshots	db_copy_dbsnapshot	
GET /v1.0/{tenantId}/snapshots/{snapshotId}	db_describe_dbsnapshot	
GET /v1.0/{tenantId}/snapshots	db_describe_dbsnapshots	
GET /v1.0/{tenantId}/logfiles/{instanceId}	db_describe_dblogfiles	
GET /v1.0/{tenantId}/logfiles/{instanceId}/{logFileName}	db_download_dblogfileportion	
POST /v1.0/{tenantId}/subnetgroups	db_create_dbsubnetgroup	
DELETE /v1.0/{tenantId}/subnetgroups/{subnetgroupId}	db_delete_dbsubnetgroup	
PUT /v1.0/{tenantId}/subnetgroups/{subnetgroupId}	db_modify_dbsubnetgroup	
GET /v1.0/{tenantId}/subnetgroups/{subnetgroupId}	db_describe_dbsubnetgroup	
GET /v1.0/{tenantId}/subnetgroups	db_describe_dbsubnetgroups	
POST /v1.0/{tenantId}/parametergroups	db_create_dbparametergroup	
DELETE /v1.0/{tenantId}/parametergroups/{parameterGroupId}	db_delete_dbparametergroup	
GET /v1.0/{tenantId}/parametergroups	db_describe_dbparametergroups	
GET /v1.0/{tenantId}/parametergroups/{parameterGroupId}	db_describe_dbparametergroup	

API	Policy role	Reference
PUT /v1.0/{tenantId}/parametergroups/{parameterGroupId}	db_modify_dbparametergroup	
POST /v1.0/{tenantId}/eventnotifications	db_create_eventsubscription	
PUT /v1.0/{tenantId}/eventnotifications/{subscriptionID}	db_add_sourceidentifiertosubscription	
PUT /v1.0/{tenantId}/eventnotifications/{subscriptionID}	db_modify_eventsubscription	
PUT /v1.0/{tenantId}/eventnotifications/{subscriptionID}	db_remove_sourceidentifiertosubscription	
DELETE /v1.0/{tenantId}/eventnotifications/{subscriptionID}	db_delete_eventsubscription	
GET /v1.0/{tenantId}/eventnotifications	db_describe_eventsubscriptions	
GET /v1.0/{tenantId}/eventcategories/{sourceType}	db_describe_eventcategories	
GET /v1.0/{tenantId}/events/{sourceType}/{sourceId}	db_describe_events	
GET /v1.0/{tenantId}/eventnotifications/{subscriptionID}	db_describe_eventsubscription	
GET /v1.0/{tenantId}/engineversion	db_describe_dbversion	
GET /v1.0/{tenantId}/flavors	db_describe_flavors	
GET /v1.0/{tenantId}/flavors/{flavorID}	db_describe_flavor	

Global IP delivery service

API	Policy role	Reference
GET /v2.0/floatingips	net_get_fip(*22)	API reference (Network)
POST /v2.0/floatingips	net_create_fip	
GET /v2.0/floatingips/{floatingip_id}	net_get_fip(*23)	
PUT /v2.0/floatingips/{floatingip_id}	net_update_fip(*23)	
DELETE /v2.0/floatingips/{floatingip_id}	net_delete_fip(*23)	
GET /v2.0/subnets	net_get_subnet(*24)	
POST /v2.0/subnets	net_create_subnet	
GET /v2.0/subnets/{subnet_id}	net_get_subnet(*23)	
PUT /v2.0/subnets/{subnet_id}	net_update_subnet(*23)	
DELETE /v2.0/subnets/{subnet_id}	net_delete_subnet(*23)	

Private network

API	Policy role	Reference
GET /v2.0/networks	net_get_network(*24)	API reference (Network)
POST /v2.0/networks	net_create_network	
PUT /v2.0/networks/{network_id}	net_update_network(*23)	
GET /v2.0/networks/{network_id}	net_get_network (*23)	
DELETE /v2.0/networks/{network_id}	net_delete_network(*23)	
GET /v2.0/network_connector_pools/ {network_connector_pool_id}	net_get_nc_pool	
GET /v2.0/network_connector_pools	net_get_nc_pool	
POST /v2.0/network_connectors	net_create_nc and net_get_nc	
GET /v2.0/network_connectors/ {network_connector_id}	net_get_nc	
GET /v2.0/network_connectors	net_get_nc	
PUT /v2.0/network_connectors/{network connector id}	net_update_nc and net_get_nc	
DELETE /v2.0/network_connectors/ {network connector id}	net_delete_nc	
POST /v2.0/network_connector_endpoints	net_create_nc_ep	
GET /v2.0/network_connector_endpoints/ {network_connector_endpoint_id}	net_get_nc_ep	
GET /v2.0/network_connector_endpoints	net_get_nc_ep	
PUT /v2.0/network_connector_endpoints/ {network connector endpoint id}	net_update_nc_ep and net_get_nc_ep	
DELETE /v2.0/ network_connector_endpoints/{network connector endpoint id}	net_delete_nc_ep	
PUT /v2.0/network_connector_endpoints/ {network connector endpoint id}/connect	net_connect_nc_ep	
PUT /v2.0/network_connector_endpoints/ {network connector endpoint id}/ disconnect	net_disconnect_nc_ep	
GET /v2.0/network_connector_endpoints/ {network connector endpoint id}/ interfaces	net_get_nc_ep	

Network adapter

API	Policy role	Reference
GET /v2.0/ports	net_get_port(*22)	API reference (Network)
POST /v2.0/ports	net_create_port	
GET /v2.0/ports/{port_id}	net_get_port(*23)	
PUT /v2.0/ports/{port_id}	net_update_port(*23)	

API	Policy role	Reference
DELETE /v2.0/ports/{port_id}	net_delete_port(*23)	
POST /v2.0/security-groups	net_create_sg	
PUT /v2.0/security-groups/{security_group_id}	net_update_sg(*23)	
GET /v2.0/security-groups/{security_group_id}	net_get_sg(*23)	
DELETE /v2.0/security-groups/{security_group_id}	net_delete_sg(*23)	
POST /v2.0/security-group-rules	net_create_sg_rule	
DELETE /v2.0/security-group-rules/{rules-security-groups-id}	net_delete_sg_rule(*23)	
GET /v2.0/security-groups	net_get_sg(*22)	
GET /v2.0/security-group-rules	net_get_sg_rule(*22)	
GET /v2.0/security-group-rules/{rules-security-groups-id}	net_get_sg_rule(*23)	

Network connector

API	Policy role	Reference
POST /v2.0/routers	net_create_router(*22)	API reference (Network)
GET /v2.0/routers/{router_id}	net_get_router(*23)	
DELETE /v2.0/routers/{router_id}	net_delete_router and net_get_router(*23)	
PUT /v2.0/routers/{router_id}	net_update_router(*23)	
PUT /v2.0/routers/{router_id}/ add_router_interface	net_add_router_if(*25) and net_get_router(*23)	
PUT /v2.0/routers/{router_id}/ remove_router_interface	net_remove_router_if(*25) and net_get_router(*23)	
GET /v2.0/routers	net_get_router(*22)	
PUT /v2.0/routers/{router_id}	net_update_router(*23)	
GET /v2.0/vpn/ipsecpolicies	net_get_ipsecpolicy(*25)	
GET /v2.0/vpn/ipsecpolicies/{ipsecpolicy-id}	net_get_ipsecpolicy(*23)	
POST /v2.0/vpn/ipsecpolicies	net_post_ipsecpolicy	
PUT /v2.0/vpn/ipsecpolicies/{ipsecpolicy-id}	net_put_ipsecpolicy(*23)	
DELETE /v2.0/vpn/ipsecpolicies/ {ipsecpolicy-id}	net_del_ipsecpolicy(*23)	
GET /v2.0/vpn/ipsec-site-connections	net_get_ipsec_s_con(*22)	
GET /v2.0/vpn/ipsec-site-connections/ {connection-id}	net_get_ipsec_s_con(*23)	
POST /v2.0/vpn/ipsec-site-connections	net_post_ipsec_s_con	

API	Policy role	Reference
PUT /v2.0/vpn/ipsec-site-connections/{connection-id}	net_put_ipsec_s_con(*23)	
DELETE /v2.0/vpn/ipsec-site-connections/{connection-id}	net_del_ipsec_s_con(*23)	
GET /v2.0/vpn/vpnservices	net_get_vpnservice(*22)	
GET /v2.0/vpn/vpnservices/{service-id}	net_get_vpnservice(*23)	
POST /v2.0/vpn/vpnservices	net_post_vpnservice	
PUT /v2.0/vpn/vpnservices/{service-id}	net_put_vpnservice(*23)	
DELETE /v2.0/vpn/vpnservices/{service-id}	net_del_vpnservice(*23)	
GET /v2.0/vpn/ikepolicies	net_get_ikepolicy(*22)	
GET /v2.0/vpn/ikepolicies/{ikepolicy-id}	net_get_ikepolicy(*23)	
POST /v2.0/vpn/ikepolicies	net_create_ikepolicy	
PUT /v2.0/vpn/ikepolicies/{ikepolicy-id}	net_update_ikepolicy(*23)	
DELETE /v2.0/vpn/ikepolicies/{ikepolicy-id}	net_delete_ikepolicy(*23)	

Firewall

API	Policy role	Reference
GET /v2.0/fw/firewall_rules	net_get_fw_rule(*22)	API reference (Network)
GET /v2.0/fw/firewall_rules/{firewall_rule-id}	net_get_fw_rule(*23)	
POST /v2.0/fw/firewall_rules	net_create_fw_rule	
PUT /v2.0/fw/firewall_rules/{firewall_rule-id}	net_update_fw_rule(*23)	
DELETE /v2.0/fw/firewall_rules/{firewall_rule-id}	net_delete_fw_rule(*23)	
GET /v2.0/fw/firewall_policies	net_get_fw_policy(*22)	
GET /v2.0/fw/firewall_policies/{firewall_policy-id}	net_get_fw_policy(*23)	
POST /v2.0/fw/firewall_policies	net_create_fw_policy	
PUT /v2.0/fw/firewall_policies/{firewall_policy-id}	net_update_fw_policy(*23)	
DELETE /v2.0/fw/firewall_policies/{firewall_policy-id}	net_delete_fw_policy(*23)	
PUT /v2.0/fw/firewall_policies/{firewall_policy-id}/insert_rule	net_insert_rule(*25) and net_get_fw_policy(*23)	
PUT /v2.0/fw/firewall_policies/{firewall_policy-id}/remove_rule	net_remove_rule(*25) and net_get_fw_policy(*23)	
GET /v2.0/fw/firewalls	net_get_fw(*22)	
GET /v2.0/fw/firewalls/{firewall-id}	net_get_fw(*23)	
POST /v2.0/fw/firewalls	net_create_fw	

API	Policy role	Reference
PUT /v2.0/fw/firewalls/{firewall-id}	net_update_fw(*23)	
DELETE /v2.0/fw/firewalls/{firewallid}	net_delete_fw(*23)	

Load balancer

API	Policy role	Reference
ApplySecurityGroupsToLoadBalancer	lb_apply_sgs and net_get_sg(*26)	API reference (Network)
AttachLoadBalancerToSubnets	lb_attach_subnets and net_get_subnet(*26)	
ConfigureHealthCheck	lb_conf_healthcheck	
CreateLBCookieStickinessPolicy	lb_lbcookie_policy	
CreateLoadBalancer	lb_create and net_get_subnet and net_get_sg(*20) (*26)	
CreateLoadBalancerListeners	lb_create_listeners	
CreateSorryServerRedirectionPolicy	lb_sorryserv_policy	
DeleteLoadBalancer	lb_delete	
DeleteLoadBalancerListeners	lb_delete_listeners	
DeregisterInstancesFromLoadBalancer	lb_deregister_inss	
DescribeLoadBalancerAttributes	lb_describe_attr	
DescribeLoadBalancers	lb_describe	
DetachLoadBalancerFromSubnets	lb_detach_subnets	
ModifyLoadBalancerAttributes	lb_modify_attr	
RegisterInstancesWithLoadBalancer	lb_register_inss and com_get(*27)	
SetLoadBalancerListenerSSLCertificate	lb_set_sslcert	
SetLoadBalancerPoliciesOfListener	lb_set_policies	

SSL-VPN connection

API	Policy role	Reference
GET /v2.0/vpn/ssl-vpn-connections	net_get_ssl_vpn_con	API reference (Network)
GET /v2.0/vpn/ssl-vpn-connections/{sslvpnconnection-id}	net_get_ssl_vpn_con	
POST /v2.0/vpn/ssl-vpn-connections	net_post_ssl_vpn_con	
PUT /v2.0/vpn/ssl-vpn-connections/{sslvpnconnection-id}	net_put_ssl_vpn_con	
DELETE /v2.0/vpn/ssl-vpn-connections/{sslvpnconnection-id}	net_del_ssl_vpn_con	

DNS service

API	Policy role	Reference
CreateHostedZone	dns_createzone	API reference (Network)
GetHostedZone	dns_getzone	
ListHostedZones	dns_listzones	
DeleteHostedZone	dns_deletezone	
ChangeResourceRecordSets	dns_changerrrs	
ListResourceRecordSets	dns_listrrs	
GetChange	dns_getchange	

Network connector extension

API	Policy role	Reference
PUT /v2.0/routers/{router_id}/ add_cross_project_router_interface	netex_add_router_if	API reference (Network)
PUT /v2.0/routers/{router_id}/ remove_cross_project_router_interface	netex_remove_router_if	
PUT /v2.0/routers/{router_id}	netex_update_router	

Message queue

API	Policy role	Reference
CreateQueue	que_create_queue	API reference (Application Platform Service)
DeleteQueue	que_delete_queue	
SetQueueAttributes	que_set_queue_attr	
GetQueueAttributes	que_get_queue_attr	
GetQueueUrl	que_get_queue_url	
ListQueues	que_list_queues	
SendMessage	que_send_message	
SendMultipleMessages	que_send_message	
ReceiveMessage	que_receive_message	
DeleteMessage	que_delete_message	
DeleteMultipleMessages	que_delete_message	
ChangeLockTime	que_change_lock_time	
ChangeMultipleLockTime	que_change_lock_time	

Mail delivery service

API	Policy role	Reference
DeleteIdentity	mail_deleteidentity	API reference
GetIdentityVerificationAttributes	mail_getidentity	

API	Policy role	Reference
GetSendQuota	mail_getsendquota	(Application Platform Service)
GetSendStatistics	mail_getstatistics	
ListIdentities	mail_listidentities	
SendEmail	mail_sendemail	
SendRawEmail	mail_sendrawemail	
VerifyDomainIdentity	mail_verifydomain	
VerifyEmailIdentity	mail_verifyemail	
CreateSMTPUser	mail_createsmtpuser	
DeleteSMTPUser	mail_deletesmtpuser	
GetSMTPUserInfo	mail_getsmtpuserinfo	

Orchestration

API	Policy role	Reference
Creates a stack.	orch_create	API reference (Application Platform Service)
Lists active stacks.	orch_index	
Finds the canonical URL for a specified stack.	orch_lookup	
Shows details for a specified stack.	orch_show	
Update stack	orch_update	
Delete stack	orch_delete	
Finds the canonical URL for the resource list of a specified stack.	orch_resource_list	
Lists resources in a stack.	orch_resource_list	
Shows data for a specified resource.	orch_resource_show	
Finds the canonical URL for the event list of a specified stack.	orch_events_list	
List stack events	orch_events_list	
List resource events	orch_events_list	
Get stack template	orch_template	
Validate template	orch_validate_tmp	

Management

API	Policy role	Reference
POST /v3/projects	id_prj_crt	Create project (POST /v3/projects) on page 34
GET /v3/projects{?domain_id,name,enabled,page,per_page}	id_prj_lst	List projects (GET /v3/projects{?domain_id,name,enabled }) on page 38

API	Policy role	Reference
PATCH /v3/projects/{project_id}	id_prj_upd	Update project (PATCH /v3/projects/{project_id}) on page 45
GET /v3/users{?domain_id,name,enabled,page,per_page}	id_usr_lst	List users (GET /v3/users{?domain_id,name,enabled}) on page 49
POST /v3/groups	id_grp_crt	Create group (POST /v3/groups) on page 66
GET /v3/groups{?domain_id,name,page,per_page}	id_grp_lst	List groups (GET /v3/groups{?domain_id,name}) on page 69
GET /v3/groups/{group_id}	id_grp_get	Show group (GET /v3/groups/{group_id}) on page 73
PATCH /v3/groups/{group_id}	id_grp_upd	Update group (PATCH /v3/groups/{group_id}) on page 76
DELETE /v3/groups/{group_id}	id_grp_del	Delete group (DELETE /v3/groups/{group_id}) on page 80
GET /v3/groups/{group_id}/users{?name,enabled}	id_grp_usr_lst	List users in group (GET /v3/groups/{group_id}/users{?name,enabled}) on page 82
PUT /v3/groups/{group_id}/users/{user_id}	id_grp_usr_add	Add user to group (PUT /v3/groups/{group_id}/users/{user_id}) on page 86
DELETE /v3/groups/{group_id}/users/{user_id}	id_grp_usr_rmv	Remove user from group (DELETE /v3/groups/{group_id}/users/{user_id}) on page 88
HEAD /v3/groups/{group_id}/users/{user_id}	id_grp_usr_chk	Check whether user belongs to group (HEAD /v3/groups/{group_id}/users/{user_id}) on page 90
GET /v3/roles{?name,page,per_page}	id_rol_lst	List roles (GET /v3/roles{?name}) on page 92
GET /v3/roles/{role_id}	id_rol_get	Show role (GET /v3/roles/{role_id}) on page 95
PUT /v3/domains/{domain_id}/users/{user_id}/roles/{role_id}	id_dom_usr_rol_grt	Grant role to user on domain (PUT /v3/domains/{domain_id}/users/{user_id}/roles/{role_id}) on page 98
PUT /v3/domains/{domain_id}/groups/{group_id}/roles/{role_id}	id_dom_grp_rol_grt	Grant role to group on domain (PUT /v3/domains/{domain_id}/groups/{group_id}/roles/{role_id}) on page 100
GET /v3/domains/{domain_id}/users/{user_id}/roles	id_dom_usr_rol_lst	List roles for user on domain (GET /v3/domains/{domain_id}/users/{user_id}/roles) on page 102
GET /v3/domains/{domain_id}/groups/{group_id}/roles	id_dom_grp_rol_lst	List roles for group on domain (GET /v3/domains/{domain_id}/groups/{group_id}/roles) on page 106
HEAD /v3/domains/{domain_id}/users/{user_id}/roles/{role_id}	id_dom_usr_rol_chk	Check whether user has role on domain (HEAD /v3/domains/{domain_id}/users/{user_id}/roles/{role_id}) on page 109

API	Policy role	Reference
HEAD /v3/domains/{domain_id}/groups/{group_id}/roles/{role_id}	id_dom_grp_rol_chk	Check whether group has role on domain (HEAD /v3/domains/{domain_id}/groups/{group_id}/roles/{role_id}) on page 112
DELETE /v3/domains/{domain_id}/users/{user_id}/roles/{role_id}	id_dom_usr_rol_rvk	Revoke role from user on domain (DELETE /v3/domains/{domain_id}/users/{user_id}/roles/{role_id}) on page 114
DELETE /v3/domains/{domain_id}/groups/{group_id}/roles/{role_id}	id_dom_grp_rol_rvk	Revoke role from group on domain (DELETE /v3/domains/{domain_id}/groups/{group_id}/roles/{role_id}) on page 116
PUT /v3/projects/{project_id}/users/{user_id}/roles/{role_id}	id_prj_usr_rol_grt	Grant role to user on project (PUT /v3/projects/{project_id}/users/{user_id}/roles/{role_id}) on page 118
PUT /v3/projects/{project_id}/groups/{group_id}/roles/{role_id}	id_prj_grp_rol_grt	Grant role to group on project (PUT /v3/projects/{project_id}/groups/{group_id}/roles/{role_id}) on page 121
GET /v3/projects/{project_id}/users/{user_id}/roles	id_prj_usr_rol_lst	List roles for user on project (GET /v3/projects/{project_id}/users/{user_id}/roles) on page 123
GET /v3/projects/{project_id}/groups/{group_id}/roles	id_prj_grp_rol_lst	List roles for group on project (GET /v3/projects/{project_id}/groups/{group_id}/roles) on page 126
HEAD /v3/projects/{project_id}/users/{user_id}/roles/{role_id}	id_prj_usr_rol_chk	Check whether user has role on project (HEAD /v3/projects/{project_id}/users/{user_id}/roles/{role_id}) on page 129
HEAD /v3/projects/{project_id}/groups/{group_id}/roles/{role_id}	id_prj_grp_rol_chk	Check whether group has role on project (HEAD /v3/projects/{project_id}/groups/{group_id}/roles/{role_id}) on page 132
DELETE /v3/projects/{project_id}/users/{user_id}/roles/{role_id}	id_prj_usr_rol_rvk	Revoke role from user on project (DELETE /v3/projects/{project_id}/users/{user_id}/roles/{role_id}) on page 134
DELETE /v3/projects/{project_id}/groups/{group_id}/roles/{role_id}	id_prj_grp_rol_rvk	Revoke role from group on project (DELETE /v3/projects/{project_id}/groups/{group_id}/roles/{role_id}) on page 136
GET /v3/role_assignments{?group.id,role.id,scope.domain.id,scope.project.id,user.id,effective}	id_rol_asm_lst	List role assignments (*)
*: List role assignments (GET /v3/role_assignments{?group.id,role.id,scope.domain.id,scope.project.id,user.id,effective}) on page 138		
GET /v3/users/{user_id}/auth_type	id_cer_usr_get	Show user authentication method details (GET /v3/users/{user_id}/auth_type) on page 168

API	Policy role	Reference
PATCH /v3/users/{user_id}/auth_type	id_cer_usr_upd	Update user authentication method details (PATCH /v3/users/{user_id}/auth_type) on page 170

Key management

API	Policy role	Reference
GET /v1/{tenant_id}/secrets	key_secrets_get	List key metadata (GET /v1/{tenant_id}/secrets) on page 175
GET /v1/{tenant_id}/secrets	key_secret_decrypt(*21)	List key metadata (GET /v1/{tenant_id}/secrets) on page 175
GET /v1/{tenant_id}/secrets/{resource_id}	key_secret_get	Retrieve key metadata (GET /v1/{tenant_id}/secrets/{resource_id}) on page 179
POST /v1/{tenant_id}/secrets	key_secrets_post	Create key metadata (POST /v1/{tenant_id}/secrets) on page 183
DELETE /v1/{tenant_id}/secrets/{resource_id}	key_secret_delete	Delete key metadata (DELETE /v1/{tenant_id}/secrets/{resource_id}) on page 186
GET /v1/{tenant_id}/containers	key_containers_get	List key metadata containers (GET /v1/{tenant_id}/containers) on page 187
GET /v1/{tenant_id}/containers/{resource_id}	key_container_get	Retrieve key metadata container (GET /v1/{tenant_id}/containers/{resource_id}) on page 191
POST /v1/{tenant_id}/containers	key_containers_post	Create key metadata container (POST /v1/{tenant_id}/containers) on page 194
DELETE /v1/{tenant_id}/containers/{resource_id}	key_container_delete	Delete key metadata container (DELETE /v1/{tenant_id}/containers/{resource_id}) on page 197

Monitoring service

API	Policy role	Reference
GET /v2/meters	met_list_meters	List meters (GET /v2/meters) on page 216

API	Policy role	Reference
GET /v2/meters/{meter_name}	met_list_samples	List samples for meter (GET /v2/meters/{meter_name}) on page 219
POST /v2/meters/{meter_name}	met_create_sample	Add samples to meter (POST /v2/meters/{meter_name}) on page 222
GET /v2/meters/{meter_name}/statistics	met_list_statistics	Show meter statistics (GET /v2/meters/{meter_name}/statistics) on page 223
GET /v2/alarms	met_list_alarms	List alarms (GET /v2/alarms) on page 226
POST /v2/alarms	met_create_alarm	Create alarm (POST /v2/alarms) on page 229
GET /v2/alarms/{alarm_id}	met_get_alarm	Show alarm details (GET /v2/alarms/{alarm_id}) on page 231
PUT /v2/alarms/{alarm_id}	met_update_alarm	Update alarm (PUT /v2/alarms/{alarm_id}) on page 232
DELETE /v2/alarms/{alarm_id}	met_delete_alarm	Delete alarm (DELETE /v2/alarms/{alarm_id}) on page 234
GET /v2/alarms/{alarm_id}/state	met_get_alarm_state	Show alarm state (GET /v2/alarms/{alarm_id}/state) on page 234
PUT /v2/alarms/{alarm_id}/state	met_set_alarm_state	Update alarm state (PUT /v2/alarms/{alarm_id}/state) on page 235
GET /v2/alarms/{alarm_id}/history	met_list_history	Show alarm history (GET /v2/alarms/{alarm_id}/history) on page 236
GET /v2/resources	met_list_resources	List resources (GET /v2/resources) on page 239
GET /v2/resources/{resource_id}	met_get_resource	Show resource details (GET /v2/resources/{resource_id}) on page 242

Role management

API	Policy role	Reference
POST /v1/custom_roles	csrl_csrl_crt	Create custom role (POST /v1/custom_roles) on page 274
GET /v1/custom_roles?{domain_id}	csrl_csrl_lst	List custom roles (GET /v1/custom_roles?{domain_id}) on page 277

API	Policy role	Reference
GET /v1/custom_roles/{custom_role_id}	csrl_csrl_get	Show custom role (GET /v1/custom_roles/{custom_role_id}) on page 280
PATCH /v1/custom_roles/{custom_role_id}	csrl_csrl_upd	Update custom role (PATCH /v1/custom_roles/{custom_role_id}) on page 282
DELETE /v1/custom_roles/{custom_role_id}	csrl_csrl_del	Delete custom role (DELETE /v1/custom_roles/{custom_role_id}) on page 286
DELETE /v1/custom_roles/{custom_role_id}/force_delete	csrl_csrl_del	Force delete custom role (DELETE /v1/custom_roles/{custom_role_id}/force_delete) on page 287
PUT /v1/projects/{project_id}/users/{user_id}/custom_roles/{custom_role_id}	csrl_prj_usr_csrl_grt	Assign custom role to user on project (PUT /v1/projects/{project_id}/users/{user_id}/custom_roles/{custom_role_id}) on page 288
PUT /v1/projects/{project_id}/groups/{group_id}/custom_roles/{custom_role_id}	csrl_prj_grp_csrl_grt	Assign custom role to group on project (PUT /v1/projects/{project_id}/groups/{group_id}/custom_roles/{custom_role_id}) on page 289
GET /v1/projects/{project_id}/users/{user_id}/custom_roles	csrl_prj_usr_csrl_lst	List custom roles for user on project (GET /v1/projects/{project_id}/users/{user_id}/custom_roles) on page 291
GET /v1/projects/{project_id}/groups/{group_id}/custom_roles	csrl_prj_grp_csrl_lst	List custom roles for group on project (GET /v1/projects/{project_id}/groups/{group_id}/custom_roles) on page 292
HEAD /v1/projects/{project_id}/users/{user_id}/custom_roles/{custom_role_id}	csrl_prj_usr_csrl_chk	Check whether user has custom role on project (HEAD /v1/projects/{project_id}/users/{user_id}/custom_roles/{custom_role_id}) on page 294
HEAD /v1/projects/{project_id}/groups/{group_id}/custom_roles/{custom_role_id}	csrl_prj_grp_csrl_chk	Check whether group has custom role on project (HEAD /v1/projects/{project_id}/groups/{group_id}/custom_roles/{custom_role_id}) on page 295
DELETE /v1/projects/{project_id}/users/{user_id}/custom_roles/{custom_role_id}	csrl_prj_usr_csrl_del	Revoke custom role from user on project (DELETE /v1/projects/{project_id}/users/{user_id}/custom_roles/{custom_role_id}) on page 297
DELETE /v1/projects/{project_id}/groups/{group_id}/custom_roles/{custom_role_id}	csrl_prj_grp_csrl_del	Revoke custom role from group on project (DELETE /v1/projects/{project_id}/groups/{group_id}/

API	Policy role	Reference
		custom_roles/{custom_role_id}) on page 298
GET /v1/custom_role_assignments? {domain_id,project_id,user_id, group_id,custom_role_id,effective}	csr_lsm_lst	List custom role assignments (*)
*: List custom role assignments (GET /v1/custom_role_assignments?{domain_id,project_id,user_id,group_id,custom_role_id,effective}) on page 299		
GET /v1/roles?{service_id}	csr_pol_lst	List service privileges (GET /v1/roles/{?service_id}) on page 304

Contract management

API	Policy role	Reference
GET /v1/confidential/domains/ {domain_id}	cont_secu_cont_get	API reference (Other)
PATCH /v1/confidential/domains/ {domain_id}	cont_secu_cont_upd	
POST /v1/contracts/{domain_id}? action=updateContractor	cont_chg_manager	

*1: bstg_create privileges can also be used

*2: bstg_get privileges can also be used

*3: img_get privileges can also be used

*4: net_get_sg privileges can also be used

*5: com_get privileges can also be used

*6: bstg_update privileges can also be used

*7: com_vlm_attach_refer privileges can also be used

*8: com_attach_i_refer privileges can also be used

*9: com_attach_i_update privileges can also be used

*10: net_delete_port privileges can also be used

*11: net_get_fip privileges can also be used

*12: net_get_network privileges can also be used

*13: net_get_port privileges can also be used

*14: net_get_subnet privileges can also be used

*15: net_update_port privileges can also be used

*16: com_image_meta_create privileges can also be used

*17: img_delete privileges can also be used

*18: bstg_get_snapshot privileges can also be used

*19: bstg_update_snapshot privileges can also be used

*20: If Public is specified for Scheme, it is also necessary to specify net_get_router and net_get_port privileges

*21: Required when retrieving payload values

*22: If the user has insufficient privileges, the status code 200 and a null array will be returned

*23: If the user has insufficient privileges, the status code 404 will be returned

*24: If the user has insufficient privileges, the status code 200 and only networks with the shared attribute set to True will be returned

*25: If you have insufficient privileges, the status code 404 will be returned

*26: If you have insufficient privileges, the status code 400 will be returned

*27: If you have insufficient privileges, the status code 500 will be returned

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API Reference (Management
Administration) 1.7Revision

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