Cisco Cloud Services Platform REST API Guide

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Contents

Information About the Cisco CSP REST API

You can perform operations on the Cisco Cloud Services Platform (Cisco CSP) objects using the Representational State Transfer (REST) API. The Cisco CSP 2100 REST APIs support create, retrieve, update, and delete (CRUD) operations. To call any REST function, you can use tools such as a web browser, the cURL tool, or Windows PowerShell. If you are using a web browser, type the URL. If you are using cURL or Windows PowerShell, use the following format:

```
curl –u username:password -X method https://ip-address:port_number/api/module locator
```

Note: Starting with Release 2.1.0, Cisco CSP 2100 supports only port 443. Therefore, you do not need to specify the port number (*port_number*).

The module locator consists of two parts: a namespace and a module name.

```
module locator := namespace/module name
```

The namespace indicates the broader class of functions and the module name refers to the specific object. For example:

```
curl –u admin:admin -X GET https://10.10.10.2:443/api/running/clusters
```

In this example, running is the namespace and clusters is the module name.

Supported Response Formats

Supported Response Formats in Release 2.1.0 and Later Releases

Starting with Release 2.1.0, Cisco CSP 2100 supports only JSON format on port 443 for REST API response. You do not need to specify the port number in the REST API.

```
curl -u admin:admin -X GET https://10.10.10.2/api/running/pnics
{"pnic:pnics": {"pnic": [{"name": "Eth4-0"}, {"name": "Eth4-1"}, {"name": "Eth4-2"}, {"name": "Eth4-3"},
{"name": "Eth7-0"}, {"name": "Eth7-1"}]}}
```

Supported Response Formats in Release 1.0 and 2.0.0

Cisco CSP 2100 release 2.0.0 and 1.0 support the JSON and XML formats for REST API response. With port 443, JSON response format is supported. With port 8888, XML response format is supported. You need to specify the port number in the REST API.

JSON Response Format Example

```
curl -u admin:admin -X GET https://10.10.10.2:443/api/running/pnics
{"pnics": {"pnic": [{"name": "Eth4-0"}, {"name": "Eth4-1"}, {"name": "Eth4-2"}, {"name": "Eth4-3"},
{"name": "Eth7-0"}, {"name": "Eth7-1"}]}}
```

XML Response Format Example

```
curl -u admin:admin -X GET https://10.10.10.2:8888/api/running/pnics
<pnics xmlns="http://www.cisco.com/ns/test/pnic" xmlns:y="http://tail-f.com/ns/r
st"  xmlns:pnic="http://www.cisco.com/ns/test/pnic">
<pnic>
   <name>Eth4-0</name>
 </pnic>
 <pnic>
   <name>Eth4-1</name>
 </pnic>
```

```
 <pnic>
   <name>Eth4-2</name>
 </pnic>
 <pnic>
   <name>Eth4-3</name>
 </pnic>
 <pnic>
   <name>Eth7-0</name>
 </pnic>
 <pnic>
   <name>Eth7-1</name>
 </pnic>
/pnics>
```

List of Available Modules

Table 1. Available Modules

Module	Description
/api/running/security_servers	Module for specifying the server for AAA authentication, configuring a RADIUS or TACACS+ server.
/api/running/banner	Module for configuring a pre-login or MOTD banner.
/api/running/save-load	Module for saving a configuration to a file or loading a configuration from a file.
/api/running/clusters	Module for creating, deleting, and modifying clusters and for retrieving information about clusters.
/api/running/system	Module for specifying the ISO installation mode.
/api/running/package-install	Module for upgrading the Cisco CSP 2100 software and checking the upgrade status.
/api/running/ntps	Module for creating and deleting an NTP server and for retrieving information about an NTP server.
/api/operational/ntp_status	Module for retrieving information about the NTP server status.
/api/running/pnics	Module for retrieving information about pNICs and modifying pNICs.
/api/operational/pnics	Module for retrieving statistics about pNICs.
/api/operational/lldp	Module for retrieving LLDP neighbor information.
/api/operational/repository	Module for retrieving information about repository files.
/api/running/resources	Module for retrieving information about resources.
/api/running/running/clock	Module for configuring and changing the time zone, and deleting the configured time zone.
/api/running/support	Module for creating technical support information.

Module	Description
/api/running/services	Module for creating, deleting, and modifying services and for retrieving information about services.
/api/running/snmp	Module for creating, deleting, and modifying SNMP communities, groups, hosts, users, and traps.
/api/running/snmp-server	Module for creating, deleting and modifying SNMP view, community, group, user, host, and enabling traps. A new CLI that is compliant with the IOS style CLI with read or write configuration.
/api/running/csp_users	Module for creating, deleting, and modifying users.
/api/operational/vnics	Module for retrieving statistics about vNICs.

REST APIs

Authentication, Authorization, and Accounting (AAA) APIs

Get Information About AAA Authentication Server Configuration and Caching Timeout

Method

GET

Module

https://*ip-address:port-number*/api/running/security_servers/aaa

Description

Retrieves information about the AAA authentication server and caching time.

Parameters

None

Examples

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/security_servers/aaa
{
  "security:aaa": {
    "authentication": "radius"
    "caching": {
    "rest_req_caching_tmput": 0"
  }
}
}
```

API History

Release	Modification
2.7.0	The caching timeout parameter is introduced.

2.2.0	This API is introduced.

Specify the AAA Authentication Server

Method

POST

Module

https://*ip-address:port-number*/api/running/security_servers/aaa -H "Content-Type:application/vnd.yang.data+json" -d '{"aaa" :{"authentication" : "*authentication_server* "}}'

Description

Specifies the server to be used for AAA authentication.

Parameters

Name	Description	Importance
authentication_server	Specifies the server for AAA authentication. Valid values are: • tacacs: TACACS+ server. This is the default server. • radius: RADIUS server.	Required

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/running/security_servers/aaa -H "Content-Type:application/vnd.yang.data+json" -d '{"aaa" : {"authentication" : "radius"}}'
```

API History

Release	Modification
2.2.0	This API is introduced.

Specify the Timeout for AAA Authentication Response

Method

PUT

Module

https://*ip-address:port-number*/api/running/security_servers/aaa -H "Content-Type:application/vnd.yang.data+json" -d '{"aaa" :{"caching" :{"rest_req_caching_tmout" : "*caching_timeout* "}}}'

Description

Specifies the caching timeout for external authentication responses from TACACS/RADIUS servers for the REST API requests.

Parameters

Name	Description	Importance
caching_timeout	Specifies the time in seconds to cache the external authentication responses. Valid values (seconds) are: • 1-600: Caching is enabled. • 0: Caching is disabled.	Required

Example

```
curl -u admin:admin -X PUT https://192.0.2.130/api/running/security_servers/aaa H "Content-Type:application/vnd.yang.data+json" -d '{"aaa" : {"caching" : {"rest_req_caching_tmout" : "100"}}}'
```

API History

Release	Modification
2.7.0	The caching timeout parameter is introduced in the AAA authentication command.

Banner APIs

Configure the Pre-Login Banner

Method

POST

Module

https://*ip-address:port-number*/api/running/banner -H "Content-type: application/vnd.yang.data+json" -d '{"login":"*filename*"}'

Description

Configures a banner that is displayed before a user logs in to the Cisco CSP 2100. This banner is displayed on the login page of the web interface and the Cisco CSP 2100 CLI window.

After configuring the pre-login banner, if you make any changes in the banner file, you must do the following:

1. Remove the banner file by using the following API:

   curl -u *username:password* -X DELETE https://*ip-address:port-number*/api/running/banner/login -H "Content-type: application/vnd.yang.data+json" -d

   For more information about how to delete the banner file, see the *Delete the Pre-Login Banner* section.

2. Add the banner file again in the configuration by using the following API:

   curl -u *username:password* -X POST https://*ip-address:port-number*/api/running/banner -H "Content-type: application/vnd.yang.data+json" -d '{"login":"*filename*"}'

Changes made in the banner file are not automatically updated in the pre-login banner.

Parameters

Name	Description	Importance
filename	Name of the banner file available in the Cisco CSP 2100 repository. The banner file can be up to 1024 bytes in size.	Required

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/operational/repository/_operations/get_images -H
"Content-Type:application/vnd.yang.data+json"
{
  "output": {
    "image": [
      {
        "name": "n1000v-dk9.5.2.1.SV3.1.4.iso "
      },
      {
        "name": "vwaas150.tmp"
      },
      {
        "name": "banner.txt"
      }
    ]
  }
}
curl -u admin:admin -X POST https://192.0.2.130/api/running/banner -H "Content-Type:
application/vnd.yang.data+json" -d '{"login":"banner.txt"}'
```

API History

Release	Modification
2.1.0	This API is introduced.

Delete the Pre-Login Banner

Method

DELETE

Module

https://*ip-address:port-number*/api/running/banner/login -H "Content-type: application/vnd.yang.data+json" -d

Description

Deletes the configured pre-login banner.

Parameters

None

Example

```
curl -u admin:admin -X DELETE https://192.0.2.130/api/running/banner/login -H "Content-Type:
application/vnd.yang.data+json" -d
```

API History

Release	Modification
2.1.0	This API is introduced.

Configure the MOTD Banner

Method

POST

Module

https://*ip-address:port-number*/api/running/banner -H "Content-type: application/vnd.yang.data+json" -d '{"motd":"*filename*"}'

Description

Configures the message-of-the-day (MOTD) banner that is displayed after a user logs in to the Cisco CSP 2100. This banner is displayed in the web interface and the Cisco CSP 2100 CLI window.

After configuring the MOTD banner, if you make any changes in the banner file, you must do the following:

1. Remove the banner file by using the following API:

   curl -u *username:password* -X DELETE https://*ip-address:port-number*/api/running/banner/motd -H "Content-type: application/vnd.yang.data+json" -d

   For more information about how to delete the banner file, see the *Delete the MOTD Banner* section.

2. Add the banner file again in the configuration by using the following API:

   curl -u *username:password* -X POST https://*ip-address:port-number*/api/running/banner -H "Content-type: application/vnd.yang.data+json" -d '{"motd":"*filename*"}'

Changes made in the banner file are not automatically updated in the MOTD banner.

Parameters

Name	Description	Importance
filename	Name of the banner file available in the Cisco CSP 2100 repository. The banner file can be up to 1024 bytes in size.	Required

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/operational/repository/_operations/get_images -H
"Content-Type:application/vnd.yang.data+json"
{
  "output": {
    "image": [
      {
        "name": "n1000v-dk9.5.2.1.SV3.1.4.iso "
      },
      {
        "name": "vwaas150.tmp"
      },
      {
```

```
        "name": "motd.txt"
      }
    ]
  }
}
curl -u admin:admin -X POST https://192.0.2.130/api/running/banner -H "Content-Type:
application/vnd.yang.data+json" -d '{"motd":"motd.txt"}'
```

API History

Release	Modification
2.1.0	This API is introduced.

Delete the MOTD Banner

Method

DELETE

Module

https://*ip-address:port-number*/api/running/banner/motd -H "Content-type: application/vnd.yang.data+json" -d

Description

Deletes the configured MOTD banner.

Parameters

None

Example

```
curl -u admin:admin -X DELETE https://192.0.2.130/api/running/banner/motd -H "Content-Type:
application/vnd.yang.data+json" -d
```

API History

Release	Modification
2.1.0	This API is introduced.

Configuration File APIs

You can use the configuration file commands described in this section to save the running configuration to the repository and to load the running configuration from the repository to Cisco CSP 2100. If you had to perform a clean installation of Cisco CSP 2100 for any reason, these commands enable you to quickly restore the Cisco CSP configuration settings. For information about saving a running configuration and then loading it, see the Cisco Cloud Services Platform Configuration Guide.

Save a Running Configuration

Method

POST

Module

https://*ip-address:port-number*/api/running/save-load/_operations/save -H "Content-type: application/vnd.yang.data+json" -d '{"input":{" config-file":"*filename*"}}'

Description

Saves the running configuration to a file.

Parameters

Name	Description	Importance
filename	Name of the file in which the configuration is saved. This file is saved in the Cisco CSP 2100 repository.	Required

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/running/save-load/_operations/save -H "Content-Type: application/vnd.yang.data+json" -d '{"input":{"config-file":"savefile.sav"}}'
```

API History

Release	Modification
2.1.0	This API is introduced.

Load a Saved Configuration

Method

POST

Module

https://*ip-address:port-number*/api/running/save-load/_operations/load-H "Content-type: application/vnd.yang.data+json" -d '{"input":{" config-file":"*filename*"}}'

Description

Loads a configuration from a file.

Parameters

Name	Description	Importance
filename	Name of the configuration file available in the Cisco CSP 2100 repository. Note: You must also copy the appropriate files, such as the service ISO file (specified in iso_name) and banner files, required by the saved configuration file to the /osp/repository directory.	Required

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/running/save-load/_operations/load -H "Content-Type: application/vnd.yang.data+json" -d '{"input":{"config-file":"savefile.sav"}}'
```

API History

Release	Modification
2.1.0	This API is introduced.

Cluster APIs

Get Information About Clusters

Method

GET

Module

https://*ip-address:port-number*/api/running/clusters

https://*ip-address:port-number*/api/running/clusters/cluster/*name*

https://*ip-address:port-number*/api/running/clusters?deep

Description

Retrieves information about the nodes associated with all clusters or a specific cluster.

To get detailed information about the nodes associated with all clusters or a specific cluster, use the ?deep parameter.

Parameters

Name	Description	Importance
name	Name of the cluster	Optional

Examples

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/clusters
{
  "cluster:clusters": {
    "cluster": [
      {
        "name": "cluster1"
      }
    ]
  }
}
curl -u admin:admin -X GET https://192.0.2.1/api/running/clusters/cluster/cluster1
{
  "cluster:cluster": {
    "name": "cluster1",
    "nodes": {
      "node": [
        {
          "member_ip": "192.0.2.134"
        },
        {
          "member_ip": "192.0.2.134"
        }
      ]
    }
```

```
  }
}
```

API History

Release	Modification
1.0	This API is introduced.

Create a Cluster

Method

POST

Module

Release 2.5.0

https://*ip-address:port-number*/api/running/clusters -H "Content-type: application/vnd.yang.data+json" -d '{"cluster": [{"name":"*name*", "nodes": {"node": [{"member_ip":"*member_ip*"}, {"member_ip": "*member_ip*"}]}}]}'

Note: Support for this API in releases earlier to 2.5.0 is deprecated.

Release 2.8.0

https:// *ip-address:port-number*/api/new_post_cluster/running/clusters -H "Content-Type:application/vnd.yang.data+json" -d '{"cluster":[{"name":"*name*","nodes":{"node":[{"member_ip":"*member_ip*"},{"member_ip":"*member_ip*"},{"member_ip":"*member_ip*"}]}}]}'

Note: We recommend you use the new API from 2.8.0 release onwards to create a cluster.

Description

Creates a cluster. Clusters enable you to make configuration changes to all other Cisco CSP 2100 members of a cluster by using the web interface of a Cisco CSP 2100 cluster member.

Parameters

Name	Description	Importance
name *name*	Specifies the name of the cluster.	Required
member_ip *member_ip*	Specifies the IP address of a member that is being assigned to the cluster. You can add multiple members at a time by specifying their IP addresses in the member_ip parameter separated by commas.	Required

Example

```
curl -ku admin:admin -X POST https://172.27.109.86/api/new_post_cluster/running/clusters -H "Content-Type:application/vnd.yang.data+json" -d
'{"cluster":[{"name":"clusterdemo","nodes":{"node":[{"member_ip":"172.27.109.86"},{"member_ip":"172.27.109.48"},{"member_ip":"172.27.109.100"}]}}]}'
```

API History

Release	Modification
2.8.0	The new post cluster API is introduced.
2.5.0	The cluster API is deprecated.
1.0	The cluster API is introduced.

Add Members to a Cluster

Method

PATCH

Module

Release 2.5.0

https://*ip-address:port-number*/api/running/clusters/cluster -H "Content-type: application/vnd.yang.data+json" -d '{"cluster": {"name":"*name*", "nodes": {"node": [{"member_ip": "*member_ip*"}]}}}'

Note: Support for this API in releases earlier to 2.5.0 is deprecated.

Release 2.8.0

https:// *ip-address:port-number* /api/add_cluster_node/running/clusters -H "Content-Type:application/vnd.yang.data+json" -d '{"cluster":[{"name":"*name*","nodes":{"node":[{"member_ip":"*member_ip*"}]}}]}'

Note: We recommend you use the new API from 2.8.0 release onwards to add members to a cluster.

Description

Adds members to a cluster.

Parameters

Name	Description	Importance
name *name*	Specifies the name of the cluster.	Required
member_ip *member_ip*	Specifies the IP address of a member that is being added to the cluster. You can add multiple members at a time by specifying their IP addresses in the member_ip parameter separated by commas.	Required

Example

```
curl -ku admin:admin -X GET https://172.27.109.86/api/running/clusters/cluster/clusterdemo
{
  "cluster:cluster": {
    "name": "clusterdemo",
    "nodes": {
      "node": [
        {
          "member_ip": "172.27.109.100"
        },
        {
```

```
          "member_ip": "172.27.109.48"
        },
        {
          "member_ip": "172.27.109.86"
        }
      ]
    }
  }
}
curl -ku admin:admin -X PATCH https://172.27.109.86/api/add_cluster_node/running/clusters -H "Content-
Type:application/vnd.yang.data+json" -d
'{"cluster":[{"name":"clusterdemo","nodes":{"node":[{"member_ip":"172.27.109.212"}]}}]}'

curl -ku admin:Sfish@123 -X GET https://172.27.109.86/api/running/clusters/cluster/clusterdemo
{
  "cluster:cluster": {
    "name": "clusterdemo",
    "exists": true,
    "nodes": {
      "node": [
        {
          "member_ip": "172.27.109.100"
        },
        {
          "member_ip": "172.27.109.212"
        },
        {
          "member_ip": "172.27.109.48"
        },
        {
          "member_ip": "172.27.109.86"
        }
      ]
    }
  }
}
```

API History

Release	Modification
2.8.0	The new add cluster node API is introduced.
2.5.0	The cluster API to add a node is deprecated.
1.0	The cluster API to add a node is introduced.

Replace Cluster Members

Method

PUT

Module

https://*ip-address:port-number*/api/running/clusters/cluster/*name* -H "Content-type: application/vnd.yang.data+json" \-d '{"cluster":{"name": "*name*", "nodes":{"node": [{"member_ip":"*member_ip*"},{"member_ip":"*member_ip*"},{"member_ip":"*member_ip*"}]}}}'

Description

Replaces all current cluster member IP addresses with only the member IP addresses you specify in this API. To retain any of the current cluster member IP addresses, you must explicitly specify them. For example, you have cluster members A through D with the following IP addresses:

- Member A - 192.0.2.111
- Member B - 192.0.2.112
- Member C - 192.0.2.113
- Member D - 192.0.2.114

You want to keep member A and replace members B through D with new IP addresses. You need to include member A, along with the new IP addresses, in the PUT method.

Parameters

Name	Description	Importance
name *name*	Specifies the name of the cluster.	Required
member_ip *member_ip*	Specifies the IP address of the member that is being changed in the cluster. You can add multiple members at a time by specifying their IP addresses in the member_ip parameter separated by commas.	Required

Example

```
curl -u admin:admin -X GET https://192.0.2.130/api/running/clusters/cluster
{
  "cluster:cluster": {
    "name": "cluster1",
    "nodes": {
      "node": [
        {
          "member_ip": "192.0.2.134"
        },
        {
          "member_ip": "192.0.2.136"
        }
      ]
    }
  }
}
```

```
curl -u admin:admin -X PUT https://192.0.2.130/api/running/clusters/cluster/cluster1 -H "Content-
type:application/vnd.yang.data+json" -d '{"cluster": {"name": " cluster1", "nodes": {"node":
[{"member_ip": "192.0.2.111"}, {"member_ip": "192.0.2.121"}, {"member_ip": "192.0.2.131"}]}}}'
```

```
curl -u admin:admin -X GET https://192.0.2.130/api/running/clusters/cluster
{
  "cluster:cluster": {
    "name": "cluster1",
    "nodes": {
      "node": [
        {
          "member_ip": "192.0.2.111"
        },
        {
```

```
          "member_ip": "192.0.2.121"
        },
        {
          "member_ip": "192.0.2.131"
        }
      ]
    }
  }
}
```

API History

Release	Modification
2.5.0	This API is deprecated
1.0	This API is introduced.

Delete a Member from a Cluster

Method

DELETE

Module

Release 2.5.0

https://*ip-address:port-number*/api/running/clusters/cluster/*name*/nodes/node/*ip-address*

Note: Support for this API in releases earlier to 2.5.0 is deprecated.

Starting from 2.8.0

https:// *ip-address:port-number* /api/delete_cluster_node/*name*/ip-addresss -H "Content-Type:application/vnd.yang.data+json"

Note: We recommend you use the new API from 2.8.0 release onwards to delete a member from a cluster.

Description

Deletes a specific member of a cluster.

Parameters

Name	Description	Importance
name	Name of the cluster.	Required
ip-address	IP address of the member that is being removed from the cluster.	Required

Example

```
curl -ku admin:admin -X GET https://172.27.109.86/api/running/clusters/cluster/clusterdemo
{
  "cluster:cluster": {
    "name": "clusterdemo",
    "nodes": {
      "node": [
```

```
        {
          "member_ip": "172.27.109.100"
        },
        {
          "member_ip": "172.27.109.48"
        },
        {
          "member_ip": "172.27.109.86"
        }
      ]
    }
  }
}
```

```
curl -ku admin:admin -X DELETE https://172.27.109.86/api/delete_cluster_node/cluster1/172.27.109.100 -H
"Content-Type:application/vnd.yang.data+json"
```

```
curl -ku admin:Sfish@123 -X GET https://172.27.109.86/api/running/clusters/cluster/clusterdemo
{
  "cluster:cluster": {
    "name": "clusterdemo",
    "exists": true,
    "nodes": {
      "node": [
        {
          "member_ip": "172.27.109.48"
        },
        {
          "member_ip": "172.27.109.86"
        }
      ]
    }
  }
}
```

API History

Release	Modification
2.8.0	The delete cluster node API is introduced.
2.5.0	The cluster API to delete a node is deprecated.
2.0.0	The cluster API to delete a node is introduced.

Delete a Cluster

Method

DELETE

Module

Release 2.5.0

https://*ip-address:port-number*/api/running/clusters/cluster/*name*

Note: Support for this API in releases earlier to 2.5.0 is deprecated.

Release 2.8.0

https://*ip-address:port-number*/api/delete_cluster/*name* -H "Content-Type:application/vnd.yang.data+json"

Note: We recommend you use the new API from 2.8.0 release onwards to delete a cluster.

Description

Deletes a specific cluster.

Parameters

Name	Description	Importance
name	Name of the cluster	Required

Example

```
curl -ku admin:admin -X DELETE https://172.27.109.86/api/delete_cluster/clusterdemo -H "Content-Type:application/vnd.yang.data+json"
```

API History

Release	Modification
2.8.0	The new delete cluster API is introduced.
2.5.0	The cluster API to delete a cluster is deprecated.
1.0	The cluster API to delete a cluster is introduced.

Enable Node Failure detection and VNF Service migration

Method

POST

Module

https://*ip-address:port-number*/api/new_post_cluster/running/clusters -H "Content-Type:application/vnd.yang.data+json" -d '{"cluster":[{"name":" "*name*","enable-node-redundancy":"*enable-node-redundancy*","eviction-timeout":"*eviction-timeout*","nodes":{"node":[{"member_ip":"*member_ip* "},{"member_ip":"*member_ip*"},{"member_ip":"*member_ip*"}]}}]}'

Description

To enable node failure detection and VNF migration for the cluster.

Parameters

Name	Description	Importance
name	Name of the cluster	Required
enable-node-redundancy	Enables or disables the node redundancy for the cluster. Valid values are true or false.	Required
eviction-timeout	Enter the node eviction timeout in seconds.	Required

member_ip	Specifies the IP address of a member that is being assigned to the cluster. You can add multiple members at a time by specifying their IP addresses in the member_ip parameter separated by commas.	Required

Example

```
curl -ku admin:admin -X POST https://172.27.109.86/api/new_post_cluster/running/clusters -H "Content-Type:application/vnd.yang.data+json" -d '{"cluster":[{"name":"clusterdemo","enable-node-redundancy": true,"eviction-timeout":10,"nodes":{"node":[{"member_ip":"172.27.109.86"},{"member_ip":"172.27.109.48"},{"member_ip":"172.27.109.100"}]}}]}'
```

API History

Release	Modification
2.8.0	This API is introduced.

Update Node Eviction Parameters

Method

PATCH

Module

https://*ip-address:port-number*/api/add_cluster_node /running/clusters -H "Content-Type:application/vnd.yang.data+json" -d '{"cluster":[{"name":" "*name*","enable-node-redundancy":"*enable-node-redundancy*","eviction-timeout":"*eviction-timeout*"}]}'

Description

To update node eviction parameters.

Parameters

Name	Description	Importance
name	Name of the cluster	Required
enable-node-redundancy	Enables or disables the node redundancy for the cluster. Valid values are true or false.	Required
eviction-timeout	Enter the node eviction timeout in seconds.	Required

Example

```
curl -ku admin:Sfish@123 -X PATCH https://172.27.109.86/api/add_cluster_node/running/clusters -H "Content-Type:application/vnd.yang.data+json" -d '{"cluster":[{"name":"clusterdemo","enable-node-redundancy": true,"eviction-timeout":10}]}'
```

API History

Release	Modification
2.8.0	This API is introduced.

Enable Storage Network

Method

POST

Module

https://*ip-address:port-number*/api/new_post_cluster/running/clusters -H "Content-Type:application/vnd.yang.data+json" -d '{"cluster":[{"name":" "*name*","enable-storage-netwrok":"*enable-storage-network*","gluster-disk-allocation":"*gluster-disk-allocation*","nodes":{"node":[{"member_ip":" *member_ip* "},{"member_ip":"*member_ip*"},{"member_ip":"*member_ip*"}]}}]}'

Description

To enable storage network for the cluster.

Parameters

Name	Description	Importance
name	Name of the cluster	Required
enable-storage-network	Enables or disables the storage network. Valid values are true or false.	Required
gluster-disk-allocation	Specifies the gluster disk allocation in percentage. The default disk capacity value of the gluster is 80% and the remaining disk capacity is allocated for the local storage. The VNFs are deployed in the gluster location using the distributed storage network for the cluster. Note: You can recover the VNFs deployed in the gluster location during Day-N configuration, when the storage network is enabled.	Required
member_ip	Specifies the IP address of a member that is being assigned to the cluster. You can add multiple members at a time by specifying their IP addresses in the member_ip parameter separated by commas.	Required

Example

```
curl -ku admin:admin -X POST https://172.27.109.86/api/new_post_cluster/running/clusters-H "Content-Type:application/vnd.yang.data+json" -d '{"cluster":[{"name":"clusterdemo","enable-storage-network":true,"gluster-disk-allocation":10,"nodes":{"node":[{"member_ip":"172.27.109.86"},{"member_ip":"172.27.109.48"},{"member_ip":"172.27.109.100"}]}}]}'
```

API History

Release	Modification
2.8.0	This API is introduced.

Enable Configuration Sync for Cluster

Release 2.9.0 and Later Releases

Method

POST

Module

https://*ip-address***/api/new_post_cluster/running/clusters -H "Content-Type:application/vnd.yang.data+json" -d '{"cluster":[{"name":***name***,"enable-config-sync":** *enable-config-sync***,"nodes":{"node":[{"member_ip":***member_ip***},{"member_ip":***member_ip***},{"member_ip":***member_ip***}]}}]}'**

Description

To enable configuration sync for cluster nodes.

Parameters

Name	Description	Importance
name	Name of the cluster	Required
enable-config-sync	Enables configuration sync for cluster nodes	Required
member_ip	Specifies the IP address of a member that is being assigned to the cluster. You can add multiple members at a time by specifying their IP addresses in the member_ip parameter separated by commas	Required

Examples

```
curl -ku admin:admin -X POST https://172.27.109.86/api/new_post_cluster/running/clusters -H "Content-Type:application/vnd.yang.data+json" -d '{"cluster":[{"name":user,"enable-config-
```

```
sync”:true,"nodes":{"node":[{"member_ip":172.27.109.86},{"member_ip":172.27.109.100},{"member_ip":172.27.109.120}]}}]}'
```

API History

Release	Modification
2.9.0	This API is introduced.

Update Configuration Sync

Release 2.9.0 and Later Releases

Method

PATCH

Module

https://*ip-address***/api/add_cluster_node/running/clusters -H "Content-Type:application/vnd.yang.data+json" -d '{"cluster":[{"name":***name***,"enable-config-sync":** *enable-config-sync*,**"sync-node":[{"sync_ip":***sync-ip***},{"sync_ip":***sync-ip***}]}]}'**

Description

To update the configuration sync parameters for cluster or to update the nodes on which configuration sync is performed.

Parameters

Name	Description	Importance
name	Name of the cluster	Required
enable-config-sync	Enables configuration syncing for cluster nodes	Required
sync_ip	Specifies the IP address of a node to which the configuration should be synced to. You can add multiple nodes at a time by specifying their IP addresses in the sync_ip parameter separated by commas	Required

Examples

```
curl -ku admin:admin -X POST https://172.27.109.86/api/new_post_cluster/running/clusters -H "Content-Type:application/vnd.yang.data+json" -d '{"cluster":[{"name":user,"enable-config-sync”:true,"sync-node”:[{"sync_ip":172.27.109.86},{"sync_ip":172.27.109.100},{"sync_ip":172.27.109.120}]}}]}'
```

Note:

- The “sync-node” list should contain all cluster member IP addresses for which the configuration has to be synced.
- To disable configuration sync on one cluster node, the sync-node list should omit the node being disabled and contain all enabled nodes.

API History

Release	Modification
2.9.0	This API is introduced.

Collected Package API

Release 2.3.1 and Later Releases

Method

POST

Module

https://*ip-address:port-number*/api/running/collectd/_operations/collectd-stat -H "Content-Type: application/vnd.yang.data+json"

Description

Collectd package collects system and application performance metrics periodically and provides memory, disk and CPU statistics. The collectd package provides historical resource utilization. Hence, duration enums such as 30 minutes, 10 hour, 1 day, 15 days, 30 days are allowed. You can select any of these durations and get statistics for the specific time interval.

A graphical representation of the following statistics is provided:

- A memory graph representing memory-free and memory-used parameters.
- A disk graph representing disk operations per second.
- A CPU graph representing CPU utilization of the kernel space and user space (cpu-system and cpu-user)

Parameters

Name	Description	Importance
memory-used	Statistics based on physical memory utilized.	Required
memory-free	Statistics based on memory that is available and using power.	Required
disk-ops	Statistics based on performance of hard disks.	Required

duration	Statistics based on the duration such as 30 minutes, 10 hour, 1 day, 15 days, or 30 days.	Required
cpu-system	Statistics based on CPU utilization of the kernel space.	Required
cpu-user	Statistics based on CPU utilization of the user space	Required

Examples

```
curl -k -u admin:admin -X POST https://192.0.2.1/api/running/collectd/_operations/collectd-stat -H
"Content-Type: application/vnd.yang.data+json" -d '{"input": {"parameter":"memory-used",
"duration":"30d"}}'

curl -k -u admin:admin -X POST https://192.0.2.1/api/running/collectd/_operations/collectd-stat -H
"Content-Type: application/vnd.yang.data+json" -d '{"input": {"parameter":"memory-free",
"duration":"30d"}}'

curl -k -u admin:admin -X POST https://192.0.2.1/api/running/collectd/_operations/collectd-stat -H
"Content-Type: application/vnd.yang.data+json" -d '{"input": {"parameter":"disk-ops", "duration":"30d"}}'

curl -k -u admin:admin -X POST https://192.0.2.1/api/running/collectd/_operations/collectd-stat -H
"Content-Type: application/vnd.yang.data+json" -d '{"input": {"parameter":"cpu-system",
"duration":"30d"}}'

curl -k -u admin:admin -X POST https://192.0.2.1/api/running/collectd/_operations/collectd-stat -H
"Content-Type: application/vnd.yang.data+json" -d '{"input": {"parameter":"cpu-user", "duration":"30d"}}'
```

API History

Release	Modification
2.3.1	This API is introduced.

Factory Default Reset API

Release 2.2.5 and Later Releases

Method

POST

Module

https://*ip-address:port-number*/api/operations/factory-default-reset/all -H "Content-Type: application/vnd.yang.data+json"

Description

Allows restoring Cisco CSP 2100 to original factory defaults. After the API is executed, Cisco CSP 2100 reboots automatically, and you are prompted with the configuration services questionnaire similar to clean installation. For more information about how to set up your Cisco CSP 2100 through clean installations, see the *Cisco Cloud Services Platform Quick Start Guide*.

Note: Executing the API, erases all configuration. Connectivity is lost, and admin password is changed to factory default password.

After factory-reset of ovs-dpdk enabled device, the device resets back to factory default ovs-dpdk disabled setting. For more information about the ovs dpdk configuration, see the OVS DPDK APIs.

Parameters

None

Example

```
curl -k -u admin:admin -X POST https://192.0.2.1/api/operations/factory-default-reset/all -H "Content-Type: application/vnd.yang.data+json"
```

API History

Release	Modification
2.2.5	This API is introduced.

Installation and Upgrade APIs

Release 2.1.0 and Later Releases

Specify ISO Installation Mode

Method

POST

Module

https://*ip-address:port-number*/api/running/system/install/iso/mode/_operations/*mode*

Description

Specifies the installation mode for installing Cisco CSP 2100. This REST API only specifies the installation mode. It does not initiate the Cisco CSP 2100 installation.

Parameters

Name	Description	Importance
mode	Specifies the installation mode. The value can be one of the following: • clean-install: Specifies to not retain any existing configurations and settings. • software-update: Specifies to retain the existing configurations and settings in the new installation.	Required

Examples

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/system/install/iso/mode/_operations/clean-install
```

```
{
  "output": {
    "results": "success"
  }
}
```

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/system/install/iso/mode/_operations/software-update

{
  "output": {
    "results": "success"
  }
}
```

API History

Release	Modification
2.1.0	This API is introduced.

Upgrade the Cisco CSP 2100 Software Using An ISO File

Method

POST

Module

https://*ip-address:port-number*/api/running/system/install/iso/update/_operations/update -H "Content-Type: application/vnd.yang.data+json" -d '{"input":{"image":"*imagename* "}}'

Description

Upgrades the Cisco CSP 2100 software using an ISO image file.

Note:

- To upgrade the Cisco CSP 2100 software by using this REST API, Cisco FlexFlash must be enabled in the Cisco Integrated Management Controller (CIMC). To enable the Cisco FlexFlash or to check that the Cisco FlexFlash is enabled, in the CIMC, click Storage > Cisco FlexFlash and then click the Virtual Drive Info tab. For detailed configuration information about the CIMC, see Cisco Integrated Management Controller Configuration Guides.
- You cannot use this REST API to upgrade the Cisco CSP 2100 software from Release 2.1.x to Release 2.2.0. Use the CIMC console to upgrade the Cisco CSP 2100 software from Release 2.1.x to Release 2.2.0. You can use this API to upgrade from Release 2.2.0 to later versions.

Parameters

Name	Description	Importance
image *imagename*	Specifies the name of the Cisco CSP 2100 ISO software update image available in the Cisco CSP 2100 repository.	Required

Examples

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/system/install/iso/update/_operations/update -H "Content-Type: application/vnd.yang.data+json" -d '{"input":{"image": "csp-2100-210.iso"}}'
{
  "output": {
    "results": "success"
  }
```

API History

Release	Modification
2.1.0	This API is introduced.

Release 1.0 and Release 2.0.0

Specify ISO Installation Mode

Method

POST

Module

https://*ip-address:port-number*/api/running/system/install -H "Content-Type: application/vnd.yang.data+json" -d '{"input":{"mode":"*mode*"}}'

Description

Specifies the installation mode for installing Cisco CSP 2100 by using an ISO image. This REST API only specifies the installation mode. It does not initiate the Cisco CSP 2100 installation.

Parameters

Name	Description	Importance
mode *mode*	Specifies the installation mode. The value can be one of the following: • clean-install: Specifies to not retain any existing configurations and settings. • update-software: Specifies to retain the existing configurations and settings in the new installation.	Required

Examples

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/system/install -H "Content-Type:
application/vnd.yang.data+json" -d '{"input":{"mode": "clean-install"}}'
```

```
{
  "output": {
    "results": "success"
  }
}
```

API History

Release	Modification
2.1.0	This API is removed.
1.0	This API is introduced.

Check the Cisco CSP 2100 Software Upgrade Status

Method

GET

Module

https://*ip-address:port-number*/api/running/package-install/show-upgrade-status

Description

Shows the status of the Cisco CSP 2100 software upgrade process.

Parameters

None

Examples

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/package-install/show-upgrade-status
```

API History

Release	Modification
2.1.0	This API is removed.
1.0	This API is introduced.

Patch Upgrade APIs

Patch Upgrade Cisco CSP 2100 Release Notes

Method

POST

Module

https://*ip-address:port-number*/api/running/install/package-upgrade/_operations/rel-notes -d '{"input":{"package-file":"*filename*"}}'

Description

Lists the Cisco CSP 2100 bugs available in Release Notes for a patch upgrade.

Parameters

Name	Description	Importance
package-file *filename*	Specifies the name of the package file for upgrade, which is available in the Cisco CSP 2100 repository.	Required

Example

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/system/install/patch-upgrade/_operations/rel-notes -d '{"input":{"package-file": " csp-2100-70.tar.gz"}}'
{
  "system:output": {
```

```
    "results": "RELEASE NOTES",
    "results": "=============",
    "results": "CSCvXXXXX - Vm not booting when NFS is down",
    "results": "CSCvYYYYY - Cluster certs not working with FQDN"
  }
}
```

API History

Release	Modification
2.6.0	This API is introduced.

Patch Upgrade Cisco CSP 2100 software

Method

POST

Module

https://*ip-address:port-number*/api/running/install/package-upgrade/_operations/update -d '{"input":{"package-file":"*filename*", "force": "*force*"}}'

Description

Updates CSP software from current version to its next patch version.

Parameters

Name	Description	Importance
package-file *filename*	Specifies the name of the package file for upgrade, which is available in the Cisco CSP 2100 repository.	Required
force *force*	Enables or disables the upgrade of CSP software during failure. Valid values are true and false.	Optional

Example

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/system/install/patch-upgrade/_operations/rel-notes -d '{"input":{"package-file": "csp-2100-70.tar.gz","force": "true"}}'
{
   "system:output": {
    "results": "Starting patch upgrade",
    "results": "Performing validation checks on the upgrade package file ",
    "results": "Validation checks passed, upgrading csp from 02.05.00.70 to 02.05.01",
    "results": "Installing upgrade software in the background, check installation status after 5 mins"
  }
}
```

API History

Release	Modification
2.6.0	This API is introduced.

Check Status of Patch Upgrade

Method

POST

Module

https://*ip-address:port-number*/api/running/install/patch-upgrade/_operations/check status

Description

Checks and shows the status of the patch upgrade operation.

Parameters

None

Example

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/system/install/patch-upgrade/_operations/check-status
{
   "system:output": {
    "results": "update_status: 12/02/2019, 17:59:49 - Validating upgrade tar ball - success\n",
    "results": "update_status: 12/02/2019, 17:59:49 - Patch upgrade in progress\n",
    "results": "update_status: 12/02/2019, 18:00:09 - Patch upgrade complete\n"
}
}
```

API History

Release	Modification
2.6.0	This API is introduced.

NTP Server APIs

Get Information About NTP Servers

Method

GET

Module

https://*ip-address:port-number*/api/running/ntps

https://*ip-address:port-number*/api/running/ntps/ntp/*ntp_server*

https://*ip-address:port-number*/api/running/ntps?deep

Description

Retrieves information about all NTP servers or a specific NTP server.

To get detailed information about all NTP servers or a specific NTP server, use the ?deep parameter.

Parameters

Name	Description	Importance
ntp_server	Host name or IP address of the NTP server	Optional

Examples

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/ntps
{
  "ntp:ntps": {
    "ntp": [
      {
        "ntp_server": "time.cisco.com"
      }
    ]
  }
}
```

API History

Release	Modification
1.0	This API is introduced.

Get Information About NTP Server Status

Method

POST

Module

https://*ip-address:port-number*/api/operational/ntp_status/_operations/ntp_get_status

Description

Retrieves information about the status of the NTP server.

Parameters

None

Examples

```
curl -u admin:admin -X POST https://192.0.2.1/api/operational/ntp_status/_operations/ntp_get_status
{
  "output": {
    "ntp_status": [
      {
        "remote": "1.2.3.4",
        "refid": ".INIT.",
        "st": "16",
        "t": "u",
        "when": "-",
        "poll": "1024",
        "reach": "0",
        "delay": "0.000",
        "offset": "0.000",
        "jitter": "0.000"
      }
```

```
    ]
  }
}
```

API History

Release	Modification
2.0.0	This API is introduced.

Add an NTP Server

Method

PATCH

Module

https://*ip-address:port-number*/api/running/ntps/ntp -H "Content-Type: application/vnd.yang.data+json" -d '{"ntp": {"ntp_server":"*ntp_server*"}}'

Description

Adds an NTP server.

Parameters

Name	Description	Importance
ntp_server *ntp_server*	Specifies the host name or the IP address of the NTP server.	Required

Examples

```
curl -u admin:admin -X PATCH https://192.0.2.1/api/running/ntps/ntp -H "Content-Type:
application/vnd.yang.data+json" -d '{"ntp": {"ntp_server":"1.1.1.3"}}'

curl -u admin:admin -X PATCH https://192.0.2.1/api/running/ntps/ntp -H "Content-Type:
application/vnd.yang.data+json" -d '{"ntp": {"ntp_server":"time.cisco.com"}}'
```

API History

Release	Modification
1.0	This API is introduced.

Delete an NTP Server

Method

DELETE

Module

https://*ip-address:port-number*/api/running/ntps/ntp/*ntp_server*

Description

Deletes an NTP server.

Parameters

Name	Description	Importance
ntp_server	Host name or IP address of the NTP server	Required

Examples

```
curl -u admin:admin -X DELETE https://192.0.2.1/api/running/ntps/ntp/1.1.1.3
```

```
curl -u admin:admin -X DELETE https://192.0.2.1/api/running/ntps/ntp/time.cisco.com
```

API History

Release	Modification
1.0	This API is introduced.

Port Isolation APIs

Get Status Information About Port Isolation of VNF

Method

GET

Module

https://*ip-address:port-number*/api/running/system-settings/vm/switching-mode

Description

Retrieves status information about port isolation of VNF management interfaces.

Parameters

None

Example

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/system-settings/vm/switching-mode
{
"system_setting:switching-mode": "VEB"
}
```

API History

Release	Modification
2.2.5	This API is introduced.

Enable or Disable Port Isolation of VNF

Method

PUT

Module

https://*ip-address:port-number*/api/running/system-settings/vm/switching-mode -H "Content-type: application/vnd.yang.data+json" -d '{"switching-mode": "*switchingmode"*}

Description

Enables or disables port isolation of VNF management interfaces.

Parameters

Name	Description	Importance
switching-mode *switchingmode*	Specifies the switching modes. Valid values are: protected: Disables communication between VNF management ports. VEB: Enables communication between VNF management ports. Default mode is VEB.	Optional

Example

```
curl -u admin:admin -X PUT https://192.0.2.1/api/running/system-settings/vm/switching-mode -H " Content-type:application/vnd.yang.data+json" -d '{"switching-mode":"protected"}'
```

API History

Release	Modification
2.2.5	This API is introduced.

OVS DPDK APIs

Get Status Information About OVS DPDK

Method

GET

Module

https://*ip-address:port-number*/api/ operational/system-settings/ovs/dpdk

Description

Retrieves information about the status of ovs dpdk.

Examples

```
curl -u admin:admin -X GET https://192.0.2.1/api/operational/system-settings/ovs/dpdk
```

API History

Release	Modification
2.3.0	This API is introduced.

Enable or Disable OVS with DPDK

Method

POST

Module

https://*ip-address:port-number*/api/running/system-settings/_operations/ovs-dpdk -H "Content-Type: application/vnd.yang.data+json" -d '{"input":{"action":"*action*"}}'

Description

Enables or disables the Open vSwitch (OvS) with Data Plane Development Kit (DPDK) modes.

Parameters

Name	Description	Importance
action *action*	Sets the ovs dpdk mode. Valid values are enable and disable.	Required

Usage Guidelines

By default, ovs-dpdk is disabled on upgrade and clean install modes. DPDK offers poll mode drivers that enables direct transfer of packets between user space and physical interface, and bypass kernel network stack.

Note: The system reboots on enabling or disabling ovs-dpdk.

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/running/system-settings/_operations/ovs-dpdk -H "Content-Type: application/vnd.yang.data+json" -d '{"input": {"action":"enable"}}'
```

```
curl -u admin:admin -X POST https://192.0.2.130/api/running/system-settings/_operations/ovs-dpdk -H "Content-Type: application/vnd.yang.data+json" -d '{"input": {"action":"disable"}}'
```

API History

Release	Modification
2.3.0	This API is introduced.

pNIC APIs

Get Information About pNICs

Method

GET

Module

https://*ip-address:port-number*/api/running/pnics

https://*ip-address:port-number*/api/running/pnics/pnic/*name*

https://*ip-address:port-number*/api/running/pnics?deep

Description

Retrieves information about all pNICs or a specific pNIC.

To get detailed information about all pNICs or a specific pNIC, use the ?deep parameter.

Parameters

Name	Description	Importance
name	Name of the pNIC. PNICs are named in Eth<pcie slot>-<port> format. The slot 0 corresponds to LOM port and slot 9 corresponds to mLOM ports.	Optional

Examples

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/pnics
{
  "pnic:pnics": {
    "pnic": [
      {
        "name": "Eth4-0"
      },
      {
        "name": "Eth4-1"
      },
      {
        "name": "Eth4-2"
      },
      {
        "name": "Eth4-3"
      },
      {
        "name": "Eth1-0"
      },
      {
        "name": "Eth1-1"
      }
    ]
  }
}
curl -u admin:admin -X GET https://192.0.2.1/api/running/pnics/pnic/Eth1-0
{
    "pnic:pnic": {
    "name": "Eth1-1",
    "type": "ethernet",
    "sriov_numVFs": 0,
    "sriov_switch_mode": "VEB",
    "lldp": "enabled"
  }
}
```

API History

Release	Modification
2.5.0	The PNIC name has been changed to the new format, Eth<slot>-port.
1.0	This API is introduced.

Get Statistics for pNICs

Method

GET

Module

https://*ip-address:port-number*/api/operational/pnics -H "Content-type:application/vnd.yang.collection+json"

https://*ip-address:port-number*/api/operational/pnics/pnic -H "Accept:application/vnd.yang.collection+json"

https://*ip-address:port-number*/api/operational/pnics/pnic/*name*

Description

Retrieves statistics for all pNICs or a specific pNIC. The pNIC statistics are updated every 10 seconds.

Parameters

Name	Description	Importance
name	Name of the pNIC	Optional

Example

```
curl -u admin:admin -X GET https://192.0.2.1/api/operational/pnics -H " Content-
type:application/vnd.yang.collection+json"
{
  "collection": {
    "pnic:pnic": [
      "name": "Eth4-0",
      "type": "ethernet",
      "speed": "1G",
      "passthrough": "none",
      "sriov_intf": "none",
      "sriov_numVFs": 0,
      "sriov_switch_mode": "VEB",
      "pch_state": "not_created",
      "link_state": "down",
      "lldp": "enabled",
      "mac_address": "a0:36:9f:19:08:68",
      "mtu": 9000,
      "refcnt": 0,
      "stats": {
        "receive": {
          "bytes": 0,
          "packets": 0,
          "errors": 0,
          "dropped": 0,
          "rate_mbps": "0.0",
          "broadcast": 0,
          "multicast": 0
        },
        "transmit": {
          "bytes": 0,
          "packets": 0,
          "errors": 0,
          "dropped": 0,
          "collisions": 0,
          "rate_mbps": "0.0",
          "broadcast": 0,
          "multicast": 0
```

```
        }
      }
    },
    ….
    {
      "name": "Eth0-1",
      "type": "ethernet",
      "speed": "1G",
      "passthrough": "none",
      "sriov_intf": "none",
      "sriov_numVFs": 0,
      "sriov_switch_mode": "VEB",
      "pch_state": "not_created",
      "link_state": "down",
      "lldp": "enabled",
      "mac_address": "00:06:f6:2b:28:63",
      "mtu": 9000,
      "refcnt": 0,
      "stats": {
        "receive": {
          "bytes": 0,
          "packets": 0,
          "errors": 0,
          "dropped": 0,
          "rate_mbps": "0.0",
          "broadcast": 0,
          "multicast": 0
        },
        "transmit": {
          "bytes": 0,
          "packets": 0,
          "errors": 0,
          "dropped": 0,
          "collisions": 0,
          "rate_mbps": "0.0",
          "broadcast": 0,
          "multicast": 0
        }
      }
    }
  ]
}
```


API History

Release	Modification
1.0	This API is introduced.

Modify a pNIC

Method

PATCH

Module

https://*ip-address:port-number*/api/running/pnics/pnic -H "Content-type: application/vnd.yang.data+json" -d '{"pnic":{"name": "*name*", "adminstatus": "*adminstatus*", " promiscuous": "*promiscuousmode* ", "bond_mode": "*bond_mode*", "lacp_type": "*lacp_type*", "sr-iov":{"numVFs": "*numVFs*", "switchMode": "*switchMode*"}, "lldp":"*lldp_mode*", "trunks": "*vlan_num*", "member_of": "*portchannel_name*"}}}'

Description

Modifies a pNIC.

Note: You cannot modify the name of a pNIC.

Parameters

Name	Description	Importance
name *name*	Specifies the name of the pNIC. You cannot modify the name of a pNIC.	Required
adminstatus *adminstatus*	Shuts down or re-enables a disabled pNIC. Valid values are up and down. This parameter is not available if the pNIC is configured as a passthrough interface.	Optional
promiscuous	Specifies the promiscuous mode. Valid values are enabled and disabled. Default is disabled. This parameter is available only when the pNIC is configured as a passthrough interface. When promiscuous mode is enabled, traffic is passed to the vNIC independent of the packet MAC address.	Optional
bond_mode *bond_mode*	Specifies the mode of the bond. Valid values are balance-slb, active-backup, and balance-tcp. For more information about these values, see the *Create a Port Channel* section.	Optional
lacp_type *lacp_type*	Specifies the link aggregation control protocol (LACP) type for the bond. Valid values are active, passive, and off.	Optional
sr-iov	Provides SR-IOV support. Note: SR-IOV feature is supported with the 10G and 40G interfaces.	Optional
numVFs *numVFs*	Specifies the number of VFs. Up to 63 VFs are supported on a 10G interface and up to 64 VFs are supported on a 40G interface. Use 0 to disable the SR-IOV support. Note: • You cannot disable the SR-IOV support if any existing service is already using this feature. • To add more VFs to a pNIC, you first need to disable the SR-IOV support and then enable it. • VF interfaces come up only when the physical pNIC is up and running.	Optional

Name	Description	Importance
switchMode *switchmode*	Specifies the switch mode. Valid values are: • VEB: Virtual Ethernet Bridge mode • VEPA: Virtual Ethernet Port Aggregator (VEPA) mode. This mode is reserved for switches with a VEPA-capable hardware, that is, switches that support IEEE 802.1Qbg. Default mode is VEB.	Optional
lldp *lldp_mode*	Sets the LLDP mode. Valid values are enabled and disabled. Default is enabled.	Optional
type	Specifies the type. Valid values are ethernet and port-channel. Default is ethernet.	Optional
trunks *vlan_num*	Specifies the VLAN number. Valid range is from 1 to 4096. Default is 1. Enter VLANs separated by commas, VLAN ranges separated by dashes, or a combination of both.	Optional
member_of *portchannel_name*	Specifies the name of the port channel.	Optional

Example

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/pnics
{
  "pnic:pnics": {
    "pnic": [
      {
        "name": "Eth4-0"
      },
      {
        "name": "Eth4-1"
      },
      {
        "name": "Eth4-2"
      },
      {
        "name": "Eth4-3"
      },
      {
        "name": "Eth7-0",
        "type": "ethernet",
        "lldp": "enabled"
      },
      {
        "name": "Eth7-1",
        "type": "ethernet",
        "lldp": "enabled"
      }
    ]
  }
}
curl -u admin:admin -X PATCH https://192.0.2.130/api/running/pnics/pnic/Eth7-1 -H "Content-Type:
application/vnd.yang.data+json" -d '{"pnic": {"name":"Eth7-1", "lldp":"disabled"}}'
```

```
curl -u admin:admin -X GET https://192.0.2.130/api/running/pnics/pnic
{
  "pnic:pnics": {
    "pnic": [
      {
        "name": "Eth4-0"
      },
      {
        "name": "Eth4-1"
      },
      {
        "name": "Eth4-2"
      },
      {
        "name": "Eth4-3"
      },
      {
        "name": "Eth7-0",
        "type": "ethernet",
        "lldp": "enabled"
      },
      {
        "name": "Eth7-1",
        "type": "ethernet",
        "lldp": "disabled"
      }
    ]
  }
}
```

API History

Release	Modification
2.5.0	The PNIC name has been changed to the new format, Eth<slot>-port.
2.4.0	The SR-IOV feature support for 40G interface has been added.
2.1.0	The adminstatus, promiscuous, sr-iov, numVFs, switchMode parameters are added.
2.0.0	The passthrough parameter is removed.
1.0	This API is introduced.

Get Information about LLDP Configuration

Method

GET

Module

https://*ip-address:port-number*/api/running/pnics/pnic/*name*/lldp

Description

Retrieves the Link Layer Discovery Protocol (LLDP) information for a specific pNIC.

Parameters

Name	Description	Importance
name	Name of the pNIC	Required

Example

```
curl -u admin:admin -X GET https://192.0.2.130/api/running/pnics/pnic/Eth4-0/lldp
{
  "pnic:lldp": "enabled"
}
```

API History

Release	Modification
2.5.0	The PNIC name has been changed to the new format, Eth<slot>-port.
1.0	This API is introduced.

Enable or Disable LLDP

Method

PATCH

Module

https://*ip-address:port-number*/api/running/pnics/pnic -H "Content-Type: application/vnd.yang.data+json" -d '{"pnic":{"name":"*name*", "lldp":"*lldp_mode*"}}'

Description

Enable or disables LLDP.

Parameters

Name	Description	Importance
name *name*	Specifies the name of the pNIC.	Required
lldp *lldp_mode*	Sets the LLDP mode. Valid values are enabled and disabled. Default is enabled.	Required

Example

```
curl -u admin:admin -X PATCH https://192.0.2.130/api/running/pnics/pnic -H "Content-Type:
application/vnd.yang.data+json" -d '{"pnic": {"name":"Eth4-0", "lldp":"enabled"}}'
```

API History

Release	Modification
2.5.0	The PNIC name has been changed to the new format, Eth<slot>-port.
1.0	This API is introduced.

Create a Port Channel

Method

POST

Module

https://*ip-address:port-number*/api/running/pnics -H "Content-type: application/vnd.yang.data+json" -d '{"pnic":{"name":"*name*", "type":"port_channel", "bond_mode":"*bond_mode*", "lacp_type":"*lacp_type*", "trunks":"*vlan_num*"}}'

Description

Creates a port channel.

Starting from 2.8.0, you can configure the port-channels that have SR-IOV enabled pNICs as subordinate interfaces. The SR-IOV enabled port-channels cannot be assigned to VNF services during deployment because these port-channels are not intended to carry data traffic.

Note: After creating a port channel, you must assign at least two pNIC members to the port channel. For information about how to assign a pNIC to a port channel, see the *Assign a pNIC to a Port Channel* section.

Parameters

Name	Description	Importance
name *name*	Specifies the name of the port channel. PNICs are named in Eth<pcie slot>-<port> format. The slot 0 corresponds to LOM port and slot 9 corresponds to mLOM ports.	Required
type	Specifies the type of the port. You must specify the type as port_channel.	Required
bond_mode *bond_mode*	Specifies the mode of the bond. Valid values are the following: • balance-slb: In this mode, load balancing is done between the pNIC members of a port channel based on the MAC address. This is the default mode. • active-backup: In this mode, load balancing is done between two members of a port channel. One pNIC acts as the active member and carries all the traffic. The other pNIC acts as the backup member and carries traffic only when the active pNIC fails. • balance-tcp: In this mode, load balancing is done between the pNIC members of a port channel based on the L2, L3, and L4 protocol information such as destination MAC address, IP address, and TCP port. This mode requires the upstream switch to support 802.3ad with successful LACP negotiation. Default is balance-slb.	Optional
lacp_type *lacp_type*	Specifies the LACP type for the bond. Valid values are active, passive, and off. Default is off.	Optional

trunks *vlan_num*	Specifies the VLANs. Valid range is from 1 to 4096. Default value is 1. Enter VLANs separated by commas, VLAN ranges separated by dashes, or a combination of both.	Optional

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/running/pnics -H "Content-Type:
application/vnd.yang.data+json" -d '{"pnic": {"name": "portchannel1", "type": "port_channel",
"bond_mode": "active-backup", "lacp_type": "passive", "trunks": "100,105-109"}}'
```

API History

Release	Modification
2.5.0	The pNIC name has been changed to the new format, Eth<slot>-port.
1.0	This API is introduced.

Assign a pNIC to a Port Channel

Method

PATCH

Module

https://*ip-address:port-number*/api/running/pnics/pnic/*name* -H "Content-type: application/vnd.yang.data+json" -d '{"pnic":{"member_of":"*portchannel_name*"}}'

Description

Assigns a pNIC member to a port channel.

Starting from 2.8.0, you can associate the SR-IOV enabled pNICS to the port-channel.

Parameters

Name	Description	Importance
name	Name of the pNIC.	Required
member_of *portchannel_name*	Specifies the name of the port channel.	Required

Example

```
curl -u admin:admin -X PATCH https://192.0.2.130/api/running/pnics/pnic/Eth4-2 –H "Content-Type:
application/vnd.yang.data+json" -d '{"pnic": {"member_of": "portchannel1"}}'

curl -u admin:admin -X PATCH https://192.0.2.130/api/running/pnics/pnic/Eth4-3 –H "Content-Type:
application/vnd.yang.data+json" -d '{"pnic": {"member_of": "portchannel1"}}'
```

API History

Release	Modification
2.5.0	The PNIC name has been changed to the new format,

	Eth<slot>-port.
1.0	This API is introduced.

Configure Link State Tracking of Individual pNIC

Method

PATCH

Module

https://*ip-address:port-number*/api/running/pnics/pnic/*name* -H "Content-type: application/vnd.yang.data+json" -d '{"pnic":{"name"":"*name*", "link-state-tracking":"*link-state*"}}''

Description

Allows you to enable or disable the link-state tracking. Link-state tracking provides redundancy in the network when used with server network.

Note: This feature is available for port channel and non-passthrough pNICs.

Parameters

Name	Description	Importance
name	Name of the pNIC	Required
link-state-tracking *link-state*	Enables or disables link state tracking. Valid values are Enabled and Disabled.	Required

Example

```
curl -ku admin:admin -X PATCH https://192.0.2.130/api/running/pnics/pnic –H "Content-Type:
application/vnd.yang.data+json" -d '{"pnic": {"name":"Eth0-1", "link-state-tracking":"enabled"}}'

curl -ku admin:admin -X PATCH https://192.0.2.130/api/running/pnics/pnic –H "Content-Type:
application/vnd.yang.data+json" -d '{"pnic": {"name":"Eth0-1", "link-state-tracking":"disabled"}}'
```

API History

Release	Modification
2.5.0	The PNIC name has been changed to the new format, Eth<slot>-port.
2.3.1	This API is introduced.

Delete a Port Channel

Method

DELETE

Module

https://*ip-address:port-number*/api/running/pnics/pnic/*name*

Description

Deletes a specific port channel.

Note: Before deleting a port channel, you must unassign the pNICs assigned to the port channel.

Parameters

Name	Description	Importance
name	Name of the port channel	Required

Example

```
curl -u admin:admin -X DELETE https://192.0.2.1/api/running/pnics/pnic/Eth4-2/member_of
curl -u admin:admin -X DELETE https://192.0.2.1/api/running/pnics/pnic/Eth4-3/member_of

curl -u admin:admin -X DELETE https://192.0.2.1/api/running/pnics/pnic/portchannel1
```

API History

Release	Modification
2.5.0	The PNIC name has been changed to the new format, Eth<slot>-port.
1.0	This API is introduced.

Get Description About an Individual pNIC

Method

GET

Module

https://*ip-address:port-number*/api/running/pnics/pnic/*name*/description

Description

Retrieves description about an individual pNIC member.

Parameters

Name	Description	Importance
name	Name of the pNIC	Required

Example

```
curl -ku admin:admin -X GET https://192.0.2.130/api/running/pnics/pnic/Eth3-1/description
```

API History

Release	Modification
2.5.0	The PNIC name has been changed to the new format, Eth<slot>-port.

2.3.0	This API is introduced.

Configure Description of an Individual pNIC

Method

POST

Module

https://*ip-address:port-number*/api/running/pnics/pnic/*name* -H "Content-type: application/vnd.yang.data+json" -d '{"description*":"new description*"}'

Description

Allows you to add a description for a pNIC.

Note: Only users who belong to the admin-group can modify all pNIC descriptions.

Parameters

Name	Description	Importance
name	Name of the pNIC	Required
description *new description*	Specifies a description for an individual pNIC. Valid values are a string up to 256 characters, underscores, dashes, periods, and commas. Note: Configuring the pNIC description configures the corresponding ifAlias SNMP MIB of pNIC.	Required

Example

```
curl -ku admin:admin -X POST https://192.0.2.130/api/running/pnics/pnic/Eth3-1 –H "Content-Type:
application/vnd.yang.data+json" -d '{"description":"new description"}'
```

API History

Release	Modification
2.5.0	The PNIC name has been changed to the new format, Eth<slot>-port.
2.3.0	This API is introduced.

Modify the Description of an Individual pNIC

Method

PUT

Module

https://*ip-address:port-number*/api/running/pnics/pnic/*name*/*description* -H "Content-type: application/vnd.yang.data+json" -d '{"description":"*new description*"}'

Description

Allows you to edit and modify a pNIC description.

Note: Only users who belong to the admin-group can modify all pNIC descriptions.

Parameters

Name	Description	Importance
name	Name of the pNIC	Required
description *new description*	Specifies a new description of an individual pNIC that is being changed. Valid values are a string up to 256 characters, underscores, dashes, periods, and commas. Note: Configuring the pNIC description configures the corresponding ifAlias SNMP MIB of pNIC.	Required

Example

```
curl -ku admin:admin -X PUT https://192.0.2.130/api/running/pnics/pnic/Eth3-1/description –H "Content-Type: application/vnd.yang.data+json" -d '{"description":"new description"}'
```

API History

Release	Modification
2.5.0	The PNIC name has been changed to the new format, Eth<slot>-port.
2.3.0	This API is introduced.

Delete the Description of an Individual pNIC

Method

DELETE

Module

https://*ip-address:port-number*/api/running/pnics/pnic/*name*/*description*

Description

Deletes a pNIC description.

Note: Only users who belong to the admin-group can delete all pNIC descriptions.

Parameters

Name	Description	Importance
name	Name of the pNIC	Required
description	Specifies the existing description of an individual pNIC.	Required

Example

```
curl -ku admin:admin -X DELETE https://192.0.2.130/api/running/pnics/pnic/Eth3-1/description
```

API History

Release	Modification
2.5.0	The PNIC name has been changed to the new format, Eth<slot>-port.
2.3.0	This API is introduced.

Get Information About LLDP Neighbors

Method

GET

Module

https://*ip-address:port-number*/api/operational/lldp/ lldp?deep

Description

Retrieves LLDP neighbor information for all interfaces.

To get detailed information about LLDP neighbor, use the ?deep parameter.

Parameters

None

Example

```
curl -ku admin:admin -X GET https://192.0.2.130/api/operational/lldp?deep –H "Content-Type:
application/vnd.yang.collection+json"
{
  "pnic:lldp": {
    "neighbors": [
      {
        "name": "Eth1-0",
        "device_id": "sf-k6-45-sw1.cisco.com",
        "holdtime": 120,
        "caps": "B ",
        "platform": "Cisco Cloud Services Platform",
        "portid": "Local: Eth105/1/3",
        "description": "Ethernet105/1/3""
} ,
      {
        "name": "Eth1-0",
        "device_id": "sf-k6-45-sw1.cisco.com",
        "holdtime": 120,
        "caps": "B ",
        "platform": "Cisco Cloud Services Platform",
        "portid": "Local: Eth105/1/4",
        "description": "Ethernet105/1/4"
      },
      {
        "name": "Eth4-0",
        "device_id": "sf-k6-45-sw1.cisco.com",
        "holdtime": 120,
        "caps": "B ",
        "platform": "Cisco Cloud Services Platform ",
        "portid": "Local: Eth105/1/7",
```

```
      "description": "Ethernet105/1/7"
    },
    {
      "name": "Eth4-1",
      "device_id": "sf-k6-45-sw1.cisco.com",
      "holdtime": 120,
      "caps": "B ",
      "platform": "Cisco Cloud Services Platform ",
      "portid": "Local: Eth105/1/8",
      "description": "Ethernet105/1/8"
    },
    {
      "name": "Eth4-2"
    },
    {
      "name": "Eth4-3"
    },
    {
      "name": "Eth7-0"
    },
    {
      "name": "Eth7-1"
    }
  ],
  "stats": [
    {
      "name": "Eth1-0",
      "tx_frames": 22891,
      "discard_rx": 0,
      "error_rx": 0,
      "rx_frames": 0,
      "discarded_tlvs": 0,
      "unrec_tlvs": 0,
      "ageouts": 0
    },
    {
      "name": "Eth1-1",
      "tx_frames": 22891,
      "discard_rx": 0,
      "error_rx": 0,
      "rx_frames": 0,
      "discarded_tlvs": 0,
      "unrec_tlvs": 0,
      "ageouts": 0
    },
    {
      "name": "Eth4-0",
      "tx_frames": 22894,
      "discard_rx": 0,
      "error_rx": 0,
      "rx_frames": 23205,
      "discarded_tlvs": 0,
      "unrec_tlvs": 0,
      "ageouts": 0
    },
    {
      "name": "Eth4-1",
      "tx_frames": 22894,
      "discard_rx": 0,
      "error_rx": 0,
      "rx_frames": 23205,
      "discarded_tlvs": 0,
      "unrec_tlvs": 0,
```

```
        "ageouts": 0
      },
      {
        "name": "Eth4-2"
      },
      {
        "name": "Eth4-3"
      },
      {
        "name": "Eth7-0"
      },
      {
        "name": "Eth7-1"
      }
    ]
  }
}
```

API History

Release	Modification
2.5.0	The PNIC name has been changed to the new format, Eth<slot>-port.
2.3.0	This API is introduced.

Configure Card Mode of an Individual pNIC

Method

POST

Module

https://*ip-address:port-number*/api/running/ system-settings/pnic-breakout/_operations/list-intf -d '{"input": {"nic_mode_pair": [{ "devno":*"devno"*, "mode":*"mode"* }] }}'

Description

It lists or converts card mode or both into XL71. Allows 40G XL710 PNIC to be run in breakout mode of 4x10G.

Parameters

Name	Description	Importance
denvo *denvo*	Specifies the device number that is listed when using the list-intf command.	Required
mode *mode*	Specifies one of the supported modes for XL710 card such as, 2x40, 4x10.	Required

Example

Example for listing breakout

```
curl -u admin:admin -X POST https://192.0.2.130/api/running/ system-settings/pnic-
breakout/_operations/list-intf"
{
"system_setting:output": {
```

```
"results": "Devno PCI CMODE PNICS",
"results": "------------------------------",
"results": "1 5e 2x40 ['Eth1-1', 'Eth1-2']"
}
}
```

Example for converting card mode

```
curl -u admin:admin -X POST https://192.0.2.130/api/running/ system-settings/pnic-
breakout/_operations/update -d'{"input": {"nic_mode_pair": [{ "devno":"1", "mode":"4*10" }] } }
{
"system_setting:output": {
"results": "Processing nic 1 mode 4x10",
"results": "pnics under pnic:1 = ['Eth1-1', 'Eth1-2']",
"results": "pnic:Eth1-1 not used",
"results": "pnic:Eth1-2 not used",
"results": "updating pnic firmware",
"results": "Rebooting the box now"
}
}
```

API History

Release	Modification
2.5.0	This API is introduced.

RADIUS APIs

Get Information About the RADIUS Servers

Method

GET

Module

https://*ip-address:port-number*/api/running/security_servers/radius-server

https://*ip-address:port-number*/api/running/security_servers/radius-server/host/*hostname*

Description

Retrieves information about all RADIUS servers or a specific RADIUS server.

Parameters

Name	Description	Importance
hostname	Hostname or IP address of the RADIUS server.	Optional

Examples

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/security_servers/radius-server
{
  "security:radius-server": {
    "host":
    [
      {
        "server": "1.1.1.1"
```

```
      },
      {
        "server": "2.2.2.2"
      }
    ],
    "options": {
      "retransmit": 2,
      "timeout": 2
    }
  }
}
curl -u admin:admin -X GET https://192.0.2.1/api/running/security_servers/radius-server/host/3.3.3.3
{
  "security:host": {
    "server": "3.3.3.3",
    "secret": {
      "key": "7",
      "shared-secret": "wawy3"
    }
  }
}
```

API History

Release	Modification
2.2.0	This API is introduced.

Add a RADIUS Server

Method

POST

Module

https://*ip-address:port-number*/api/running/security_servers/radius-server -H "Content-Type:application/vnd.yang.data+json" -d '{"host":{"server":"*hostname*", "secret":{"key": "*key*", "shared-secret": "*shared-secret*"}, "auth-port":"*auth-port*", "acct-port ":"*acct-port*"}}'

Description

Adds a RADIUS server.

Parameters

Name	Description	Importance
server *hostname*	Hostname or IPv4 address of the RADIUS server.	Required
secret	Specifies the information about the secret to authenticate communication between the RADIUS server and the Cisco CSP 2100.	Required

key *key*	Specifies a preshared key for the RADIUS server. Supported key value are as follows: • 0: Clear text preshared key • 7: Encrypted preshared key	Required
shared-secret *shared-secret*	Specifies the preshared secret to authenticate communication between the RADIUS server and the Cisco CSP 2100. The preshared secret is alphanumeric, case sensitive, and has a maximum of 63 characters.	Required
auth-port *auth-port*	Configures the RADIUS server to perform authentication functions and associates a specific host with the port that receives RADIUS authentication messages. The default port is 1812. The range is from 0 to 65535.	Optional
acct-port *acct-port*	Configures the RADIUS server to perform accounting functions and associates a specific host with the port that receives RADIUS accounting messages. The default port is 1813. The range is from 0 to 65535.	Optional

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/running//security_servers/radius-server -H "Content-Type:application/vnd.yang.data+json" -d '{"host": {"server":"10.10.1.1", "secret": {"key": "0", "shared-secret": "myRaDIUSpassword"}, "auth-port":"1645", "acct-port":"1646"}}'
```

API History

Release	Modification
2.2.0	This API is introduced.

Configure Timeout Duration

Method

PATCH

Module

https://*ip-address:port-number*/api/running/security_servers/radius-server/options -H "Content-Type: application/vnd.yang.data+json" -d '{"option": {"timeout": "*seconds*"}}'

Description

Configures the duration to wait for a response from a RADIUS server before declaring a timeout failure.

Parameters

Name	Description	Importance
timeout *seconds*	Timeout interval for the RADIUS server. The default timeout interval is 3 seconds and the valid range is from 1 to 10 seconds.	Required

Example

```
curl -u admin:admin -X PATCH https://198.51.100.1/api/running/security_servers/radius-server/options -H
"Content-Type: application/vnd.yang.data+json" -d '{"option": {"timeout" : "6"}}'
```

API History

Release	Modification
2.2.0	This API is introduced.

Configure Retransmit Count

Method

PATCH

Module

https://*ip-address:port-number*/api/running/security_servers/radius-server/options -H "Content-Type: application/vnd.yang.data+json" -d '{"option":{"retransmit": "*count*"}}'

Description

Configures the number of retransmits allowed before reverting to local authentication.

Parameters

Name	Description	Importance
retransmit *count*	Number of retransmits allowed before reverting to local authentication. The default number of retransmits is 1 and the valid range is from 0 to 5.	Required

Example

```
curl -u admin:admin -X PATCH https://198.51.100.1/api/running/security_servers/radius-server/options -H
"Content-Type: application/vnd.yang.data+json" -d '{"option": {"retransmit" : "3"}}'
```

API History

Release	Modification
2.2.0	This API is introduced.

Delete a RADIUS Server

Method

DELETE

Module

https://*ip-address:port-number*/api/running/security_servers/radius-server/host/*hostname*

Description

Deletes a RADIUS server.

Parameters

Name	Description	Importance
hostname	Hostname or IP address of the RADIUS server.	Required

Example

```
curl -u admin:admin -X DELETE https://192.0.2.130/api/running/security_servers/radius-server/host/10.10.1.1
```

API History

Release	Modification
2.2.0	This API is introduced.

Repository APIs

Get Information About All Files

Method

POST

Module

https://*ip-address:port-number*/api/operational/repository/_operations/get_images -H "Content-type: application/vnd.yang.data+json"

Description

Retrieves information about all files available in the repository.

Parameters

None

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/operational/repository/_operations/get_images -H "Content-Type:application/vnd.yang.data+json"
{
  "output": {
    "image": [
      {
        "name": "n1000v-dk9.5.2.1.SV3.1.4.iso "
      },
      {
        "name": "vwaas150.tmp"
      },
      {
        "name": "banner.txt"
      }
    ]
  }
}
```

API History

Release	Modification
2.0.0	This API is introduced.

Get Information About a File

Method

POST

Module

https://*ip-address:port-number*/api/operational/repository/image/*image_name*/_operations/get_image -H "Content-type: application/vnd.yang.data+json"

Description

Retrieves detailed information about a file available in the repository.

Parameters

Name	Description	Importance
image_name	Name of the file	Required

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/operational/repository/image/test-file/_operations/get_image -H "Content-Type:application/vnd.yang.data+json"
```

API History

Release	Modification
2.0.0	This API is introduced.

Get Information About a Remote File

Method

POST

Module

https://*ip-address:port-number*/api/operational/repository/mount/*storage_name*/image/*image_name*/_operations/get_image -H "Content-type: application/vnd.yang.data+json"

Description

Retrieves detailed information about a remote file.

Parameters

Name	Description	Importance
storage_name	Storage space name	Required

Name	Description	Importance
image_name	Name of the file	Required

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/operational/repository/mount/nfs_name/image/test-file/_operations/get_image -H "Content-Type:application/vnd.yang.data+json"
```

API History

Release	Modification
2.0.0	This API is introduced.

Copy Files to Cisco CSP 2100

Method

POST

Modules

To copy an image file to Cisco CSP 2100, use the following REST APIs:

1. curl -u *username:password* -c *cookie_filename.txt* -X POST -H "X-Requested-With: XMLHttpRequest" https://*CSP2100_MGMT_IP*/api/login

   When you run this REST API to login to Cisco CSP 2100, a .txt file with specified name is created containing information about the user authentication credentials. This REST API must return "OK" response. If it returns "Unauthorized" response, it means that the user credentials are incorrect.

2. curl -b *cookie_filename*.txt -F 'file=@*/filepath/filename*' -X POST https://*CSP2100_MGMT_IP*/api/uploadfile

3. curl -b *cookie_filename.txt* -X POST -H "X-Requested-With: XMLHttpRequest" https://*CSP2100_MGMT_IP*/api/logout

Description

Copies the specified image file to Cisco CSP 2100.

Parameters

Name	Description	Importance
cookie_filename.txt	Name of the file that is created when you run the REST API to login to Cisco CSP 2100. This file contains information about the user authentication credentials. By default, this file is created in the current working directory. If required, you can specify a different path for this file.	Required
/filepath/filename	Location and name of the image file to be copied.	Required

Example

```
curl -u admin:admin -c cookie.txt -X POST -H "X-Requested-With: XMLHttpRequest" https://
192.0.2.130/api/login
OK

curl -b cookie.txt -F 'file=@/path/Tiny_ssh.iso' -X POST https://192.0.2.130/api/uploadfile

curl -b cookie.txt -X POST -H "X-Requested-With: XMLHttpRequest" https://192.0.2.130/api/logout
OK
```

API History

Release	Modification
1.0.0	This API is introduced.

Create New Text File

Method

POST

Module

https://*ip-address:port-number*/api/running/file-create/_operations/create -H "Content-Type: application/vnd.yang.data+json" -d '{"input":{"file-name": "*file-name*", "content": "*content*"}}'

Description

Allows you to create a new text file that resides in the local repository. The new files does not overwrite existing files or can be edited after creation. These new files are not copied to other nodes in cluster mode.

Parameters

Name	Description	Importance
file-name *file-name*	Specifies the name of the text file. If the specified name of the text file exists, creating a file process is aborted. Valid values are alphanumeric, underscore, dash, period. The range is from 1 to 80 characters.	Required
content *content*	Specifies the text to be included in file. Valid values are a string up to 4096 characters and spaces are allowed in the content.	Optional

Example

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/file-create/_operations/create -H "Content-
Type:application/vnd.yang.data+json" -d '{"input": { "file-name":"rest-built.txt", "content":" new file\n
really nice\n"}}'
{
"output": {
    "results": ": Created file: rest-built.txt"
  }
}
```

API History

Release	Modification
2.3.0	This API is introduced.

Copy Files from Cisco CSP 2100 (Release 2.2.3 and Later Releases)

Method

GET

Modules

To copy a file from Cisco CSP 2100 in Release 2.2.3 and later releases, use the following REST APIs:

1. curl -u *username*:*password* -c *cookie_filename*.txt -X POST -H "X-Requested-With: XMLHttpRequest" https://*CSP2100_MGMT_IP*/api/login

   When you run this REST API to login to Cisco CSP 2100, a .txt file with specified name is created containing information about the user authentication credentials. This REST API must return `"OK"` response. If it returns `"Unauthorized"` response, it means that the user credentials are incorrect.

2. curl -b *cookie_filename*.txt -o *destination_filename* -X GET https://*CSP2100_MGMT_IP*/api/getfile/*filetype*/*source_filename*

3. curl -b *cookie_filename*.txt -X POST -H "X-Requested-With: XMLHttpRequest" https://*CSP2100_MGMT_IP*/api/logout

Description

Copies the specified image, log, or certificate file to a local or remote system.

Parameters

Name	Description	Importance
cookie_filename.txt	Name of the file that is created when you run the REST API to login to Cisco CSP 2100. This file contains information about the user authentication credentials. By default, this file is created in the current working directory. If required, you can specify a different path for this file.	Required
destination_filename	Name with which the file is copied.	Required
filetype	Type of the file to be copied. Valid options are image, log, and certificate.	Required
source_filename	Name of the file to be copied.	Required

Example

```
curl -u admin:admin -c cookie.txt -X POST -H "X-Requested-With: XMLHttpRequest" https://
192.0.2.130/api/login
OK
```

```
curl -b cookie.txt -o messages -X GET https://192.0.2.130/api/getfile/log/messages
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100  118k  100  118k    0    18   245k     37 --:--:-- --:--:-- --:--:--  328k

curl -b cookie.txt -o Tiny_ssh.iso -X GET https://192.0.2.130/api/getfile/image/Tiny_ssh.iso
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100  169M  100  169M    0    20  21.9M      2  0:00:07  0:00:07 --:--:-- 24.7M

curl -b cookie.txt -o sample_certificate.crt -X GET
https://192.0.2.130/api/getfile/certificate/sample.crt
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
  0    11    0    11    0    19     40     70 --:--:-- --:--:-- --:--:--     0

curl -b cookie.txt -X POST -H "X-Requested-With: XMLHttpRequest" https://192.0.2.130/api/logout
OK
```

API History

Release	Modification
2.2.3	This API is introduced.

Copy Files from Cisco CSP 2100 (Release 2.2.2)

Method

POST

Modules

To copy files from Cisco CSP 2100 in Release 2.2.2, use the following REST APIs:

1. curl -u *username*:*password* -c *cookie_filename*.txt -X POST -H "X-Requested-With: XMLHttpRequest" https://*CSP2100_MGMT_IP*/api/login

   When you run this REST API to login to Cisco CSP 2100, a .txt file with specified name is created containing information about the user authentication credentials. This REST API must return `"OK"` response. If it returns `"Unauthorized"` response, it means that the user credentials are incorrect.

2. curl -b *cookie_filename*.txt -o *destination_filename* -X POST -d '{"filetype": "*filetype*"}' https://*CSP2100_MGMT_IP*/api/download/*source_filename*

3. curl -b *cookie_filename*.txt -X POST -H "X-Requested-With: XMLHttpRequest" https://*CSP2100_MGMT_IP*/api/logout

Description

Copies the specified image, log, or certificate file to a local or remote system.

Parameters

Name	Description	Importance
cookie_filename.txt	Name of the file that is created when you run the REST API to login to Cisco CSP 2100. This file contains information about the user authentication credentials. By default, this file is created in the current working directory. If required, you can specify a different path for this file.	Required
destination_filename	Name with which the file is copied.	Required
filetype *filetype*	Specifies the type of the file to be copied. Valid options are image, log, and cert.	Required
source_filename	Name of the file to be copied.	Required

Examples

```
curl -u admin:admin -c cookie.txt -X POST -H "X-Requested-With: XMLHttpRequest" https://
192.0.2.130/api/login
OK

curl -b cookie.txt -o messages -X POST -d '{"filetype":"log"}' https://192.0.2.130/api/download/messages
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100  118k  100  118k    0    18   245k     37 --:--:-- --:--:-- --:--:--  328k

curl -b cookie.txt -o Tiny_ssh.iso -X POST -d '{"filetype":"image"}'
https://192.0.2.130/api/download/Tiny_ssh.iso
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100  169M  100  169M    0    20  21.9M      2  0:00:07  0:00:07 --:--:-- 24.7M

$ curl -b cookie.txt -o sample_certificate.crt -X POST -d '{"filetype":"cert"}' https://
192.0.2.130/api/download/sample.crt
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
  0    11    0    11    0    19     40     70 --:--:-- --:--:-- --:--:--     0

$ curl -b cookie.txt -X POST -H "X-Requested-With: XMLHttpRequest" https://192.0.2.130/api/logout
OK
```

API History

Release	Modification
2.2.3	This API is removed and a new API is introduced for Release 2.2.3 and later releases. New API is described in the *Copy Files from Cisco CSP 2100 (Release 2.2.3 and Later Releases)* section.
2.2.2	This API is introduced.

Delete an Image File

Method

POST

Module

https://*ip-address:port-number*/api/operational/images/image/*filename*/_operations/delete-image

Description

Deletes an image file from the repository.

Parameters

Name	Description	Importance
filename	Name of the image file.	Required

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/operational/images/image/TinyCore-5.3.iso/_operations/delete-image
{
  "output": {
    "results": "success TinyCore-5.3.iso"
  }
}
```

API History

Release	Modification
2.0.0	This API is introduced.

Rename an Image File

Method

POST

Module

https://*ip-address:port-number*/api/operational/images/image/*filename*/_operations/rename-image

Description

Rename an image file from the repository.

Parameters

Name	Description	Importance
new-image-name *filename*	Specifies name of the new image file.	Required

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/operational/images/image/TinyCore-5.3.iso/_operations/rename-image' -d '{"input":{"new-image-name":"NewCore5.4.iso"}}'
{
  "output": {
    "results": " NewCore-5.4.iso"
  }
}
```

API History

Release	Modification
2.6.1	This API is introduced.

Resource APIs

Get Information About a Resource

Method

GET

Module

https://*ip-address:port-number*/api/running/resources/resource/csp-2100

https://*ip-address:port-number*/api/running/resources/resource/csp-2100/*name*

Description

Retrieves information about the system resources for Cisco CSP 2100. For each Cisco CSP 2100, there is only one resource and the resource name are set to csp-2100.

Parameters

Name	Description	Importance
name	Name of the resource feature.	Required

Example

```
curl -u admin:admin -X GET https://192.0.2.130/api/running/resources/resource/csp-2100
{
"resource:resource": {
"resource_name": "csp-2100",
"ip_address": "172.23.232.32",
"netmask": "255.255.255.0",
"default_gw": "172.23.232.1",
"mgmt_mtu": 1500,
"mgmt_pnic": "eth-LOM-1",
"mgmt_pnic_mode": "shared",
"mgmt_vlan": 1,
"host_name": "cyril-csp",
"dns_server": "171.70.168.183",
"dns": [
{
"dnsip": "171.70.168.183"
```

```
},
{
"dnsip": "8.8.8.8"
}
],
"domain_name": "cisco.com",
"csp_version": "02.04.00.00",
"num_cpus_used": 14,
"num_cpus_total": 14,
"ram_used_mb": 47816,
"ram_total_mb": 47816,
"disk_space_used_gb": "164.0",
"disk_space_total_gb": 1689,
"num_service": 9
}
}
```


curl -u admin:admin -X GET https://192.0.2.130/api/running/resources/resource/csp-2100/mgmt_vlan


```
{
       "resource:mgmt_vlan": 1
}
```


API History

Release	Modification
2.5.0	New command, dns has been introduced.
1.0	This API is introduced.

Modify a Resource

Method

PATCH

Module

https://*ip-address:port-number*/api/running/resources/resource/csp-2100 -H "Content-Type: application/vnd.yang.data+json" -d '{"resource":{"default_gw": "*default_gw*", "dns_server": "*dns_server*", "dns": {"dnsip":"*dnsip*"}, "domain_name": "*domain_name*", "host_name": "*host_name*", "ip_address": "*ip_address*", "log_severity": "*log_severity*", {"ip-receive-acl":{"source":"*source_ip_address*", "service": "*service*", "priority": "*priority*", "action": "*action*"}}, "mgmt_mtu": "*mgmt_mtu* ", "mgmt_pnic": "*pnic_name* ", "mgmt_pnic_mode": "*mgmt_pnic_mode*", "mgmt_vlan": "*vlan_num*", "netmask": "*netmask*", {"syslog_server":{"host": "*ip/hostname* ", "host": "*ip/hostname* "}}, "rsyslog_tcp_port": "*rsyslog_tcp_port*", "rsyslog_udp_port": "*rsyslog_udp_port*", "rsyslog_udp_only": "*rsyslog_udp_only*", "service-mgmt-pnic": *pnic_name*, {"storagelist":{"storage": [{"mount_name": "*mount_name*", "storagetype": "nfs", "storage_space_total_gb": "*storage_space*", "server_ip": "*server_ip*", "server_path": "*server_path*"}]}}}}'

Method

POST

Module

https://*ip-address:port-number*/api/running/resources/resource/csp-2100 -H "Content-Type: application/vnd.yang.data+json" -d '{"host-vnic":{"vnic-name": "*nfs_network*", "vnic-ip": "*vnic-ip*", "vnic-netmask": "*vnic-netmask*", "route":[{"network": "*network*", "next-hop": "*next-hop*"},{ "network": "*network*", "next-hop": "*next-hop*"}], "vnic-vlan": "*vnic-vlan*", "external-pnic": "*pnic-name*"}}'

Description

Modifies the csp-2100 resource. For each Cisco CSP 2100, there is only one resource and the resource name is set to csp-2100.

Parameters

Name	Description	Importance
default_gw *default_gw*	Specifies the default gateway for the resource.	Optional
dns_server *dns_server (Deprecated)*	Specifies the DNS server for the resource (Deprecated).	Optional (Deprecated)
dns *dnsip*	Specifies multiple DNS servers for a resource.	Optional
domain_name *domain_name*	Specifies the domain name for the resource.	Optional
host_name *host_name*	Specifies the host name for the resource.	Optional
ip_address *ip_address*	Specifies the IP address of the resource.	Optional
log_severity *log_severity*	Specifies the severity level for log messages. Valid values are debug, info, notice, warning, error, critical, alert, and emerg. Default is info.	Optional
ip-receive-acl	Enables the Access Control List (ACL) access for the management interface. When this feature is enabled, only specified source networks can access the management interface. For detailed information about the parameters for this feature, see the *Configure ACL Access for the Management Interface* section.	Optional
mgmt_mtu *mgmt_mtu*	Specifies the maximum transmission unit (MTU) size for the management interface. By default, the MTU size for the management interface (mgmt0) is 1500 bytes. To support jumbo frames, you can configure the MTU size of up to 9000 bytes. Note: To maintain connectivity, when you change MTU setting on CSP 2100, ensure that similar MTU configuration is also applied to the upstream switch.	Optional
mgmt_pnic *pnic_name*	Specifies the management pNIC for Cisco CSP 2100. You can specify a pNIC or a port channel as the management pNIC.	Optional

Name	Description	Importance
mgmt_pnic_mode *mgmt_pnic_mode*	Specifies the mode for the management pNIC. Valid values are shared and dedicated. Default is shared. In shared mode, the management interface pNIC can be shared with any service VMs. The management interface pNIC carries the management traffic of Cisco CSP 2100 and the management and data traffic of any service using this pNIC. In dedicated mode, the management interface pNIC carries only the management traffic of Cisco CSP 2100. In shared mode, you can change the management interface pNIC to any available pNIC. In dedicated mode, you can change the management interface pNIC only to a pNIC that is not associated with any service. Note: If you try to change the mode of the management interface pNIC to dedicated while a service is currently using it, you get the "`Management PNIC already in service use`" error. Similarly, if the management interface pNIC is in dedicated mode and you try to create a service using the management pNIC, you get the "`PNIC is dedicated to management`" error.	Optional
mgmt_vlan *vlan_num*	Specifies the management VLAN corresponding to the management (mgmt0) interface. Valid range is from 1 to 4094.	Optional
netmask *netmask*	Specifies the netmask.	Optional
host-vnic *host-vnic*	Specifies an additional host vnic to create an alternate network for the host to communicate. You can use this to create a dedicated network for NFS traffic. A host-vnic configuration requires an external PNIC, which is separate from the CSP management. The IP and route configuration of the host-vnic is used to communicate through that PNIC.	Optional
syslog_server	Specifies the IPv4 IP address or host name of the remote syslog servers. This IP address or host name must be reachable from Cisco CSP 2100. You can configure the Cisco CSP 2100 syslog as a client to send internal log messages to multiple remote syslog servers on TCP and UDP ports or only UDP port. The remote syslog server should be capable of receiving RFC-5424 formatted logging messages. If the rsyslog_udp_only parameter is not set to true, you must specify both transport ports. Note: You can send log messages to a maximum of eight syslog servers.	Optional

Name	Description	Importance
rsyslog_tcp_port *rsyslog_tcp_port*	Specifies the TCP port for the remote syslog server. Note: You must configure the remote syslog server and specify the same TCP port for transport. For example, if you have specified port 9020 as rsyslog_tcp_port, then on the remote syslog server, configure the TCP port for 9020. You cannot set this parameter if the rsyslog_udp_only parameter is set to true.	Optional
rsyslog_udp_port *rsyslog_udp_port*	Specifies the UDP port for the remote rsyslog server. Note: You must configure the remote syslog server and specify the same UDP port for transport. For example, if you have specified port 514 as rsyslog_udp_port, then on the remote syslog server, configure the UDP port for 514.	Optional
rsyslog_udp_only *rsyslog_udp_only*	Specifies that the remote syslog server uses only UDP transport. Valid values are true and false. Note: When you set this parameter to true, you cannot set the rsyslog_tcp_port parameter.	Optional
service-mgmt-pnic *pnic_name*	Specifies the single pNIC or port channel to be used as the dedicated service management interface. Following are the guidelines for the dedicated service management interface: • Only one dedicated service management interface can be active at a time. • The specified pNIC cannot be a member of a port channel. • The specified pNIC cannot be same as the Cisco CSP 2100 management pNIC (mgmt_pnic). • The dedicated service management interface can be changed only when it is not in use. In addition, the port or the port channel that you are planning to assign as the dedicated service management interface should not be in use. • The dedicated service management interface can be used by multiple services and on multiple vNICs in the same service. • The dedicated service management interface is deleted only when it is not in use.	Optional

Name	Description	Importance
storagelist	Adds NFS storage space. For information about the storagelist parameters, see the *Add NFS Storage Space* and *Delete NFS Storage Space* sections.	Optional

Examples

```
curl -u admin:admin -X PATCH https://192.0.2.130/api/running/resources/resource/csp-2100 -H "Content-Type: application/vnd.yang.data+json" -d '{"resource": {"syslog_server": {"host":"192.0.2.137"}, "rsyslog_udp_port":"514", "rsyslog_tcp_port":"9020"}}'

curl -u admin:admin -X PATCH https://192.0.2.130/api/running/resources/resource/csp-2100 -H "Content-Type: application/vnd.yang.data+json" -d '{"resource" : {"mgmt_mtu" : "1800"}}'

curl -u admin:admin -X PATCH https://192.0.2.130/api/running/resources/resource/csp-2100 -H "Content-Type: application/vnd.yang.data+json" -d '{"resource" : {"service-mgmt-pnic" : " Eth130-1"}}'

curl -u admin:admin -X PATCH https://192.0.2.130/api/running/resources/resource/csp-2100 -H "Content-Type: application/vnd.yang.data+json" -d '{"resource" : {"syslog_server" : {"host":"192.0.2.137", "host":"192.0.2.146"}}}'

curl -u admin:admin -X POST https://192.0.2.130/api/running/resources/resource/csp-2100 -H "ContentType: application/vnd.yang.data+json" -d '{"host-vnic" : { "vnic-name": "nfs_network", "vnic-ip":"25.10.10.30","vnic-netmask": "255.255.255.0", "route": [{ "network": "25.20.20.0/24", "next-hop": "25.10.10.1"},{ "network": "25.90.20.0/24", "next-hop": "25.10.10.1"}], "vnic-vlan":"90","external-pnic":"Eth1-4"}}'
```

API History

Release	Modification
2.5.0	• New command, dns has been introduced. • The host-vnic parameter has been introduced.
2.2.5	The syslog_server parameter is introduced and rsyslog_ip parameter is removed.
2.2.0	The ip-receive-acl, mgmt_vlan, and service-mgmt-pnic parameters are added.
2.1.0	The mgmt_mtu and mgmt_pnic_mode parameters are added.
2.0.0	The storagelist and rsyslog_udp_only parameters are added.
1.0	This API is introduced.

Delete a Configured Resource Feature

Method

DELETE

Module

https://*ip-address:port-number*/api/running/resources/resource/csp-2100/*name*

Description

Deletes a configured resource feature.

Parameters

Name	Description	Importance
name	Name of the configured resource parameter that you want to delete. You cannot delete the csp-2100 resource and the ip_address, netmask, default_gw, mgmt_pnic, host_name, csp_version, num_cpus_total, and ram_total_mb parameters. Note: When you delete the configured management VLAN, the management VLAN is reset to 1.	Required

Example

```
curl -u admin:admin -X DELETE https://192.0.2.130/api/running/resources/resource/csp-2100/mgmt_vlan

curl -u admin:admin -X DELETE https://198.51.100.1/api/running/resources/resource/csp-2100/ip-receive-acls/ip-receive-acl/"192.168.0.0/16"'

curl -u admin:admin -X DELETE https://192.0.2.130/api/running/resources/resource/csp-2100/syslog_server/192.0.2.146 -H "Content-Type: application/vnd.yang.data+json"
```

API History

Release	Modification
2.0.0	This API is introduced.

Configure ACL Access for the Management Interface

Method

POST or PATCH

Module

POST:

https://*ip-address:port-number*/api/running/resources/resource/csp-2100/ip-receive-acls -H "Content-Type: application/vnd.yang.data+json" -d '{"ip-receive-acl": {"source": "*source_ip_address*", "service": "*service*", "priority": "*priority*", "action": "*action*"}}'

PATCH:

https://*ip-address:port-number*/api/running/resources/resource/csp-2100/ip-receive-acls -H "Content-Type: application/vnd.yang.data+json" -d '{"resource: ip-receive-acls": {"ip-receive-acl": {"source": "*source_ip_address*", "service": "*service*", "priority": "*priority*", "action": "*action*"}}}'

Description

Configures the ACL access for the management interface.

Parameters

Name	Description	Importance
ip-receive-acl	Enables the ACL access for the management interface. When this feature is enabled, only specified source networks can access the management interface.	Required
source source_*ip_address*	Specifies the IPv4 IP address of the source network in the *ip-address/prefix format*. If the source network is specified as 0.0.0.0/0, the configuration is applicable to all source networks.	Required
service *service*	Specifies the service type for the management ACL access. Valid values are: • ssh: Includes port 22 and port 2024. • https: Includes port 80, port 443 and all ports to access the service console. • snmp: Includes port 161 and configured NET-SNMP port. • netconf: Includes port 2022. This port is required for communication between nodes of a cluster. • icmp: Provides ability to ping the host. You can specify one, more than one, or all service types in this parameter. To specify multiple service types, enter the values within the square brackets []; for example, service ["ssh", "snmp"]. If you do not specify any specific service, the configuration is applicable to all services.	Optional
priority *priority*	Specifies the priority for the ACL rule. Each ACL rule must have a unique priority value. Valid range is from 0 to 65,535. ACL rule with priority 0 has the highest priority. Whenever an ACL rule with priority 0 is matched, Cisco CSP 2100 performs the action associated with this ACL rule and does not look up any lower priority ACL rules.	Required

Name	Description	Importance
action *action*	Specifies the action for the packets received from the source network. Valid values are: • accept: Accept the packets. • reject: Reject the packets and return the error to the source network. • drop: Drop packets immediately and do not send any information to the source network.	Required

Examples

Specify a Single Service Type

```
curl -u admin:admin -X PATCH https://198.51.100.1/api/running/resources/resource/csp-2100/ip-receive-acls
-H "Content-Type: application/vnd.yang.data+json"-d '{"resource:ip-receive-acls" : {"ip-receive-acl":
{"source":"192.168.0.0/16", "service":"ssh", "priority": "0","action": "accept"}}}'
```

Specify Multiple Service Types

```
curl -u admin:admin -X PATCH https://198.51.100.1/api/running/resources/resource/csp-2100/ip-receive-acls
-H "Content-Type: application/vnd.yang.data+json" -d '{"resource:ip-receive-acls" : {"ip-receive-acl":
{"source":"192.168.0.0/16", "service": ["ssh", "snmp"],"priority": "0", "action": "accept"}}}'
```

API History

Release	Modification
2.2.0	This API is introduced.

Configure break

Method

GET

Module

https://*ip-address:port-number*/api/running/resources/resource/csp-2100/ip-receive-acls

https://*ip-address:port-number*/api/running/resources/resource/csp-2100/ip-receive-acls/ip-receive-acl/*"ip-address/prefix"*

https://*ip-address:port-number*/api/running/resources/resource/csp-2100/ip-receive-acls*?deep*

Description

Retrieves information about all source networks or a specific source network for ACL access for the management interface.

To get detailed information about all source networks or a specific source network, use the ?deep parameter.

Parameters

Name	Description	Importance
ip-address/prefix	IP address of the source network. Note: You must specify the *ip-address/prefix* value within the quotation marks (" ") as shown in the Example section.	Required

Example

```
curl -u admin:admin -X GET 'https://198.51.100.1/api/running/resources/resource/csp-2100/ip-receive-acls/ip-receive-acl/"192.168.0.0/16"'
{
  "resource: ip-receive-acl": {
    "source": "192.168.0.0/16",
    "service": ["sshd"],
    "action": "accept"
    "priority": "0"
  }
}
```

```
curl -u admin:admin -X GET https://198.51.100.1/api/running/resources/resource/csp-2100/ip-receive-acls?deep
{
  "resource: ip-receive-acls": {
    " ip-receive-acl": [
      {
        "source": "192.168.0.0/16",
        "service": ["sshd"],
        "action": "accept"
        "priority": "0"
      },
      {
        "source": "203.0.113.0/24",
        "action": "accept"
        "priority": "20"
      }
    ]
  }
}
```

API History

Release	Modification
2.2.0	This API is introduced.

Add an NFS Storage Space

Method

PATCH

Module

https://*ip-address:port-number*/api/running/resources/resource/csp-2100 -H "Content-Type: application/vnd.yang.data+json" -d '{"resource":{"storagelist":{"storage":[{"mount_name":"*name*",

"storagetype":"nfs", "storage_space_total_gb":"*storage_space*", "server_ip":"*server_ip*", "server_path":"*server_path*"}]}}}'

Description

Adds an NFS storage space.

Parameters

Name	Description	Importance
mount_name *name*	Specifies the storage space name.	Required
storagetype	Specifies the storage type. Valid value is nfs.	Required
storage_space_total_gb *storage_space*	Specifies the total storage space (in GB).	Required
server_ip *server_ip*	Specifies the IP address of the server.	Required
server_path *server_path*	Specifies the path on the server.	Required

Example

```
curl -u admin:admin -X PATCH https://192.0.2.130/api/running/resources/resource/csp-2100 -H "Content-Type:application/vnd.yang.data+json" -d '{"resource": {"storagelist":{"storage":[{"mount_name":"beavernfs1", "storagetype":"nfs", "storage_space_total_gb":"100", "server_ip":"10.10.10.2", "server_path":"/shared"}]}}}'
```

API History

Release	Modification
2.0.0	This API is introduced.

Delete an NFS Storage Space

Method

DELETE

Module

https://*ip-address:port-number*/api/running/resources/resource/csp-2100/storagelist/storage/*name*

Description

Deletes an NFS storage space.

Note: Before deleting an NFS storage space, make sure that no service on this host is using this NFS storage space.

Parameters

Name	Description	Importance
name	Storage space name	Required

Example

```
curl -u admin:admin -X DELETE https://192.0.2.130/api/running/resources/resource/csp-2100/storagelist/storage/beavernfs1
```

API History

Release	Modification
2.0.0	This API is introduced.

Get Information About the CSP 2100 Version

Method

GET

Module

https://*ip-address:port-number*/api/running/resources/resource/csp-2100/csp_version

Description

Retrieves information about the Cisco CSP 2100 version.

Parameters

None

Example

```
curl -u admin:admin -X GET https://192.0.2.130/api/running/resources/resource/csp-2100/csp_version
{
  "resource:csp_version": "001.000.000"
}
```

API History

Release	Modification
1.0	This API is introduced.

Get Description About the CSP 2100 Resource

Method

GET

Module

https://*ip-address:port-number*/api/running/resources/resource/csp-2100/description

Description

Retrieves description about the Cisco CSP 2100.

Parameters

None

Example

```
curl -ku admin:admin -X GET https://192.0.2.130/api/running/resources/resource/csp-2100/description
```

API History

Release	Modification
2.3.0	This API is introduced.

Configure Description of the CSP 2100 Resource

Method

POST

Module

https://*ip-address:port-number*/api/running/ resources/resource/csp-2100 -H "Content-type: application/vnd.yang.data+json" -d '{"description*":"new description*"}'

Description

Allows you to add a description for the CSP resource.

Parameters

Name	Description	Importance
description *new description*	Specifies a description for a CSP resource. Valid values are a string up to 256 characters, underscores, dashes, periods, and commas.	Required

Example

```
curl -ku admin:admin -X POST https://192.0.2.130/api/running/resources/resource/csp-2100 –H "Content-Type: application/vnd.yang.data+json" -d '{"description":"new description"}'
```

API History

Release	Modification
2.3.0	This API is introduced.

Modify the Description of the CSP 2100 Resource

Method

PUT

Module

https://*ip-address:port-number*/api/running/resources/resource/csp-2100/*description* -H "Content-type: application/vnd.yang.data+json" -d '{"description":"*new description*"}'

Description

Allows you to edit and modify a CSP-2100 description.

Note: Only users who belong to the admin-group can modify CSP-2100 descriptions

Parameters

Name	Description	Importance
description *new description*	Specifies a new description of a CSP 2100 resource that is being changed. Valid values are a string up to 256 characters, underscores, dashes, periods, and commas.	Required

Example

```
curl -ku admin:admin -X PUT https://192.0.2.130/api/running/resources/resource/csp-2100/description –H
"Content-Type: application/vnd.yang.data+json" -d '{"description":"new description"}'
```

API History

Release	Modification
2.3.0	This API is introduced.

Delete the Description of the CSP 2100 Resource

Method

DELETE

Module

https://*ip-address:port-number*/api/running/resources/resource/csp-2100/*description*

Description

Deletes description of a CSP 2100 resource.

Note: Only users who belong to the admin-group can delete CSP resource description.

Parameters

None

Example

```
curl -ku admin:admin -X DELETE https://192.0.2.130/api/running/resources/resource/csp-2100/description
```

API History

Release	Modification
2.3.0	This API is introduced.

Services APIs

Get Information About Services

Method

GET

Module

https://*ip-address:port-number*/api/running/services

https://*ip-address:port-number*/api/running/services/service/*name*

https://*ip-address:port-number*/api/running/services?deep

Description

Retrieves information about all services or a specific service.

To get detailed information about all services or a specific service, use the ?deep parameter.

Parameters

Name	Description	Importance
name	Name of the service	Required

Example

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/services
{
  "vsb: services": {
    "service": [
      {
        "name": "service1"
      },
      {
        "name": "service2"
      }
    ]
  }
}
curl -u admin:admin -X GET https://192.0.2.1/api/running/services/service/service1
{
    "service:service": {
    "name": "service1",
    "uuid": "5f7af622-125e-46f0-8686-f66e0f758d05",
    "memory": 2048,
    "numcpu": 1,
    "macid": 0,
    "disk_size": "4.0",
    "iso_name": "Tiny_ssh.iso",
    "vm_status": "vm_alive",
    "monitoring_total-recovery-count": "0",
    "monitoring_monitor-action-state": "recovery",
    "key": "7",
    "vnc_password":
"U2FsdGVkX1/0T6nxc+B0ta/O3AkJ0C5JWbjAz/eyoQDPuoF9pw1IhvjVM/LSRhxENc2rhLblhNH0cU4tuLeFnw==",
    "power": "on",
    "vnics": {
      "vnic": [
        {
          "nic": 0
        }
      ]
    }
  }
}
curl -ku admin:admin -X GET https://192.0.2.1/api/running/services/service/tiny1/vnics/vnic/0/
{
  "vsb:vnic": {
    "nic": 0,
```

```
    "mgmt-vnic": true,
    "network_name": "Eth130-2"
  }
}
```

API History

Release	Modification
1.0	This API is introduced.

Create or Import a Service

Method

POST

Module

```
https://ip-address:port-number/api/running/services -H "Content-type: application/vnd.yang.data+json" –d
'{"service":{"name":"name", "day0_filename":"day0_filename", "day0-dest-filename": "day0-dest-filename",
"day0-volume-id": "day0-volume-label", "disk_size":"disk_size", "disk-resize":"true_false",
"disk_loc":"disk_loc", "disk_storage_name":"disk_location", "disk_type":"disk_type", "firm-
ware":"firmware_type", "secure-boot":"true_false", "image_storage_name":"image_location", "ip":
"vnf_mgmt_ip", "iso_name":"iso_name", "cache-mode": "none|writethrough", "vnf-group ":"VNF user group ",
"key":"key_value", "vnc_password":"vnc_password", "macid":"mac_id", "monitor":"monitor",
"memory":"memory", "novnc-port": "port_num", "numcpu":"numcpu", "power":"mode", "description":"new de-
scription", "monitoring": {"monitoring": [{"status": "monitoring-status", "boot-time":"boot-time", "poll-
interval":"poll-interval", "failure-retry-cnt":"failure-retry-cnt", "recovery-policy": {"ip-monitoring" :
"recovery-policy", "link-state-monitoring" : "recovery-policy"}, "max-recovery-retries":"max-recovery-
retries"}]},"properties":"properties", "serial_ports": {"serial_port": [{"serial":"serial_number", "seri-
al_type":"serial_type","service_port":"service_port"}]},"storage_disks": {"storage_disk": [{"stor-
age_disk_id":"id", "storage_disk_location":"disk_location", "storage-disk-image-file ":"image_file_name
", "storage_disk_format":"disk_format", "storage_disk_device":"disk_device", "stor-
age_disk_space_used_gb":"disk_space_used",  "storage_disk_space_total_gb":"disk_space_total"}]},
"uuid":"uuid", "vm_type":"vm_type", "vnc_password":"vnc_password", "vnics": {"vnic": [{"nic":"nic_num",
"mgmt-vnic":"mgmt-vnic ", "span-port":"span-port ", "model":"model", "native":"vlan_num", "net-
work_name":"network_name", "tagged":"tagged", "type":"type", "passthrough_mode":"pt_mode",
"vlan":"vlan_num", "spoofchk":"spoofchk", "monitor-vnic":"true/false"}]}}}'
```

Description

Creates or imports a service.

To import a service using an exported image available in the Cisco CSP 2100 repository, specify the name of the exported service in the iso_name parameter. For all other parameters, specify the values that the exported service used.

Starting from release 2.8.0, you can configure the firmware type and secure boot for VNF when creating a service.

Starting from release 2.7.0, you can configure the UUID when creating a service.

Starting from release 2.3.1, you can configure span-port on VNICs to true or false that marks them for spanning later through the span-ports tcpdump action start/stop/show command.

Starting with release 2.3.0, you can configure the monitoring service to monitor the VNF, associate a service with a VNF user group.

Starting with release 2.3.0, the description parameter can be configured for a specific service. To remove the service description, use the no form of this command.

Starting with release 2.3.0, you can configure the monitoring service to monitor the VNF and associate a service with a VNF user group.

Starting with release 2.3.0, the VNC password can be encrypted with the key field.

Starting from release 2.2.5, ISO volume label can be configured only for the first day0 ISO file.

Note: After creating a service, if you want to modify it, you can use the PATCH method.

Parameters

Name	Description	Importance
name *name*	Specifies the name of the service. Note: Once created, you cannot modify the name of a service.	Required
day0_filename *day0_filename*	Specifies the name of the day0 configuration text or ISO file. The day0 configuration file contains the configuration information that is applied when a service is created. The day0 configuration file must reside in the same directory in which the boot image is located. Starting with Release 2.3.0, you can specify an empty day0 filename. Starting with Release 2.3.0, you can specify up to eight day0 configuration files. When specifying multiple files, separate the file names only with a comma as shown in the following example: `"hello.txt,hello1.txt,config.txt"` Note: Do not use spaces between the file names or between the comma and file names.	Optional

Name	Description	Importance

day0-dest-filename
day0-dest-filename
	Specifies the name of the day0 destination text or ISO file. The day0 destination file is required for the services that require a predefined configuration file name.
	
	Following are the guidelines for the day0 destination filename:
	
	• Starting with Release 2.3.0, you can specify up to eight day0 destination files. When specifying multiple files, separate the file names only with a comma as shown in the following example:
	
	`day0-dest-filename "/config/banner/,/config/banner/,/config/banner/"`
	
	• Starting with Release 2.3.0, you can specify folder structure format for the day0-dest-filename parameter. For example:
	
	`day0-dest-filename "/config/banner/,/config/banner/,/config/banner/"`
	
	Note: The folder structure must begin and end with a forward slash. If the folder structure does not end with a forward slash, the last string in the folder structure is considered as the destination filename. Also, the folder structure cannot include consecutive dots, such as ellipsis. You do not need to specify a value for the day0_filename and can only specify the folder structure for day0-dest-filename.
	
	• To use the same filename as the day0_filename, do not specify a value for the day0-dest-filename parameter. For example:
	
	`"day0_filename": "myday0file"`
	
	`"day0_filename": "file1,file2", "day0-dest-filename":"dest-file1, "`
	
	When the value of day0-dest-filename parameter is blank or no value is specified, the filename specified in the day0_filename parameter is used for the day0-dest-filename parameter.
	
	• To maintain one to one mapping between the day0_filename and the day0-dest-filename parameter values, specify the same number of commas in the day0-dest-filename parameter values as you have specified in the day0_filename parameter values. For example, for the following values for the day0_filename parameter containing one comma: `"day0_filename": "file1,file2"`, the day0-dest-filename parameter values must also contain one comma as shown in the following examples:
		Optional

Name	Description	Importance
	○ `"day0_filename":"file1,file2","day0-dest-filename":","` ○ `"day0_filename":"file1,file2", "day0-dest-filename":"dest-file1,dest-file2"`	
day0-volume-id *day0-volume-label*	Specifies the volume label to be used for ISO file. Valid values are a string up to 32 characters and spaces are allowed in the volume label. Note: You can specify a volume label only for the first day0 ISO file if the first day0 filename configuration is available. All remaining ISO files are system assigned default volume labels.	Optional
disk_loc *disk_loc*	Specifies the image file to be used for service storage. This parameter is applicable only for Release 1.0.	Optional
disk_size *disk_size*	Specifies the total amount of disk space available (in GB) for this service. This parameter is not configurable when a QCOW2 image is selected in the iso_name parameter and the disk-resize parameter is set to false.	Optional
disk-resize *true_false*	Enables or disables the resizing of bootable QCOW2 image. Valid values are true and false. Default value is false.	Optional
disk_storage_name *disk_location*	Specifies the location of the service image file. Default value is local. You can set the location to be an NFS storage mount point or gluster. Note: Gluster is supported when you create the cluster location with the storage network enabled.	Optional
disk_type *disk_type*	Specifies the disk type. Valid choices are ide and virtio.	Optional
firmware *firmware_type*	Specifies the firmware type of VNF. Valid values are legacy and uefi type. Default value is legacy.	Optional
image_storage_name *image_location*	Specifies the location of the boot image specified as iso_name. The location can be an NFS storage mount point. Default value is local. To specify the NFS location, the NFS storage must have been added as described in the *Add NFS Storage Space* section.	Optional
ip *vnf_mgmt_ip*	Specifies the VNF management IP address to be used in the service The VNF Management IP value entered in this parameter does not get configured in the service. This parameter serves only as a reference to the VNF management IP address mapped to a service.	Optional

Name	Description	Importance
iso_name *iso_name*	Specifies the ISO, OVA, QCOW software image file, and zip file to be used to create the service. Note: With Cisco VSM and Cisco VSG services, only ISO image files are supported.	Required
cache-mode *cache-mode*	Specifies the cache mode of a service. Valid values are none or writethrough.	Optional
vnf-group *VNF user group*	Specifies the name of the VNF group of a service.	Optional
vnc_password *vnc_password*	Specifies the VNC password that is being encrypted for the service. Ensure that the VNC password meets the following criteria: • a string between 8 to 64 characters. • at least one digit • at least one special character such as, _, -, ~, #, @, =, +, ^,] • at least one upper case character • at least one lower case character • no two or more same characters can be provided consecutively • should not match exactly with any dictonary word.	Optional
key *key_value*	Allows you to configure vnc password with the key field. Default value is zero. Note: VNC password is encrypted and saved with the key value set as seven after encryption. Note: The save and load feature, where the VNC password with key 0 and weak strength has been configured before 2.2.5 does not work. However, the save and load feature with key 7 always work.	Required if vnc_password is set.
macid	Specifies the MAC ID. The MAC ID is automatically generated. You cannot set this parameter.	Optional
monitor *action*	If monitoring is enabled for a VM and the VM is powered on, you can pause or resume the monitoring of the VM. Valid values are pause or resume.	Optional
memory *memory*	Specifies the memory allocated for the service. Default is 2048.	Optional

Name	Description	Importance
novnc-port *port_num*	Specifies the port number for the service console. Each service must use a unique port number. Valid range is from 8721 to 8784. Note: Before changing the port of a service, you must set the power mode of the service to off.	Optional
numcpu *numcpu*	Specifies the number of virtual CPUs for this service.	Optional
power *mode*	Specifies the power state upon activation. Valid values are off, on, reboot, and reset. Default is off.	Optional
description *new description*	Specifies a description about the service. Valid values are a string up to 256 characters, underscores, dashes, periods, and commas.	Optional
monitoring	Enables or disables configuring monitoring. For more information about VM monitoring, see the *Add VM Monitoring to a Service* section.	Required
properties *properties*	Specifies the properties of the service to be passed to the boot script of the image. You can specify information such as domain ID, svs mode, password, HA role, and VNC_password as shown in the Example section.	Optional
secure-boot	Enables or disables the secure boot for VNF when the firmware type is set to uefi. Valid values are true and false. The default value is false.	Optional
serial_ports	Specifies information about the serial ports. For information about the serial ports parameters, see the *Assign Serial Interfaces to a Service* section.	Optional
storage_disks	Specifies information about the storage disks. For information about the storage disks parameters, see the *Add Storage Disks to a Service* section.	Optional
uuid	Specifies the unique string to identify the service. The uuid value is automatically generated. You cannot set this parameter.	–
vm_type *vm_type*	Specifies the type of the virtual machine for the service. Valid value is generic.	Optional
vnc_password *vnc_password*	Specifies the VNC password for the service.	Optional
vnics	Specifies the vNICs associated with this service. You can add multiple vNICs at a time by specifying the information in the vnic parameter separated by commas. For information about the vNIC parameters, see the *Assign vNICs to a Service* section.	Optional

Examples

Example for creating a service

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/services -H "Content-Type:
application/vnd.yang.data+json"  -d  '{"service": {"name":"VSM_test7", "iso_name":"n1000v-
dk9.5.2.1.SV3.1.3.125.iso","power":"on","description":"new
description","memory":"8192","disk_size":"8","numcpu":"3",
    "vnics": { "vnic": [{ "nic":"0","vlan":"555","network_name":"Eth4-1"},{
"nic":"1","type":"access","vlan":"1922","network_name":"Eth4-0"},{
"nic":"2","type":"access","vlan":"2333","network_name":"Eth7-0"}]},"properties":"DomainId=252,
SvsMode=L2, HostName=vsm-sv-auto,Password= admin, ManagementIpV4=192.0.2.159,
ManagementIpV4Subnet=255.255.255.0, ControlVlan=575, PacketVlan=575,GatewayIpV4=192.0.2.1,
SaveBootVars=True, HARole=primary","vnc_password":"abc123"}}'
```

Example for modifying a service

```
curl -u admin:admin -X PATCH https://192.0.2.1/api/running/services/service/VSM_test7 -H "Content-Type:
application/vnd.yang.data+json" -d '{"service": {"power":"off"}}'
```

Example for creating a service using NFS

1. Verify that the mount (nfs0) has been created.

```
curl -u admin:admin -X GET https://192.0.2.130/api/running/resources/resource/csp-2100
{"resource": {"resource_name": "csp-2100", "rsyslog_udp_only": true, "rsyslog_udp_port": 514,
"ram_used_mb": 18432, "disk_space_total_gb": 398, "num_cpus_total": 6, "storagelist": {"storage":
[{"mount_name": "nfs0"}]}, "domain_name": "osp51.cisco.com", "default_gw": "192.0.2.1", "ram_total_mb":
60161, "csp_version": "01.00.00.155", "netmask": "255.255.255.0", "dns_server": "171.70.168.183", "dns":
[ { "dnsip": "171.70.168.183" }, { "dnsip": "8.8.8.8" } ], "host_name": "osp51", "disk_space_used_gb":
"17.2", "num_cpus_used": 6, "mgmt_pnic": "Eth4-0", "num_service": 4, "ip_address": "192.0.2.130",
"syslog_server": {"host":"10.1.1.1"}}}
```

2. Use the nfs0 mount to create a new service.

```
curl -u admin:admin -X POST https://192.0.2.130/api/running/services -H "Content-
Type:application/vnd.yang.data+json" -d '{"service":{"name":"vsm2_from_NFS0","iso_name":"n1000v-
dk9.5.2.1.SV3.1.1.iso","power":"on","memory":"8192","disk_size":"8","image_storage_name":"nfs0",
"vnics":{"vnic":[{"nic":"0","type":"access","network_name":"Eth133-0"}]}}}'
```

Example for using Day0 Configuration and Day0 Destination File

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/services -H "Content-Type:
application/vnd.yang.data+json"  -d  '{"service": {"name": "avi_rest","iso_name": "se-pc-ss-
ui.qcow2","day0_filename": "avi_config1.yml,avi_config2.yml", "day0-dest-filename":
"avi_meta_data_se_pc_1.yml,", "power": "on","vnics": {"vnic": [{"nic": 0, "network_name":
"Eth130-1"}]}}}'
```

Example for using Day0 Volume Label

```
curl -ku admin:admin -X POST https://192.0.2.1/api/running/services -H "Content-Type:
application/vnd.yang.data+json"  -d  '{"service": {"name": "avi_rest","iso_name": "se-pc-ss-
ui.qcow2","day0_filename": "avi_config1.yml", "day0-volume-id": "TEST", "power": "on","vnics": {"vnic":
[{"nic": 0, "network_name":
"Eth131-1"}]}}}'
```

Example for using Multiple Day0 configuration and Day0 Destination File Names

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/services -H "Content-Type:
application/vnd.yang.data+json"  -d  '{"service": {"name": "avi_rest","iso_name": "se-pc-ss-
ui.qcow2","day0_filename": "hello.txt,hello1.txt,config.txt", "day0-dest-filename": "
/config/banner/,/config/banner/,/config/banner/", "power": "on","vnics": {"vnic": [{"nic": 0,
"network_name":
"Eth130-0"}]}}}'
```

Example for using VNC Password Ecryption

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/services/service/tiny1 -H "Content-Type:
application/vnd.yang.data+json"  -d '{"service": {"name": "avi_rest","iso_name": "se-pc-ss-
ui.qcow2","power": "on","vnics": {"vnic": [{"nic": "0","vlan":"477","network_name":"Eth7-0"
```

```
}]}, "key":"0", "vnc_password":"vnc3"}}'
```

Example for associating a service with a VNF user group.

```
curl -ku admin:admin -X POST https://192.0.2.1/api/running/csp_users/groups -H "Content-
Type:application/vnd.yang.data+json" -d '{"service": {"name":" vsm-sf ", "power": "on" ,
"iso_name":"n1000v-dk9.5.2.1.SV3.1.3.125.iso" , "vnf-group":"abc-vnf-test" , "vnics:
{"vnic":[{"nic"":"0", "vlan": "477", "network_name": "Eth7-0"}]}}}'
```

Example for creating a service with uefi and secure-boot

```
curl -ku 'admin:admin' -X POST https://172.27.109.118/api/running/services -d '{"service" : { "name":
"uefivnf", "firmware": "uefi", "secure-boot": true, "iso_name":"ubuntu-16.04-server-amd64.iso"}}'
```

API History

Release	Modification
2.9.0	• The link-state-monitoring feature is added. Recovery-policy now has two leaf nodes: ip-monitoring and link-state-monitoring. • The monitor-vnic keyword is added to vNIC. This can be set to “true” to enable link-state-monitoring for the VNF.
2.8.0	The firmware and secure-boot parameters are added.
2.7.0	The services are exported in zip format and not tar.gz files.
2.5.0	New command, dns has been introduced.
2.3.1	• vnc_password strong strength validation and strong encryption scheme has been introduced. • The VNIC span-port, spoofchk parameters are added.
2.3.0	• The description parameter is added. • The day0 file name and day0 destination file name supports multiple files. • vnc_password encryption and key field is added. • VM monitoring parameters are added. • The vnf-group parameter has been added.
2.2.5	The day0-volume-id parameter is added.
2.2.4	The disk-resize and storage-disk-image-file parameters are added.
2.2.2	The day0-dest-filename parameter is added.
2.2.0	The novnc-port and ip parameters are added.
2.0.0	The day0_filename, disk_storage_name, image_storage_name, serial_ports, and storage_disks parameters added to this API.
1.0	This API is introduced.

Retain UUID of a Service

Method

POST

Module

https://*ip-address:port-number*/api/running/services -H "Content-type: application/vnd.yang.data+json" –d '{"service":{"name":"*name*", "iso_name":"*iso_name*", "memory":"*memory*", **"numcpu":"***numcpu*", "power":"*mode*", "description":"*new description*", "uuid":"*uuid*", "vnics":{"vnic": [{"nic":"*nic_num*", "mgmt-vnic":"*mgmt-vnic* ", "span-port":"*span-port* ", "model":"*model*", "native":"*vlan_num*", "network_name":"*network_name*",}]}}}'

Description

Retain a UUID of an exported service when importing the service.

Parameters

Name	Description	Importance
name	Specifies the name of the service to be exported.	Required
iso_name *iso_name*	Specifies the ISO, OVA, or QCOW software image file, and zip file to be used to create the service. Note: With Cisco VSM and Cisco VSG services, only ISO image files are supported.	Required
memory *memory*	Specifies the memory allocated for the service. The default value is 2048 (MB).	Optional
numcpu *numcpu*	Specifies the number of virtual CPUs for this service.	Required
uuid *uuid*	Specifies a unique string to identify the service. The uuid value is automatically generated when exporting the service.	Required
vnic	Specifies the number for the vNIC. Valid range is from 0 to 23. In Release 2.2.3 and earlier releases, valid supported range is from 0 to 9.	Optional
network_name *network_name*	Specifies the name of the network. A network name is required for creating a vNIC. You can specify a pNIC name or a non-pNIC name as the network name. If the name of the network is not a pNIC name, then the network is virtual, and it is accessible only within services on the same Cisco CSP 2100.	Required

Usage Guidelines

Before exporting the service, you must note down the UUID of the service and during import you can configure the UUID on the service that you have created.

API History

Release	Modification
2.7.0	The option to retain a UUID of an exported service is introduced. The services are exported in zip format and not tar.gz files.

Get Description About a Service

Method

GET

Module

https://*ip-address:port-number*/api/running/ services/service/*name*/description

Description

Retrieves description about a specific service.

Parameters

Name	Description	Importance
name	Specifies the name of the service.	Required

Example

```
curl -ku admin:admin -X GET https://192.0.2.130/api/running/services/service/tiny1/description
```

API History

Release	Modification
2.3.0	This API is introduced.

Modify the Description of a Service

Method

PUT

Module

https://*ip-address:port-number*/api/running/services/service/*name*/*description* -H "Content-type: application/vnd.yang.data+json" -d '{"description":"*new description*"}'

Description

Allows you to edit and modify the description of a specific service.

Note: Only users who belong to the service-group can modify the service descriptions.

Parameters

Name	Description	Importance
name	Name of the service	Required
description *new description*	Specifies a new description of the specific service that is being changed. Valid values are a string up to 256 characters, underscores, dashes, periods, and commas.	Required

Example

```
curl -ku admin:admin -X PUT https://192.0.2.130/api/running/services/service/tiny1/description –H
"Content-Type: application/vnd.yang.data+json" -d '{"description":"new description"}'
```

API History

Release	Modification
2.3.0	This API is introduced.

Delete the Description of a Service

Method

DELETE

Module

https://*ip-address:port-number*/api/running/services/service/*name*/*description*

Description

Deletes the description of a service.

Note: Only users who belong to the service-group can delete description of a service

Parameters

Name	Description	Importance
name	Name of the service	Required

Example

```
curl -ku admin:admin -X DELETE https://192.0.2.130/api/running/services/service/tiny1/description
```

API History

Release	Modification
2.3.0	This API is introduced.

Modify the Emulator-Pin of a Service

Method

PUT

Module

https://*ip-address:port-number*/api/running/services/service/*name*/*emulator-pin* -H "Content-type: application/vnd.yang.data+json" -d '{"emulator-pin":"*emulator pin*"}'

Description

Allows you to edit and modify the emulator thread pinning of a specific service.

Parameters

Name	Description	Importance
name	Name of the service	Required
emulator-pin *emulator pin*	Configures the emulator thread pinning on a CPU or range of CPUs. You can configure for emulator thread pinning when powering on a VM.	Required

Example

```
curl -ku admin:admin -X PUT https://192.0.2.130/api/running/services/service/tiny1/emulator-pin –H
"Content-Type: application/vnd.yang.data+json" -d '{"emulator-pin":"emulator pin"}'
```

API History

Release	Modification
2.4.1	This API is introduced.

Get Mapping Information Between Physical CPUs and Virtual CPUs

Method

GET

Module

https://*ip-address:port-number*/api/operations/ services/?deep

Description

Retrieves mapping information between physical CPUs and virtual CPUs per service. You can view the emulator pinning and vhost-threads mapping. This information is consumed by the resource utilization graph on the GUI.

You can filter the service name, and view the CPU graph per service.

Parameters

Name	Description	Importance
services	Name of the service	Required

API History

Release	Modification
2.6.0	This API is introduced.

Export a Service

Method

POST

Module

https://*ip-address:port-number*/api/running/services/service/*name*/_operations/export -H "Content-Type: application/vnd.yang.data+json" -d '{"input":{"exported_service_name": "*exported_name*", "exported_location ": "*nfs* | *local*", "exported_nfs_location ": " *exported_nfs_location* ", "export_live ": "*true*|*false*"}}'

Description

Exports a service.

When you export a service, a file named *exported_service_name*.tar.gz or *service_name*-clone.tar.gz file is created in the Cisco CSP 2100 repository. It takes few minutes to create this file.

Parameters

Name	Description	Importance
name	Specifies the name of the service to be exported.	Required
exported_service_name	Specifies a name for the exported service. If you do not specify a name, the following name is used by default: *service_name*-clone.	Optional
exported_location	Valid values are local or nfs. When you export a service, and exported_location is not set or set to "local", a file named *exported_service_name*.tar.gz or *service_name*-clone.tar.gz file is created in the Cisco CSP 2100 repository. It takes few minutes to create this file.	
exported_nfs_location	When the exported_location parameter is set to "nfs", the exported_nfs_location parameter is a mandatory configuration and it should be a valid configured nfs mount. The exported file is then created in the repository of nfs mount.	
export_live	Valid values are true or false. When export_live is not set or set to false, the VM is paused in the background by CSP when the export is in progress, which causes traffic loss. The VM resumes when export is complete. If export_live is set to true, the VM is exported live and there is no traffic loss.	

Example

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/services/service/test-service/_operations/export -H "Content-Type: application/vnd.yang.data+json" -d '{"input": {"exported_service_name": "test-service-export","exported_live": "true"}}'
```

API History

Release	Modification
2.3.1	The exported_location, exported_nfs_location, and export_live parameters has been added.
2.0.0	This API is introduced.

Cancel Exporting a Service

Method

POST

Module

https://*ip-address:port-number*/api/running/services/service/*name*/_operations/export -H "Content-Type: application/vnd.yang.data+json" -d '{"input":{"cancel": ""}}'

Description

Cancels an ongoing export of a service.

Example

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/services/service/test-service/_operations/export -H "Content-Type: application/vnd.yang.data+json" -d '{"input": {"cancel": ""}}'
```

API History

Release	Modification
2.6.0	This API is introduced.

Assign vNICs to a Service

Method

POST or PATCH

Module

https://ip-address:port-number/api/running/services/service/name/vnics -H "Content-type: application/vnd.yang.data+json" d '{"vnics":{"vnic":[{"nic":"nic_num", "mgmt-vnic":"mgmt-vnic ", "model":"model", "native":"vlan_num", "network_name":"network_name", "tagged":"tagged", "type":"type", "passthrough_mode":"pt_mode", "vlan":"vlan_num"}]}}'

Description

Assigns vNICs to a service. You can add multiple vNICs at a time by specifying the information in the vnic parameter separated by commas.

Note:

- When a service has passthrough as well as non-passthrough vNICs, we recommend that you first define the non-passthrough vNICs and then define the passthrough vNICs.

- A network name is required for creating a vNIC. Therefore, you must either specify the network name in the network_name parameter or set the mgmt-vnic parameter to true. For more information, see the description of these parameters.

Parameters

Name	Description	Importance
name	Name of the service.	Required
nic *nic_num*	Specifies a number for the vNIC. Valid range is from 0 to 23. In Release 2.2.3 and earlier releases, valid supported range is from 0 to 9.	Required
mgmt-vnic *mgmt-vnic*	Configures the vNIC to use the dedicated service management interface. Valid values are true and false. When the value of this parameter is true, the configured dedicated service management interface (service-mgmt-pnic) is automatically specified as the value of the network_name parameter. No other value is supported in the network_name parameter. To remove the dedicated service management interface, specify false as the value of this parameter and specify a value in the network_name parameter (as shown in the Examples section).	Optional
span-port *span-port*	Configures the vNIC to be spanned or not when you issue the span-ports tcpdump action start command from the CLI, REST, or web interface. This flag is always editable. Default is false. Note: Cannot be enabled on vNICs if the type parameter is configured as passthrough.	Optional
model *model*	Specifies the model of the vNIC. Valid values are e1000 or virtio. Default is virtio. Note: For Cisco VSM and Cisco VSG services, you must specify the model as e1000.	Optional
native *vlan_num*	Specifies the native VLAN number. Sets the native characteristics when the interface is in trunk mode. If you do not configure a native VLAN, the default VLAN 1 is used as the native VLAN.	Optional
network_name *network_name*	Specifies the name of the network. A network name is required for creating a vNIC. You can specify a pNIC name or a non-pNIC name as the network name. If the name of the network is not a pNIC name, the network is virtual, and it is accessible only within services on the same Cisco CSP 2100. If the mgmt-vnic parameter is set to true, the configured dedicated management port for services (service-mgmt-pnic) is automatically specified as the value of the network_name parameter. No other value is supported in the network_name parameter.	Optional

Name	Description	Importance
tagged *tagged*	Specifies the tag setting for the port. Valid values are true and false.	Optional
type *type*	Specifies the type of the port. Valid values are access, passthrough, and trunk. Default is access.	Optional
passthrough_mode *pt_mode*	Configures the passthrough mode for a service. In the passthrough mode, a pNIC is not connected to a vSwitch and the data of the pNIC is directly passed to the configured service. Valid values are macvtap, pcie, sriov, and none. Default is none. If the type parameter is configured as passthrough, the passthrough_mode parameter must be configured as macvtap or pcie.	Optional
vlan *vlan_num*	Specifies the VLAN number. If the type parameter is configured as trunk, this parameter specifies a set of VLAN numbers and ranges. Note: You can configure a single VLAN on an SR-IOV VF interface. A VLAN tag is put on the VF interface when the vNIC using a SR-IOV VF is specified.	Optional
spoofchk *spoofchk*	Specifies the spoofchk knob state on SR-IOV VF. Valid values are off, on. Note: This parameter can be only configured on SR-IOV VF.	Optional
monitor-vnic	Specifies when the vNIC should be monitored as part of link-state-monitoring feature. If set to “true”, monitoring status needs to be enabled.	Optional

Examples

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/services/service/VSM_1/vnics -H "Content-Type: application/vnd.yang.data+json"  -d  '{"vnics": {"vnic": [{ "nic":"0","vlan":"555","network_name":"Eth4-1"},{"nic":"1","type":"access","vlan":"1922","network_name":"Eth4-1"},{"nic":"2","type":"access","vlan":"2333","network_name":"Eth7-1"}]}'

curl -u admin:admin -X POST https://192.0.2.1/api/running/services -H "content-type: application/vnd.yang.data+json" -d '{"service": {"name":"VSM_2", "iso_name":"TinyCore-5.3.iso","power":"on", "vnics": {"vnic": [{"nic": "0","type":"passthrough","passthrough_mode":"pcie", "network_name":"Eth1-1"}]}, "numcpu":"1","memory":"4096","disk_size":"3"}}'

curl -u admin:admin -X POST https://192.0.2.1/api/running/services/ -H "Content-Type: application/vnd.yang.data+json" -d
'{"service": {"name": "tiny3","iso_name": "TinyCore.iso","power": "on","vnics": {  "vnic": [{"nic": 0, "mgmt-vnic": "false", "network_name": "Eth130-2"},   {"nic": 1, "mgmt-vnic": "true"}]}}}'

curl -u admin:admin -X POST https://192.0.2.1/api/running/service/tiny1/vnics/vnic/0 -H "Content-Type: application/vnd.yang.data+json" -d '{"vnic": [{"nic": {"mgmt-vnic": "false", "network_name": "Eth130-2"}]}'

curl -u admin:admin -X PUT https://192.0.2.1/api/running/ services/service/tiny1/vnics/vnic/0/span-port -H "Content-Type: application/vnd.yang.data+json" -d '{"span-port": "true"}'
```

API History

Release	Modification
2.3.1	The span-port, spoof-chk parameters are added.
2.2.0	The mgmt-vNIC parameter is added.
2.0.0	The passthrough_mode parameter added to this API.
1.0	This API is introduced.

SPAN and TCPDump vNICs

Method

POST

Module

https://*ip-address:port-number*/api/running/span-ports/_operations/tcpdump -H "Content-type: application/vnd.yang.data+json" **-**d '{" input ":{" action ": " *action*"}}'

Description

Globally performs the port spanning and tcpdump on every vNIC that was marked as span-port true through the REST API or the web interface. The start action initiates the spanning and tcpdump, which generates pcap files for each spanned vNIC. The pcap files can be downloaded through the web interface at, Debug>TCP Dump>TCP Dump Files.

After running the spanning and tcpdump, the spanning and tcpdump should be stopped with the stop action form of this API. The subsequent start or stop action overwrites pcap files, if start or stop is run for the same vNICs. The pcap files have a maximum limit of 400K packets. There are no restrictions on a user to run this command.

If there are no VNICs enabled for spanning on VNF vNICs, you should not use these commands. You can check the vNICs that are enabled for spanning with the action show commands.

Parameters

Name	Description	Importance
action *action*	Valid values are start, stop, and show. The show action gives you a list of each service coupled with its vNICs, their network_names and nic numbers that are span-port enabled. The start action spans and then runs tcpdump to a pcap file for each vNIC shown by the show action. The stop action cleanly removes all the spanned ports, and finishes the tcpdump to pcap files.	Required

Example

```
curl -ku admin:admin -X POST https://192.0.2.1/api/running/span-ports/_operations/tcpdump -H "Content-type:application/vnd.yang.data+json" -d '{"input": {"action": "start"}}'
{
  "output": {
```

```
    "results": "tcpdump started"
    }
}
```

```
curl -ku admin:admin -X POST https://192.0.2.1/api/running/span-ports/_operations/tcpdump -H "Content-type:application/vnd.yang.data+json" -d '{"input": {"action": "stop"}}'
{
  "output": {
    "results": "all tcpdumps stopped"
    }
}
```

```
curl -ku admin:admin -X POST https://192.0.2.1/api/running/span-ports/_operations/tcpdump -H "Content-type:application/vnd.yang.data+json" -d '{"input": {"action": "show"}}'
{
  "output": {
    "results": "{'tiny1': [['Eth130-3', '0'], ['Eth3-0', '2']]}"
    }
}
```

API History

Release	Modification
2.3.1	This API is introduced.

Get Information About vNIC, VF MAC Addresses, and SRIOV Interfaces

Method

GET

Module

https://*ip-address:port-number*/api/operational/services

https://*ip-address:port-number*/api/operational/services/service/*name*/vnics/vnic/*nic_num*/mac-address

https://*ip-address:port-number*/api/operational/services/deep?

Description

Retrieves information about the MAC addresses of vNIC and VF associated with a service.

To get detailed information about statistics of all NIC interfaces per service, use the ?deep parameter.

Parameters

Name	Description	Importance
name	Name of the service	Required
nic_num	vNIC number	Required

Example

```
curl -u admin:admin -X GET https://192.0.2.1/api/operational/services/service/test1/vnics/vnic/0/mac-address
{
```

```
  "vsb:mac-address": "02:3C:17:E7:0B:0F"
}
```


curl -u admin:admin -X GET https://192.0.2.1/api/operational/services?deep


```
{
  "vsb:services": {
    "service": [
      {
        "name": "csr1",
        "is_import": 0,
        "pinning": {
          "cpu-map": [
            {
              "vcpu": 0,
              "pcpu": 1
            },
            {
              "vcpu": 1,
              "pcpu": 2
            }
          ],
          "emu-map": "1",
          "vhost-map": [
            {
              "ind": 0,
              "pid": 11789,
              "pcpu": "1"
            }
          ]
        },
        "uuid": "fdd07d0b-395b-4aac-87e7-51b527a3252b",
        "memory": 8192,
        "numcpu": 2,
        "macid": 8,
        "disk_size": "8.0",
        "disk-resize": false,
        "rng-device": false,
        "disk_type": "virtio",
        "cache-mode": "none",
        "iso_name": "csr1000v-universalk9.16.08.01a.qcow2",
        "vnf-group": "default-vnf-group",
        "power": "on",
        "monitoring": {
          "vm_status": "vm_unmonitored",
          "status": "disabled",
          "boot-time": 600,
          "poll-interval": 30,
          "failure-retry-cnt": 5,
          "max-recovery-retries": 3,
          "error": "None",
          "total-recovery-count": 0,
          "monitor-action-state": "none"
        },
        "state": "deployed",
        "error": "None",
        "vnc_port": 5900,
        "proxy_vnc_port": 8785,
        "uptime": "PT14M25S",
        "cpu_load": 9,
        "disk_used_mb": "918.0",
        "memory_used_kb": "70416",
        "crypto_bw_mb": 0,
        "vnics": {
          "vnic": [
```

```
{
  "nic": 0,
  "mac-address": "02:3c:17:b4:a5:08",
  "vlan": "100",
  "tagged": false,
  "type": "access",
  "passthrough_mode": "none",
  "model": "virtio",
  "span-port": false,
  "mgmt-vnic": false,
  "network_name": "Eth0-1",
  "vf_network_name": "vnet0",
  "stats": {
    "receive": {
      "rx-packets": "101",
      "bytes": "11406",
      "errors": "0",
      "dropped": "0"
    },
    "transmit": {
      "tx-packets": "101",
      "bytes": "11406",
      "errors": "0",
      "dropped": "0"
    }
  }
},
{
  "nic": 1,
  "mac-address": "02:4c:17:b4:a5:08",
  "vlan": "10",
  "tagged": false,
  "type": "passthrough",
  "passthrough_mode": "sriov",
  "spoofchk": "on",
  "model": "virtio",
  "span-port": false,
  "mgmt-vnic": false,
  "network_name": "Eth2-3",
  "vf_network_name": "Eth2-3_vf0_129s10",
  "stats": {
    "receive": {
      "rx-packets": "101",
      "bytes": "12214",
      "errors": "0",
      "dropped": "0"
    },
    "transmit": {
      "tx-packets": "101",
      "bytes": "11810",
      "errors": "0",
      "dropped": "0"
    }
  }
},
{
  "nic": 2,
  "mac-address": "02:5c:17:b4:a5:08",
  "vlan": "20",
  "tagged": false,
  "type": "passthrough",
  "passthrough_mode": "sriov",
  "spoofchk": "on",
```

```
            "model": "virtio",
            "span-port": false,
            "mgmt-vnic": false,
            "network_name": "Eth2-3",
            "vf_network_name": "Eth2-3_vf1_129s10f1",
            "stats": {
              "receive": {
                "rx-packets": "101",
                "bytes": "12214",
                "errors": "0",
                "dropped": "0"
              },
              "transmit": {
                "tx-packets": "101",
                "bytes": "11810",
                "errors": "0",
                "dropped": "0"
              }
            }
          }
        ]
      }
    }
```


API History

Release	Modification
2.6.0	Displays statistics of all NIC interfaces per service.
2.2.4	This API is introduced.

Assign Serial Port to a Service

Method

POST

Module

https://*ip-address:port-number*/api/running/services -H "Content-type: application/vnd.yang.data+json" -d '{"service":{"name":"*name*", "serial_ports":{"serial_port":[{"serial":"*serial_number*", "serial_type":"*serial_type*", "service_port":"*service_port*"}]}}}'

Description

Assigns serial port to a service. You can assign up to four serial ports to a service. You can add multiple serial ports at a time by specifying the information in the serial_port parameter separated by commas.

Parameters

Name	Description	Importance
name *name*	Specifies the name of the service.	Required
serial *serial_number*	Specifies a number for the serial port. Valid range is from 0 to 3.	Required
serial_type *serial_type*	Specifies the type of the serial port. Valid values are console and telnet. The console value is valid only on serial number 0.	Required

service_port *service_port*	Specifies the telnet port number for the telnet serial type. Valid range is from 1024 to 65,535.	Required

Example

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/services -H "Content-
Type:application/vnd.yang.data+json" -d '{"service":{"name":"test-ubuntu","iso_name":"ubuntu-12.04-
server-amd64.iso","power":"on","memory":"8192","disk_size":"20",
"vnics":{"vnic":[{"nic":"0","type":"access","network_name":"Eth130-
0"}]},"serial_ports":{"serial_port":[{"serial":"0","serial_type":"console"}, {"serial":"1",
"serial_type": "telnet", "service_port": "1700"}, {"serial":"2","serial_type": "telnet", "service_port":
"1701"},{"serial":"3","serial_type": "telnet", "service_port": "1702"}]}}}'
```

API History

Release	Modification
2.0.0	This API is introduced.

Add VM Monitoring to a Service

Method

POST

Module

```
https://ip-address:port-number/api/running/services/ -H "Content-type: application/vnd.yang.data+json" –d
'{"service": {"name": "name", "monitoring": {"monitoring": [{"status":"monitoring-status", " boot-time ":"
boot-time ", "poll-interval ":"poll-interval ", "failure-retry-cnt ":"failure-retry-cnt", "recovery-policy":
{"ip-monitoring" : "recovery-policy", "link-state-monitoring" : "recovery-policy"}, "max-recovery-
retries":"max-recovery-retries"}]}}}'
```

Description

Adds VM monitoring to a service.

Parameters

Name	Description	Importance
name *name*	Specifies the name of the service.	Required
monitoring *status*	Enables or disables configuring monitoring. Valid values are Enabled and Disabled.	Required
boot-time *boot-time*	Specifies the time in seconds to be waited after deployment, until monitoring starts. Configure according to the VM boot time.	Required
poll-interval *poll-interval*	Specifies the time interval in seconds at which the polling should be performed.	Required
failure-retry-cnt *failure-retry-cnt*	Specifies the number of ping failures before recovery attempt. Valid range is from 0 to 999.	Required
recovery-policy ip-monitoring	Specifies the recovery action to be taken when IP monitoring failure is detected. Valid values are reboot, shutdown, or none.	Required

recovery-policy link-state-monitoring	Specifies the recovery action to be taken when link state failure is detected for the vNICs that have monitor-vNIC set to true. Valid values are shutdown or none.	Required
max-recover-retries *max-recover-retries*	Specifies the number of times recovery policy should be attempted. Valid range is from 0 to 16.	Required

Example

```
curl -ku admin:admin -X POST https://192.0.2.1/api/running/services/ -H "Content-Type:application/vnd.yang.data+json" -d '{"service": { "name": "csr", "iso_name": "csr1000v-universalk9.16.04.01.iso", "power": "on", "ip": "10.193.75.160", "vnics": { "vnic": [ {"nic": 0, "mgmt-vnic": "false", "network_name": "Eth1-0", "monitor-vnic":"true"} ] }, "monitoring": { "status": "enabled", "boot-time": 600, "poll-interval": 30, "failure-retry-cnt": 2, "recovery-policy": {"ip-monitoring" : "none", "link-state-monitoring" : "none"}, "max-recovery-retries": 2 } } }'
```

API History

Release	Modification
2.9.0	Added support for link-state-monitoring.
2.3.0	This API is introduced.

Get VM Monitoring Information About a Service

Method

GET

Module

https://*ip-address:port-number*/api/running/ services/service/*name*/monitoring

Description

Retrieves VM monitoring information about a specific service.

Parameters

Name	Description	Importance
name	Specifies the name of the VM.	Required

Example

```
curl -ku admin:admin -X GET https://192.0.2.130/api/running/services/service/tiny1/monitoring
```

API History

Release	Modification
2.3.0	This API is introduced.

Create VNF User Groups

Method

POST

Module

https://*ip-address:port-number*/api/running/csp_users/groups -H "Content-Type:application/vnd.yang.data+json" -d '{"group":{"name": "*group_name*", "type": "*group_type* "}}'

Description

Creates a new VNF user group.

Parameters

Name	Description	Importance
name *VNF user group*	Specifies the VNF group name of a service. Valid values are an alphanumeric string except admin-group, operator-group, service-group, and vnf-operator-group.	Required
type *group_type*	Specifies the group type that can be either, none, service, operator, or vnf-operator. The type none gives permissions that is equivalent to type service. Each of these group types mimic the permissions of the base groups of the same prefix. This behavior means that the operator type vnf-groups has read-only permissions on VNFs that have this group as their vnf-group. It is similar to a base operator-group. Default is of type service.	Optional

Examples

```
curl -ku admin:admin -X POST https://192.0.2.1/api/running/csp_users/groups -H "Content-
Type:application/vnd.yang.data+json" -d '{"group": {"name":"vnf-abc-test", "type": "service"}}'
```

API History

Release	Modification
2.3.1	This API is extended for group type, operator and vnf-operator.
2.3.0	This API is introduced.

Delete VNF User Group from Service

Method

DELETE

Module

https://*ip-address:port-number*/api/running/csp_users/groups/group/*group-name*

Description

Deletes a configured VNF user group.

Parameters

Name	Description	Importance
group-name	VNF group name of a service	Required

Example

```
curl -ku admin:admin -X DELETE https://192.0.2.130/api/running/csp_users/groups/group/vnf-abc-test
```

API History

Release	Modification
2.3.0	This API is introduced.

Modify VNF User Group of Service

Method

PATCH

Module

https://*ip-address:port-number*/api/running/services /service/*VM-name* -H "Content-Type:application/vnd.yang.data+json" -d '{"service":{" vnf-group": " *new-vnf-group*"}}'

Description

Modifies an existing VNF user group associated with a service.

Parameters

Name	Description	Importance
vnf-group *new-vnf-group*	Specifies the name of the new VNF group of a service.	Required

Example

```
curl -ku admin:admin -X PATCH https://192.0.2.1/api/running/services/service/vsm-sf -H "Content-Type:application/vnd.yang.data+json" -d '{"service": {"vnf-group":"abc-vnf-test"}}'
```

API History

Release	Modification
2.3.0	This API is introduced.

Add Storage Disks to a Service

Method

POST or PATCH

Module

https://*ip-address:port-number*/api/running/services -H "Content-type: application/vnd.yang.data+json" –d '{"service":{"name": "*name*",{"storage_disk":[{"storage_disk_id":"*id*", "storage_disk_location":"*disk_location*",

"storage-disk-image-file ":"*image_file_name* ","storage_disk_format":"*disk_format*", "storage_disk_device":"*disk_device*", "storage_disk_space_used_gb":"*disk_space_used*", "storage_disk_space_total_gb":"*disk_space_total*", "storage_disk_type":"*disk_type*"}]}}}'

Description

Adds storage disks to a service. You can add up to two storage disks to a service.

Note: Before adding a storage disk to a service, you must set the power mode of the service to off.

Parameters

Name	Description	Importance
name *name*	Specifies the name of the service.	Required
storage_disk_id *id*	Specifies the ID of the storage disk. For releases earlier to 2.8.0, valid range is from 1 to 2. Starting from 2.8.0, valid values are 1 to 5.	Required
storage_disk_location *disk_location*	Specifies the location of the storage disk. It can be a local location or an NFS-mounted location.	Optional
storage-disk-image-file *image_file_name*	Specifies the local or NFS-mounted ISO, RAW, or QCOW2 image file to be used as the additional storage disk for a service. A QCOW2 or RAW image is mounted as disk and an ISO image is mounted as CDROM. You can add up to two additional storage disks.	Optional
storage_disk_format *disk_format*	Specifies the format of the storage disk. Valid values are raw and qcow2. Default is raw.	Optional
storage_disk_device *disk_device*	Specifies the storage device. Valid values are disk or cdrom. Default is disk.	Optional
storage_disk_space_used_gb *disk_space_used*	Specifies the total amount of used disk space (in GB). You cannot set this parameter.	–
storage_disk_space_total_gb *disk_space_total*	Specifies the total amount of available disk space (in GB).	Optional
storage_disk_type *disk_type*	Specifies the storage disk type. Valid choices are ide and virtio. Default is ide.	Optional

Examples

Create a service with storage disks

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/services -H "Content-
Type:application/vnd.yang.data+json" -d '{"service":{"name":"test-ubuntu","iso_name":"ubuntu-12.04-
server-amd64.iso","power":"on","memory":"8192","disk_size":"20",
"vnics":{"vnic":[{"nic":"0","type":"access","network_name":"Eth130-
0"}]},"storage_disks":{"storage_disk":[{"storage_disk_id":"1","storage_disk_space_total_gb":"5","storage_
disk_format":"qcow2","storage_disk_device":"disk","storage_disk_location":"local"},
{"storage_disk_id":"2","storage_disk_space_total_gb":"4","storage_disk_format":"raw","storage_disk_device
":"disk","storage_disk_location":"local", "storage_disk_type": "virtio"}]}}}'
```

Add a storage disk to a service

```
curl -u admin:admin -X PATCH https://192.0.2.1/api/running/services/service/rhel1 -H "Content-Type:
application/vnd.yang.data+json" -d '{"service": {"storage_disks":{"storage_disk":[{"storage_disk_id": 2,
"storage_disk_location": "local", "storage_disk_format": "raw", "storage_disk_space_total_gb": 30,
"storage_disk_device": "disk"}]}}}'
```

Create a service with storage disks and set disk_storage_type

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/services -H "Content-Type:
application/vnd.yang.data+json" -d '{"service": {"name": "TinyTest", "iso_name": "TinyLinux.qcow2",
"power": "on", "vnics": { "vnic": [{ "nic":"0","vlan":"10","network_name":"Eth0-1"}]}, "storage_disks":
{"storage_disk": [{"storage_disk_id":"1", "storage_disk_format":"qcow2", "storage_disk_device":"disk",
"storage_disk_space_total_gb": 4.0, "storage_disk_type": "virtio"}]}}}'
```

API History

Release	Modification
2.2.4	The storage-disk-image-file parameter is added.
2.2.0	The storage-disk-type parameter is added.
2.0.0	This API is introduced.

Delete Storage Disks

Method

DELETE

Module

https://*ip-address:port-number*/api/running/services/service/*name*/storage_disks

https://*ip-address:port-number*/api/running/services/service/*name*/storage_disks/storage_disk/*id*

Description

Deletes all storage disks or a specific storage disk.

Note: Before deleting a storage disk, you must set the power mode of the service to off.

Parameters

Name	Description	Importance
name	Name of the service	Required
id	ID of the storage disk	Optional

Examples

```
curl -u admin:admin -X DELETE https://192.0.2.1/api/running/services/service/service2/storage_disks
curl -u admin:admin -X DELETE https://192.0.2.1/api/running/services/service/service2/
storage_disks/storage_disk/2
```

API History

Release	Modification
1.0	This API is introduced.

Saving .img File of Services

Method

PUT

Module

https://*ip-address:port-number*/api/running/services

https://*ip-address:port-number*/api/running/services/service/*name/*

Description

Deploys a service by using the .img file format and also saves the .img file of the service, before deleting it.

Note: You cannot save the .img file of a service in a powered on state and hence ensure that you power off the service to save it before deploying the service.

Parameters

Name	Description	Importance
name	Name of the service	Required
retain-vm-disk *true_false*	Enables or disables the saving of the .img file of a service. Valid values are true and false. Default value is false.	Optional

Examples

```
curl -ku admin:admin -X PUT https://192.0.2.1/api/running/services/service/test -H "Content-Type:
application/vnd.yang.data+json"  -d  '{"retain-vm-disk": {"True"}'
```

API History

Release	Modification
2.5.0	This API is introduced.

Delete Services

Method

DELETE

Module

https://*ip-address:port-number*/api/running/services

https://*ip-address:port-number*/api/running/services/service/*name*

Description

Deletes all services or a specific service.

Note: Before deleting a service, you must set its power mode to off.

Parameters

Name	Description	Importance
name	Name of the service	Optional

Examples

```
curl -u admin:admin -X DELETE https://192.0.2.1/api/running/services
curl -u admin:admin -X DELETE https://192.0.2.1/api/running/services/service/service2
```

API History

Release	Modification
1.0	This API is introduced.

Session APIs

Get Information About Configured Session Idle Timeout

Method

GET

Module

https://*ip-address:port-number*/api/running/session

Description

Retrieves information about the configured idle timeout for sessions.

Example

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/session
{
  "tailf-aaa:session": {
    "idle-timeout": 120
  }
}
```

API History

Release	Modification
2.1.0	This API is introduced.

Configure Session Idle Timeout

Method

POST

Module

https://*ip-address:port-number*/api/running/session -H "Content-type: application/vnd.yang.data+json" -d '{"session": {"idle-timeout": *seconds*}}'

Description

Configures the idle timeout for sessions.

Parameters

Name	Description	Importance
seconds	Number of seconds. The range is from 0 to 8182 seconds. Use 0 to disable the session idle timeout.	Required

Usage Guidelines

Only the members of admin-group group can configure the idle timeout for a session. The configured idle timeout is applicable to all users.

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/session -H "Content-Type:
application/vnd.yang.data+json" -d '{"session": {"idle-timeout": 130}}'
```

API History

Release	Modification
2.1.0	This API is introduced.

SNMP APIs

Get Information About SNMP Agents

Method

GET

Module

https://*ip-address:port-number*/api/running/snmp/agent

Description

Retrieves information about the SNMP agents.

Parameters

None

Example

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/snmp/agent
{
  "snmp:agent": {
    "engineID": "00:00:00:09:00:01:02:03:04:05"
  }
}
```

API History

Release	Modification
2.1.0	This API is introduced.

Configure Engine ID of an SNMP Agent

Method

POST

Module

https://*ip-address:port-number*/api/running/snmp/agent -H "Content-type: application/vnd.yang.data+json" -d '{"engineID" : "*engine_id*"}'

Description

Specifies the engine ID for an SNMP agent.

Note: Once configured, the engine ID for an SNMP agent cannot be deleted. You must configure an SNMP agent before configuring a SNMP community, group, user, host, or trap.

Parameters

Name	Description	Importance
engineID *engine_id*	Specifies the ID of the local or remote SNMP engine in hexadecimal format. Engine ID must be of minimum 5 octets.	Required

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/running/snmp/agent -H "Content-Type:
application/vnd.yang.data+json" -d '{"engineID": "00:22:33:22:22:22:55"}'
```

API History

Release	Modification
2.1.0	This API is introduced.

Get Information About SNMP Communities

Method

GET

Module

https://*ip-address:port-number*/api/running/snmp/communities

https://*ip-address:port-number*/api/running/snmp/communities/community/*name*

Description

Retrieves information about all SNMP communities or a specific SNMP community.

Parameters

Name	Description	Importance
name	Name of the SNMP community	Required

Example

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/snmp/communities
{
  "snmp:communities": {
    "community": [
      {
        "community-name": "admin"
      },
      {
        "community-name": "public"
      }
    ]
  }
}
```

API History

Release	Modification
2.1.0	This API is introduced.

Create or Modify an SNMP Community

Method

POST or PATCH

Module

https://*ip-address:port-number*/api/running/snmp/communities/community -H "Content-type: application/vnd.yang.data+json" -d '{"community" :{"community-name" : "*name*", "community-access" : "*access*"}}'

Description

Creates or modifies an SNMP community.

Note: You must configure an SNMP agent before configuring an SNMP community.

Parameters

Name	Description	Importance
community-*name* *name*	Specifies the name of the SNMP community.	Required
community-access *access*	Specifies the access for this community. Only readOnly access is supported.	Required

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/running/snmp/communities -H "Content-Type:
application/vnd.yang.data+json" -d '{"community" : {"community-name" : "public", "community-access" :
"readOnly"}}'
```

API History

Release	Modification
2.1.0	This API is introduced.

Delete an SNMP Community

Method

DELETE

Module

https://*ip-address:port-number*/api/running/snmp/communities/community/*name*

Description

Deletes an SNMP community.

Parameters

Name	Description	Importance
name	Name of the SNMP community	Required

Examples

```
curl -u admin:admin -X DELETE https://192.0.2.1/api/running/snmp/communities/community/public
```

API History

Release	Modification
2.1.0	This API is introduced.

Get Information About SNMP Groups

Method

GET

Module

https://*ip-address:port-number*/api/running/snmp/groups

https://*ip-address:port-number*/api/running/snmp/groups/group/*name*

Description

Retrieves information about all SNMP groups or a specific SNMP group.

Parameters

Name	Description	Importance
name	Name of the SNMP group	Required

Example

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/snmp/groups
{
  "snmp:groups": {
    "group": [
      {
        "group-name": "g0",
        "group-context-prefix": "snmp",
        "group-version": 1,
        "security-level": "noAuthNoPriv"
      },
      {
        "group-name": "g1",
        "group-context-prefix": "snmp",
        "group-version": 2,
        "security-level": "noAuthNoPriv"
      },
      {
        "group-name": "g2",
        "group-context-prefix": "snmp",
        "group-version": 3,
        "security-level": "authNoPriv"
      },
      {
        "group-name": "g3",
        "group-context-prefix": "snmp",
        "group-version": 3,
        "security-level": "authPriv"
      }
    ]
  }
}
```

API History

Release	Modification
2.1.0	This API is introduced.

Create or Modify an SNMP Group

Method

POST or PATCH

Module

https://*ip-address:port-number*/api/running/snmp/groups -H "Content-type: application/vnd.yang.data+json" -d '{"group" :{"group-name" : "*name*", "group-context-prefix" : "*group-context-prefix*", "group-version" : *version*, "security-level" : "*security-level* "","read" : "*readview* ", "write" : "*writeview*", "notify" : "*notifyview*"}}'

Description

Creates or modifies an SNMP group.

Note: You must configure an SNMP agent before configuring an SNMP group.

Parameters

Name	Description	Importance
group-*name name*	Specifies the name of the SNMP community.	Required
group-context-prefix *group-context-prefix*	Specifies the context prefix. For SNMPv1 and SNMPv2c, only snmp context prefix is supported. For SNMPv3, starting with Release 2.2.2, you can specify any context prefix. You can also configure null context to run an SNMPv3 query without specifying the context name. To configure null context, use the \"\" character sequence as shown in the Examples section. In Release 2.2.1 and earlier releases, only snmp context prefix is supported with SNMPv3.	Required
group-version *version*	Specifies the SNMP version and the security level. Supported SNMP versions are as follows: • 1: SNMPv1 • 2: SNMPv2c • 3: SNMPv3	Required
security-level *security-level*	Specifies the security level for authentication and privacy. Supported security levels are as follows: • noAuthNoPriv: Security level that provides only user validation. • authNoPriv: Security level that provides authentication (MD5 or SHA). • authPriv: Security level that provides both authentication (MD5 or SHA) and encryption (AES or DES).	Required
read *readview*	Specifies the name of the view for read access.	Required
write *writeview*	Specifies the name of the view for write access.	Required
notify *notifyview*	Specifies the name of the view for notify access.	Required

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/running/snmp/groups -H "Content-Type:
application/vnd.yang.data+json" -d ' {"group" : {"group-name" : "testgroup", "group-context-prefix" :
"snmp", "group-version" : "2", "security-level" : "noAuthNoPriv", "read" : "read-access", "write" :
"write-access", "notify" : "notify-access"}}'

curl -u admin:admin -X POST https://192.0.2.130/api/running/snmp/groups -H "Content-Type:
application/vnd.yang.data+json" -d ' {"group" : {"group-name" : "testgroupv3", "group-context-prefix" :
```

```
"\"\"", "group-version" : "3", "security-level" : "noAuthNoPriv", "read" : "read-access", "write" :
"write-access", "notify" : "notify-access"}}'
```

API History

Release	Modification
2.1.0	This API is introduced.

Delete SNMP Groups

Method

DELETE

Module

https://*ip-address:port-number*/api/running/snmp/groups/group/*name*

https://*ip-address:port-number*/api/running/snmp/groups

Description

Deletes an SNMP group or all SNMP groups.

Parameters

Name	Description	Importance
name	Name of the SNMP group	Required

Examples

```
curl -u admin:admin -X DELETE https://192.0.2.1/api/running/snmp/groups/group/cust
```

API History

Release	Modification
2.1.0	This API is introduced.

Get Information About SNMP Users

Method

GET

Module

https://*ip-address:port-number*/api/running/snmp/users

https://*ip-address:port-number*/api/running/snmp/users/user/*name*

Description

Retrieves information about all SNMP users or a specific SNMP user.

Parameters

Name	Description	Importance
name	Name of the SNMP user	Required

Example

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/snmp/users/user/public
{
  "snmp:user": {
    "user-name": "public",
    "user-version": 2,
    "user-group": "g2"
  }
}
```

API History

Release	Modification
2.1.0	This API is introduced.

Create or Modify an SNMP User

Method

POST or PATCH

Module

https://*ip-address:port-number*/api/running/snmp/users -H "Content-Type: application/vnd.yang.data+json" -d '{"user" : {"user-name" : "*username*", "auth-protocol" : "*authprotocol* ", "priv-protocol" : "*privprotocol* ", "passphrase" : "*passphrase*", "user-group" : "*groupname*", "user-version" : *version*}}'

Description

Creates or modifies an SNMP user.

Note: You must configure an SNMP agent before configuring an SNMP user.

Parameters

Name	Description	Importance
user-*name* *username*	Specifies the name of the SNMP user.	Required
auth-protocol *authprotocol*	Specifies the authentication protocol. Valid values are: • MD5: Message Digest algorithm • SHA: Secure Hash algorithm	Required
priv-protocol *privprotocol*	Specifies the User-based Security Model (USM). Valid values are: • des: Data Encryption Standard algorithm • aes: Advanced Encryption Standard algorithm	Required

Name	Description	Importance
passphrase *passphrase*	Specifies the passphrase. The minimum length required for a passphrase is 8 characters.	Optional
user-group *groupname*	Specifies the name of the SNMP group.	Required
user-version *version*	Specifies the SNMP version. Valid values are: • 1: SNMPv1 • 2: SNMPv2c • 3: SNMPv3	Required

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/running/snmp/users/ -H "Content-Type:
application/vnd.yang.data+json" -d '{"user" : {"user-name" : "public", "auth-protocol" : "md5", "priv-
protocol" : "aes", "passphrase" : "pass123", "user-group" : "group2", "user-version" : 2}}'
```

API History

Release	Modification
2.1.0	This API is introduced.

Delete an SNMP User

Method

DELETE

Module

https://*ip-address:port-number*/api/running/snmp/users/user/*name*

Description

Deletes an SNMP user.

Parameters

Name	Description	Importance
name	Name of the SNMP user	Required

Examples

```
curl -u admin:admin -X DELETE https://192.0.2.1/api/running/snmp/users/user/authuser
```

API History

Release	Modification
2.1.0	This API is introduced.

Get Information About SNMP Hosts

Method

GET

Module

https://*ip-address:port-number*/api/running/snmp/hosts

https://*ip-address:port-number*/api/running/snmp/hosts/host/*name*

Description

Retrieves information about all SNMP hosts or a specific SNMP host.

Parameters

Name	Description	Importance
name	Name of the SNMP host	Required

Example

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/snmp/hosts
{
"snmp:hosts": {
"host": [
{
"host-name": "host1"
},
{
"host-name": "host2"
},
{
"host-name": "host3"
}
]
}
}
```

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/snmp/hosts/host/host1
{
"snmp:host": {
"host-name": "host1",
"host-port": 162,
"host-ip-address": "10.10.10.1",
"host-version": 1,
"host-security-level": "noAuthNoPriv",
"host-user-name": "admin1"
}
}
```

API History

Release	Modification
2.1.0	This API is introduced.

Create or Modify an SNMP Host

Method

POST or PATCH

Module

https://*ip-address:port-number*/api/running/snmp/hosts -H "Content-Type: application/vnd.yang.data+json" -d '{"host":{"host-name": "*hostname*", "host-ip-address": "*ip-address*", "host-version": "*version*, "host-security-level": "*securitylevel*", "host-user-name": "*username*", "host-port": "*port*"}}'

Description

Creates or modifies an SNMP host.

Note: You must configure an SNMP agent before configuring an SNMP host.

Parameters

Name	Description	Importance
host-name *hostname*	Specifies the name of the SNMP host.	Required
host-ip-address *ip-address*	Specifies the IP address of the SNMP host.	Required
host-version *version*	Specifies the version of the SNMP host. Supported SNMP versions are as follows: • 1: SNMPv1 • 2: SNMPv2c • 3: SNMPv3	Required
host-security-level *securitylevel*	Specifies the security level for authentication and privacy. Supported security levels are as follows: • noAuthNoPriv: Security level that provides only user validation. • authNoPriv: Security level that provides authentication (MD5 or SHA). • authPriv: Security level that provides both authentication (MD5 or SHA) and encryption (AES or DES).	Required
host-user-name *username*	Specifies the user name for the SNMP host.	Required
host-port *port*	Specifies the port of the SNMP host.	Required

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/running/snmp/hosts/ -H "Content-Type:
application/vnd.yang.data+json" -d '{"host": {"host-name":"host1", "host-ip-address":"1.1.1.1", "host-
port":"162", "host-version":"2", "host-security-level":"noAuthNoPriv", "host-user-name":"public"}}'
```

API History

Release	Modification
2.1.0	This API is introduced.

Delete SNMP Hosts

Method

DELETE

Module

https://*ip-address:port-number*/api/running/snmp/hosts/host/*name*

https://*ip-address:port-number*/api/running/snmp/hosts

Description

Deletes an SNMP host or all SNMP hosts.

Parameters

Name	Description	Importance
name	Name of the SNMP host	Required

Examples

```
curl -u admin:admin -X DELETE https://192.0.2.1/api/running/snmp/hosts/host/host1
```

API History

Release	Modification
2.1.0	This API is introduced.

Configure an SNMP Trap

Method

POST

Module

https://*ip-address:port-number*/api/running/snmp/enable/traps -H "Content-Type: application/vnd.yang.data+json" -d '{"trap-type": "*name*"}'

Description

Configures an SNMP trap.

Note: You must configure an SNMP agent before configuring an SNMP trap.

Parameters

Name	Description	Importance
trap-type *name*	Specifies the name of the SNMP trap. Valid SNMP traps are linkDown and linkUp.	Required

Example

```
curl -u admin:admin -X POST https://192.0.2.130/api/running/snmp/enable/traps -H "Content-Type:application/vnd.yang.data+json" -d '{"trap-type":"linkUp"}'
```

API History

Release	Modification
2.1.0	This API is introduced.

Get Information About SNMP Server Agents

Method

GET

Module

https://*ip-address:port-number*/api/running/snmp-server

https://*ip-address:port-number*/api/running/snmp-server?deep

Description

Retrieves information about SNMP server agents.

To get detailed information about the SNMP server agent use the ?deep parameter.

Parameters

None

Example

```
curl -ku admin:admin -X GET https://192.0.2.1/api/running/snmp-server
{
  "snmp-server:snmp-server": {
    "view": [
  {
        "name": "myview"
      }
],
    "community": [
      {
        "name": "private"
      },
{
        "name": "public"
      }
    ],
    "group": [
      {
        "name": "mygroup"
      }
```

```
    ],
"user": [
      {
        "name": "v3user",
        "group-name": "mygroup"
      }
    ]
  }
}
```

API History

Release	Modification
2.3.0	This API is introduced.

Get Information About SNMP Server View

Method

GET

Module

https://*ip-address:port-number*/api/running/snmp-server/view/*view-name*

Description

Retrieves information about SNMP server view entry.

Parameters

Name	Description	Importance
view-name	Label for the view record that you are retrieving. The name is used to reference the record.	Required

Example

```
curl -ku admin:admin -X GET https://192.0.2.130/api/running/snmp-server/view/myview
{
"snmp-server:view": {
    "name": "myview",
    "rule": [
    {
    "mibs": "ALL",
    "included-opt": "included"
    },
    {
    "mibs": "IF-MIB",
    "included-opt": "excluded"
    }
    ]
}
}
```

API History

Release	Modification
2.3.0	This API is introduced.

Create or Modify an SNMP Server View

Method

POST

Module

https://*ip-address:port-number*/api/running/snmp-server -H "Content-Type: application/vnd.yang.data+json" -d '{"view": {"name": "*view-name*", "rule": [{"mibs": "*oid-enum-string*", "included-opt": "*included* | *excluded*"}]}}'

Description

Creates or modifies an SNMP server view entry.

Parameters

Name	Description	Importance
name *view-name*	Label for the view record that you are updating or creating. The name is used to reference the record. Valid values are a string up to 32 characters.	Required
rule	Specifies a list of configuration of mibs and included-opt.	Required
mibs *oid-enum-string*	Object identifier enum can be 13 predefined enum text strings. These predefined text strings are ALL, CISCO-ENTITY-EXT-MIB, CISCO-PROCESS-MIB, DISMAN-EVENT-MIB, ENTITY-MIB, HOST-RESOURCE-MIB, IF-MIB, IP-MIB, LIBVIRT-MIB, LM-SENSORS-MIB, SNMP-FRAMEWORK-MIB, SNMPv2-MIB, TCP-MIB, UDP-MIB. Only these 14 predefined MIBs can be defined in the view configuration. You can use "tab" key to view the list of predefined MIBs.	Required
Included-opt *included*|*excluded*	Type of view. You must specify either included or excluded.	Required

Example

```
curl -ku admin:admin -X POST https://192.0.2.130/api/running/snmp-server -H "Content-Type:
application/vnd.yang.data+json" -d '{"view": {"name":"myview ", "rule":[{"mibs":"IF-MIB", "included-
opt":"excluded"}]}}'
```

API History

Release	Modification
2.3.0	This API is introduced.

Get Information About SNMP Server Community

Method

GET

Module

https://*ip-address:port-number*/api/running/snmp-server/community/*community-name*

Description

Retrieves information about SNMP community access string.

Parameters

Name	Description	Importance
community-name	Community name that acts like a password and permits access to the SNMP protocol.	Required

Example

```
curl -ku admin:admin -X GET https://192.0.2.130/api/running/snmp-server/community/ public?with-defaults
{
"snmp-server:community": {
    "name": "public",
    "view": "myview",
    "access": "rw",
    }
}
```

API History

Release	Modification
2.3.0	This API is introduced.

Configuring an SNMP Server Community

Method

POST

Module

https://*ip-address:port-number*/api/running/snmp-server -H "Content-Type: application/vnd.yang.data+json" -d '{"community":{"name": "*community-name*", "view": "*view-name*", "access": "*access-type* "}}'

Description

Sets up the community access string to permit access to the Simple Network Management Protocol (SNMP).

Parameters

Name	Description	Importance
name *community-name*	Community name that acts like a password and permits access to the SNMP protocol. Valid values are a string up to 32 characters.	Required
view *view-name*	Name of a previously defined view. The view defines the objects available to the community.	Optional
access *access-type*	Specifies either read-write (rw) or read-only (ro) access.	Optional

Example

```
curl -ku admin:admin -X POST https://192.0.2.130/api/running/snmp-server -H "Content-Type:
application/vnd.yang.data+json" -d '{"community": {"name":"mypublic","view":"myview ,"access":"rw" }}'
```

API History

Release	Modification
2.3.0	This API is introduced.

Get Information About SNMP Server Group

Method

GET

Module

https://*ip-address:port-number*/api/running/snmp-server/group/*group-name*

Description

Retrieves information about SNMP server group.

Parameters

Name	Description	Importance
group-name	The name of the group.	Required

Example

```
curl -ku admin:admin -X GET https://192.0.2.130/api/running/snmp-server/group/mgroup?with-defaults
{
"snmp-server:group": {
    "name": "mgroup",
    "security-model": "v3",
    "security-level": "priv",
    "read": "mview",
    "write": "myview",
    "notify": "myview"
    }
}
```

API History

Release	Modification
2.3.0	This API is introduced.

Specifying an SNMP Server Group Name

Method

POST

Module

https://*ip-address:port-number*/api/running/snmp-server -H "Content-Type: application/vnd.yang.data+json" -d '{"group":{"name": "*group-name*", "security-model": "*security-model*", "security-level": "*security-level*", "read": "*readview*", "write": "*writeview*", "notify": "*notifyview*"}}'

Description

Configures a new Simple Network Management Protocol (SNMP) group, or a table that maps SNMP users to SNMP views.

Parameters

Name	Description	Importance
name *group-name*	The name of the group. Valid values are a string up to 32 characters.	Required
security-model *security-model*	Specifies either of the following security models: • v1: The least secure of the possible security models. • v2c: The second least secure of the possible security models. • v3: The most secure of the possible security models. If v3 has been configured, at least one of the security levels must be specified.	Required
security-level *security-level*	Specifies either of the following security levels: • auth: Specifies authentication of a packet without encrypting. • noauth: Specifies no authentication of a packet • priv: Specifies authentication of a packet with encryption.	Required if security-model is v3
read *readview*	A string (not to exceed 32 characters) that is the name of the view that enables you only to view the contents of the agent. Note: By default, it is assumed to be ALL MIBs, unless you use the read option to override this state.	Optional
write *writeview*	A string (not to exceed 32 characters) that is the name of the view that enables you to enter data and configure the contents of the agent.	Optional
notify *notifyview*	A string (not to exceed 32 characters) that is the name of the view that enables you to specify a notify, inform, or trap.	Optional

Example

```
curl -ku admin:admin -X POST https://192.0.2.130/api/running/snmp-server -H "Content-Type:
application/vnd.yang.data+json" -d '{"group": {"name":"mygroup","security-model":"v3 ,"security-
level":"priv","read":"myview","write":"myview","notify":"myview"}}'
```

API History

Release	Modification
2.3.0	This API is introduced.

Get Information About SNMP Server User

Method

GET

Module

https://*ip-address:port-number*/api/running/snmp-server/user/*name*,*group-name*

Description

Retrieves information about SNMP server user.

Parameters

Name	Description	Importance
name	The name of the user for v3 or community name for v1 and v2c.	Required
group-name	The name of the group for local or host name when remote host is configured.	Required

Example

```
curl -ku admin:admin -X GET https://192.0.2.130/api/running/snmp-server/user/newuser,mycsp
{
"snmp-server:user": {
    "name": "newuser",
    "group-name": "mycsp",
    "remote": "mycsp",
    "security-model": "v2c"
    }
}
```

API History

Release	Modification
2.3.0	This API is introduced.

Configuring an SNMP Server User

Method

POST

Module

https://*ip-address:port-number*/api/running/snmp-server -H "Content-Type: application/vnd.yang.data+json" -d '{"user":{"name": "*user-name*", "group-name": "*group-name*", "remote": "*remote-host*", "encrypted": "*null string*", "security-model": "*security-model*", "auth": "*auth-protocol*", "auth-password": "*auth-password*", "priv": "*privacy-protocol*", "priv-password": "*priv-password*", "engineID": "*engineID-string*"}}'

Description

Configures a new user to a Simple Network Management Protocol (SNMP) group.

Parameters

Name	Description	Importance
name *user-name*	The name of the user for v3 or community name for v1 and v2c. Valid values are a string up to 32 characters.	Required
group-name *group-name*	The name of the group for local or host name when remote host is configured. Valid values are a string up to 32 characters.	Required
remote *remote-host*	Specifies a remote host name, or the IPv4 address of trap server.	Optional
encrypted *null string*	Specifies whether the auth-password or priv-password appears in encrypted format (a series of digits, masking the true characters of the string usually in hex key format).	Optional
security-model *security-model*	Specifies either of the following security models: • v1: Specifies that SNMPv1 should be used. • v2c: Specifies that SNMPv2c should be used. • v3: Specifies that the SNMPv3 security model should be used. Allows the use of the encrypted and/or auth keywords.	Required
auth *auth-protocoll*	Specifies which of the following authentication level should be used: • The HMAC-MD5-96 authentication level. • The HMAC-SHA-96 authentication level.	Optional
auth-password *auth-password*	A string (between 8 to 64 characters) that enables the agent to receive packets from the host.	Required when auth is configured
priv *priv-protocol*	Specifies either of the following algorithms to be used: • des: Specifies the use of the 56-bit DES algorithm. • aes: Specifies the use of AES algorithm.	Optional
priv-password *priv-password*	Specifies the User-based Security Model (USM). Valid values are a string between 8 to 64 characters.	Required when priv is configured
engineID *engineID-string*	Specifies the ID of the local or remote SNMP engine in hexadecimal format. The length of the engine ID can be between 5 to 32 octets. Default value is local CSP engine ID for remote user key generation.	Optional

Example

```
curl -ku admin:admin -X POST https://192.0.2.130/api/running/snmp-server -H "Content-Type:
application/vnd.yang.data+json" -d '{"user": {"name":" cspremoteuser","group-name":"
10.193.75.211","remote":"10.193.75.211","security-model":"v3" ,"auth":"md5","auth-
password":"myauthpwd","priv":"aes","priv-password":"myprivpwd" }}'
```

API History

Release	Modification
2.3.0	This API is introduced.

Get Information About SNMP Server Host

Method

GET

Module

https://*ip-address:port-number*/api/running/snmp-server/host/*name*

Description

Retrieves information about SNMP server host.

Parameters

Name	Description	Importance
name	Name or IPv4 of the host (the targeted recipient).	Required

Examples

The following example retrieves host information for version v3.

```
curl -ku admin:admin -X GET https://192.0.2.130/api/running/snmp-server/host/10.193.75.211?with-defaults
{
"snmp-server:host": {
    "name": "10.193.75.211",
    "inform-type ": "informs",
    "version": "3",
    "security-level": "priv"
    "username": "trapuser"
    "udp-port": "162"
    }
}
```

The following example retrieves host information for version v1 or v2c.

```
curl -ku admin:admin -X GET https://192.0.2.130/api/running/snmp-server/host/10.193.75.211
{
"snmp-server:host": {
    "name": "10.193.75.211",
    "version": "2c",
    "remote-community": "remotepublic"
    }
}
```

API History

Release	Modification
2.3.0	This API is introduced.

Configuring an SNMP Server Host

Method

POST

Module

https://*ip-address:port-number*/api/running/snmp-server -H "Content-Type: application/vnd.yang.data+json" -d '
'{"name": "*name*", "inform-type": "*inform-type*", "version": "*version*", "security-level": "*security-level*",
"username": "*username*", "remote-community": "*remote-community*", "udp-port": "*udp-port*"}'

Description

Specifies the recipient of a Simple Network Management Protocol (SNMP) notification operation.

Parameters

Name	Description	Importance
name *name*	Name or IPv4 of the host (the targeted recipient). Valid values are a string up to 32 characters.	Required
inform-type *inform-type*	Specifies either of the following inform types: • traps: Sends SNMP traps to this host. This is the default. • informs: Sends SNMP informs to this host.	Optional
version *version*	Version of the SNMP used to send the traps. Version 3 is the most secure model, because it allows packet encryption with the priv keyword. When you use the version keyword, one of the following must be specified: • 1–SNMPv1. This option is not available with informs. • 2c–SNMPv2C. • 3–SNMPv3. The three optional security-level keywords can follow the version 3 keyword.	Required
security-level *security-level*	If version 3 has been configured, at least one of the following security level fields must be specified. • auth–Enables Message Digest 5 (MD5) and Secure Hash Algorithm (SHA) packet authentication. • noauth–(Default) The noAuthNoPriv security level. This is the default if the [auth | noauth | priv] keyword choice is not specified. • priv– Enables Data Encryption Standard (DES) packet encryption (also called "privacy").	Required for version 3
username *username*	When v1 or v2c are specified, enter the password-like remote community string sent with the notification operation. When version 3 is specified, enter the SNMPv3 username.	Required

Name	Description	Importance
remote-community *remote-community*	When v1 or v2c are specified in version, remote-community is mandatory and username is not required. If v3 is specified, username is mandatory and remote-community is not required.	Required
udp-port *udp-port*	UDP port of the host to use. The default value is 162.	Optional

Example

```
curl -ku admin:admin -X POST https://192.0.2.130/api/running/snmp-server -H "Content-Type:
application/vnd.yang.data+json" -d '{"name":"10.193.75.211","inform-type":"
informs","version":"3","security-level":"priv" ,"username":"cspremoteuser","udp-port":"162"}'
```

API History

Release	Modification
2.3.0	This API is introduced.

Get Information About SNMP Server Contact

Method

GET

Module

https://*ip-address:port-number*/api/running/snmp-server/*contact*

Description

Retrieves information about SNMP server contact information.

Parameters

Name	Description	Importance
contact	String that describes the SNMP system contact information. The maximum length of the contact string can be 255 characters.	Required

Example

```
curl -ku admin:admin -X GET https://192.0.2.130/api/running/snmp-server/contact
{
"snmp-server:contact":
    "cspadmin@cisco.com"
}
```

API History

Release	Modification
2.3.0	This API is introduced.

Configuring SNMP Server Contact Information

Method

POST

Module

https://*ip-address:port-number*/api/running/snmp-server -H "Content-Type: application/vnd.yang.data+json" -d '
'{"contact": "*contact*"}'

Description

Sets the system contact (sysContact) string.

Parameters

Name	Description	Importance
contact *contact*	String that describes the system contact information. The maximum length of the contact string can be 255 characters.	Required

Example

```
curl -ku admin:admin -X POST https://192.0.2.130/api/running/snmp-server -H "Content-Type:
application/vnd.yang.data+json" -d '{"contact":"cspadmin@cisco.com"}'
```

API History

Release	Modification
2.3.0	This API is introduced.

Get Information About SNMP Server Location

Method

GET

Module

https://*ip-address:port-number*/api/running/snmp-server/*location*

Description

Retrieves the system location string.

Parameters

Name	Description	Importance
location	String that describes the system location information. The maximum length of the location string can be 255 characters.	Required

Example

```
curl -ku admin:admin -X GET https://192.0.2.130/api/running/snmp-server/location
{
"snmp-server:location":
```

```
    "rack5@lab24"
}
```

API History

Release	Modification
2.3.0	This API is introduced.

Configuring SNMP Server Location Information

Method

POST

Module

https://*ip-address:port-number*/api/running/snmp-server -H "Content-Type: application/vnd.yang.data+json" -d '
'{"location": "*location*"}'

Description

Sets the system location string.

Parameters

Name	Description	Importance
location *location*	String that describes the system location information. The maximum length of the location string can be 255 characters.	Required

Example

```
curl -ku admin:admin -X POST https://192.0.2.130/api/running/snmp-server -H "Content-Type:
application/vnd.yang.data+json" -d '{"location":"rack5@lab24"}'
```

API History

Release	Modification
2.3.0	This API is introduced.

Get Information About SNMP Server EngineID

Method

GET

Module

https://*ip-address:port-number*/api/running/snmp-server/engineID/local

Description

Retrieves a name for local Simple Network Management Protocol (SNMP) engine on CSP 2100.

Parameters

Name	Description	Importance
local	Specifies the local copy of SNMP on CSP 2100.	Optional

Example

```
curl -ku admin:admin -X GET https://192.0.2.130/api/running/snmp-server/engineID/local
{
"snmp-server:local": "000000090000641225a85355"
}
```

API History

Release	Modification
2.3.0	This API is introduced.

Configuring SNMP Server EngineID Information

Method

POST

Module

https://*ip-address:port-number*/api/running/snmp-server -H "Content-Type: application/vnd.yang.data+json" -d '
'{"engineID": {"local": "*engineID*"}}'

Description

Configures a name for local Simple Network Management Protocol (SNMP) engine on CSP 2100.

Parameters

Name	Description	Importance
engineID local *engineID*	The name of a copy of SNMP. The length of the engineID string can be 12 octets.	Required

Example

```
curl -ku admin:admin -X POST https://192.0.2.130/api/running/snmp-server -H "Content-Type:
application/vnd.yang.data+json" -d '{"engineID":{"local": "00112233445566778899112 2"}}'
```

API History

Release	Modification
2.3.0	This API is introduced.

Get Information About SNMP Server enable

Method

GET

Module

https://*ip-address:port-number*/api/running/snmp-server/enable

Description

Retrieves information about enabled SNMP traps.

Parameters

None

Example

```
curl -ku admin:admin -X GET https://192.0.2.130/api/running/snmp-server/enable
{
"snmp-server:enable": {
"traps": {
}
}
}
```

API History

Release	Modification
2.3.0	This API is introduced.

Configure SNMP Server Enable

Method

POST

Module

https://*ip-address:port-number*/api/running/snmp-server/enable -H "Content-Type: application/vnd.yang.data+json" -d '{"traps": {}}'

Description

Enables the trap functionality to send the notification to remote trap server.

Parameters

None

Example

```
curl -ku admin:admin -X POST https://192.0.2.130/api/running/snmp-server/enable -H "Content-Type:application/vnd.yang.data+json" -d '{"traps":{}}'
```

API History

Release	Modification
2.3.0	This API is introduced.

Delete SNMP Traps

Method

DELETE

Module

https://*ip-address:port-number*/api/running/snmp/enable/traps

Description

Deletes SNMP traps.

Parameters

None

Examples

```
curl -u admin:admin -X DELETE https://192.0.2.1/api/running/snmp/enable/traps
```

API History

Release	Modification
2.1.0	This API is introduced.

Get Information About SNMP Traps

Method

GET

Module

https://*ip-address:port-number*/api/running/snmp/traps

Description

Retrieves information about enabled SNMP traps.

Parameters

None

Example

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/snmp/enable/traps
{
"snmp:traps": {
"trap-type": ["linkUp", "linkDown"]
}
}
```

API History

Release	Modification
2.1.0	This API is introduced.

System APIs

Get CPU Pinning Status

Method

GET

Module

https://*ip-address:port-number*/api/operational/system-settings/cpupin-state

Description

Retrieves the current state of the cpupin configuration. If cpupin configuration has been modified, the status is updated after rebooting the Cisco CSP 2100 host.

Parameters

None

Example

```
curl -u admin:admin -X GET https://192.0.2.1/api/operational/system-settings/cpupin-state --insecure
{

    "system_setting:cpupin-state": 0
}
```

API History

Release	Modification
2.3.1	The path of getting CPU pin has been updated.
2.2.5	This API is introduced.

Enable or Disable CPU Pinning

Method

PUT

Module

https://*ip-address:port-number*/api/running/cpupin -H "Content-Type: application/vnd.yang.data+json" -d '{"system-setting":"*cpupin*"}'

Description

Enable or disable pinning each VNF CPU to a particular system CPU. If CPU pinning mode is updated, ensure that you reboot the Cisco CSP 2100 host for the updated mode to be applied.

Parameters

Name	Description	Importance
system-setting *cpupin*	Sets the CPU pinning mode. Valid values are enable and disable. Default is enable.	Required

Examples

Example for enabling CPU pin

```
curl -u admin:admin -X PUT https://192.0.2.130/api/running/system-settings/cpupin -H "Content-Type: application/vnd.yang.data+json" -d '{"system-setting:cpupin":"enable"}'
```

Example for disabling CPU pin

```
curl -u admin:admin -X PUT https://192.0.2.130/api/running/system-settings/cpupin -H "Content-Type: application/vnd.yang.data+json" -d '{"system-setting:cpupin":"disable"}'
```

API History

Release	Modification
2.3.1	The path for CPU pinning has been updated.
2.2.5	This API is introduced.

Get Information About Disk I/O Statistics

Method

POST

Module

https://*ip-address:port-number*/api/running/show/system/_operations/iostat

https://*ip-address:port-number*/api/running/show/system/_operations/iostat -H "Content-Type:application/vnd.yang.data+json" -d '{"input":{"disk":"*name*", "extend": ""}}'

Description

Retrieves the disk I/O statistics for all disks or specified disks or extended disk I/O statistics for all disks.

Name	Description	Importance
disk *name*	Displays the statistics for the specified disk. You can specify multiple disks in the following format: "*name1 name2*".	Optional
extend	Displays the extended statistics for all disks.	Optional

Examples

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/show/system/_operations/iostat
{

 "output": {

                "result": "\nLinux 3.10.0-693.5.2.el7.x86_64 (csp) \t12/07/2017 \t_x86_64_\t(32 CPU)\navg-cpu:
```

```
%user   %nice %system %iowait  %steal   %idle\n           0.03    0.00    0.03    0.00    0.00   99.94\n

Device:            tps    kB_read/s    kB_wrtn/s    kB_read    kB_wrtn\n

sda               1.97        11.56        16.60     730597    1049668\n

sda1              0.00         0.00         0.00         88          0\nsda2              1.55
6.21        11.28     392645     713120\nsda3              0.00         0.02         0.00       1340
0\nsda4              0.00         0.00         0.00         14          0\nsda5              0.35
5.23         0.00     330765        164\nsda6              0.07         0.08         5.32       4929
336384\ndm-0              0.02         0.12         0.01       7496        788\n"

            }

}
```


curl -u admin:admin -X POST https://192.0.2.1/api/running/show/system/_operations/iostat -H "Content-Type:application/vnd.yang.data+json" -d '{"input": { "disk":"sda1 sda2"}}'


```
{

"output": {

                "result": "\nLinux 3.10.0-693.5.2.el7.x86_64 (csp) \t12/07/2017 \t_x86_64_\t(32
CPU)\navg-cpu:

%user   %nice %system %iowait  %steal   %idle\n

0.03    0.00    0.03    0.00    0.00   99.94\n

Device:            tps    kB_read/s    kB_wrtn/s    kB_read    kB_wrtn\n

sda1              0.00         0.00         0.00         88          0\n

sda2              1.55         6.21        11.28     392653     713384\n"

            }

}
```


curl -u admin:admin -X GET https://192.0.2.1/api/running/show/system/_operations/iostat -H "Content-Type:application/vnd.yang.data+json" -d '{"input": {"extend":""}}'


```
{

"output": {

                "result": "\nLinux 3.10.0-693.5.2.el7.x86_64 (csp) \t12/07/2017 \t_x86_64_\t(32
CPU)\navg-cpu:

%user   %nice %system %iowait  %steal   %idle\n

0.03    0.00    0.03    0.00    0.00   99.94\n

Device:         rrqm/s   wrqm/s     r/s     w/s    rkB/s    wkB/s avgrq-sz avgqu-sz   await r_await
w_await  svctm  %util\n

sda               0.01     0.59    1.23    0.74    11.55    16.60    28.56     0.01    4.49    1.31
9.75   0.38   0.07\n

sda1              0.00     0.00    0.00    0.00     0.00     0.00     8.00     0.00    2.55    2.55
0.00   2.55   0.00\n
```

```
sda2              0.01     0.57    0.86    0.69     6.21    11.28    22.60     0.00    2.98    1.65
4.64   0.45   0.07\n

sda3              0.00     0.00    0.00    0.00     0.02     0.00    14.18     0.00    2.08    2.08
0.00   1.93   0.00\n

sda4              0.00     0.00    0.00    0.00     0.00     0.00     5.60     0.00    4.00    4.00
0.00   4.00   0.00\n

sda5              0.00     0.00    0.35    0.00     5.23     0.00    29.76     0.00    0.36    0.34
18.78   0.21   0.01\n

sda6              0.00     0.02    0.01    0.05     0.08     5.32   162.11     0.00   61.43    4.33
76.60   1.26   0.01\ndm-0              0.00     0.00    0.01    0.01     0.12     0.01    15.99     0.00
1.52    0.09    3.89   1.48   0.00\n"

         }

}
```


API History

Release	Modification
2.2.4	This API is introduced.

TACACS+ APIs

Get Information About TACACS+ Servers

Method

GET

Module

https://*ip-address:port-number*/api/running/security_servers/tacacs-server

https://*ip-address:port-number*/api/running/security_servers/tacacs-server/host/*hostname*

https://*ip-address:port-number*/api/running/security_servers/tacacs-server?deep

Description

Retrieves information about a specific TACACS+ server or all TACACS+ servers.

To get detailed information about the TACACS+ servers, use the ?deep parameter.

Note: If you have not yet configured a TACACS+ server or deleted all configured TACACS+ servers, use your Cisco CSP 2100 user account credentials with the REST APIs. After configuring a TACACS+ server, use your configured TACACS+ host's user account credentials with the REST APIs.

Parameters

Name	Description	Importance
hostname	Name of the TACACS+ server	Required

Example

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/security_servers/tacacs-server
{
  "tacacs-server": {
    "host": [
      {
        "server": "10.10.10.2"
      },
      {
        "server": "last.cisco.com"
      }
    ]
  }
}
curl -u admin:admin -X GET https://192.0.2.1/api/running/security_servers/tacacs-server?deep
{
  "security:tacacs-server": {
    "host": [
      {
        "server": "10.10.10.2",
        "secret": {
          "key": "7",
          "shared-secret": "sec_code"
        }
      },
      {
        "server": "last.cisco.com",
        "secret": {
          "key": "7",
          "shared-secret": "shenf1"
        }
      }
    ]
  }
}
curl -u admin:admin -X GET https://192.0.2.1/api/running/security_servers/tacacs-
server/host/last.cisco.com
{
  "host": {
    "server": "last.cisco.com",
    "secret": {
      "key": "7",
      "shared-secret": "shenf1"
    }
  }
}
```

API History

Release	Modification
2.1.0	This API is introduced.

Add or Modify a TACACS+ Server

Method

POST or PATCH

Module

https://*ip-address:port-number*/api/running/security_servers/tacacs-server -H "Content-Type:application/vnd.yang.data+json" -d '{"host":{"server":"*hostname*", "secret":{"key": "*key_value*", "shared-secret":"*shared-secret*"}}}'

Description

Adds or modifies a TACACS+ server.

Parameters

Name	Description	Importance
server *hostname*	Specifies the hostname or IPv4 or IPV6 address of the TACACS+ server. Note: You cannot modify the hostname.	Required
key *key_value*	Defines the type of the shared-secret key. Valid values are the following: • 0: The shared-secret key is specified in clear text. This is the default. • 7: The shared-secret key is specified in encrypted text.	Optional
shared-secret *shared-secret*	Specifies the preshared secret to authenticate communication between the TACACS+ server and Cisco CSP 2100. The preshared secret is alphanumeric, case sensitive, and has a maximum of 63 characters. If the specified shared-secret is in clear text, Cisco CSP 2100 encrypts the shared-secret and changes the key parameter to 7. If the specified shared-secret is already encrypted, Cisco CSP 2100 does not make any change.	Required

Examples

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/security_servers/tacacs-server -H "Content-Type:application/vnd.yang.data+json" -d '{"host": {"server":"10.10.10.2", "secret": {"key":"0", "shared-secret":"tac_test"}}}'
```

API History

Release	Modification
2.1.0	This API is introduced.

Delete a TACACS+ Server

Method

DELETE

Module

https://*ip-address:port-number*/api/running/security_servers/tacacs-server/host/*hostname*

Description

Deletes a configured TACACS+ server.

Note: After deleting the last reachable TACACS+ server, use your Cisco CSP 2100 user account credentials with the REST APIs.

Parameters

Name	Description	Importance
hostname	Hostname or IP address of the TACACS+ server	Required

Example

```
curl -u tacacs_user:password -X DELETE https://192.0.2.130/api/running/security_servers/tacacs-server/host/10.10.10.2
```

API History

Release	Modification
2.1.0	This API is introduced.

Time Zone APIs

Get Information About the Time Zone

Method

GET

Module

https://*ip-address:port-number*/api/running/running/clock/timezone

https://*ip-address:port-number*/api/running/running/clock

Description

Retrieves information about the configured time zone of Cisco CSP 2100.

If a time zone is not configured, you can retrieve information about the default time zone with the ?with-defaults=report-all parameter.

https://*ip-address:port-number*/api/running/running/clock/timezone?with-defaults=report-all

Parameters

None

Examples

```
curl -u admin:admin -X GET https://192.0.2.1/api/running/clock/timezone
{
  "clock:timezone": "Asia/Bangkok"
}
curl -u admin:admin -X GET https://192.0.2.1/api/running/clock/timezone?with-defaults=report-all
```

```
{
  "clock:timezone": "America/New_York"
}
curl -u admin:admin -X GET https://192.0.2.1/api/running/clock?with-defaults=report-all
{
  "clock:clock": {
    "timezone": "America/New_York"
  }
}
```

API History

Release	Modification
2.2.2	This API is introduced.

Configure the Time Zone for Cisco CSP 2100

Method

POST

Module

https://*ip-address:port-number*/api/running/clock -H "Content-Type:application/vnd.yang.data+json" -d '{"clock:timezone": "*Continent/City*"}'

Description

Configures the time zone for Cisco CSP 2100.

Parameters

Name	Description	Importance
continent/city	Name of the continent and city separated by a forward slash (/).	Required

Usage Guidelines

To view all *continent/city* values supported in Cisco CSP 2100, you can use the clock timezone ? CLI command.

Examples

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/clock -H "Content-
Type:application/vnd.yang.data+json" -d '{"clock:timezone": "America/Los_Angeles"}'
```

API History

Release	Modification
2.2.2	This API is introduced.

Change the Time Zone for Cisco CSP 2100

Method

PATCH

Module

https://*ip-address:port-number*/api/running/clock/timezone -H "Content-Type:application/vnd.yang.data+json" -d '{"timezone": "*Continent*/*City*"}'

Description

Changes the time zone for Cisco CSP 2100.

Parameters

Name	Description	Importance
continent/city	Name of the continent and city separated by a forward slash (/).	Required

Usage Guidelines

To view all *continent/city* values supported in Cisco CSP 2100, you can use the `clock timezone ?` CLI command.

Examples

```
curl -u admin:admin -X PATCH https://192.0.2.1/api/running/clock/timezone -H "Content-
Type:application/vnd.yang.data+json" -d '{"timezone": "Asia/Bangkok"}'
```

API History

Release	Modification
2.2.2	This API is introduced.

Delete the Configured Time Zone

Method

DELETE

Module

https://*ip-address:port-number*/api/running/clock/timezone

Description

Deletes the configured time zone. The Cisco CSP 2100 time zone is set to the default: `America/New_York`.

Parameters

None

Example

```
curl –u admin:admin -X DELETE https://192.0.2.130/api/running/clock/timezone
```

API History

Release	Modification
2.2.2	This API is introduced.

Technical Support Information API

Generate Technical Support Information

Method

POST

Module

https://*ip-address:port-number*/api/running/support/_operations/show-tech –H "Content-Type: application/vnd.yang.data+json" -d '{"input": {"operation": "generate-report"}}'

Description

Generates technical support information to diagnose an issue or to attach to a Cisco TAC case.

Parameters

None

Usage Guidelines

This REST API creates a csp_show_tech.tar.gz file in the log directory. The csp_show_tech.tar.gz file contains relevant log files and configuration files and it can take up to 15 minutes to create this file. If a csp_show_tech.tar.gz file already exists in the log directory, the existing file is overwritten.

Examples

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/support/_operations/show-tech –H "Content-Type: application/vnd.yang.data+json" -d '{"input":{"operation": "generate-report"}}'
```

API History

Release	Modification
1.0	This API is introduced.

User APIs

Get Information About the Cisco CSP 2100 Users

Method

GET

Module

https://*ip-address:port-number*/api/running/csp_users

https://*ip-address:port-number*/api/running/csp_users?deep

https://*ip-address:port-number*/api/running/csp_users/users/user/*username*

Description

Retrieves information about a specific Cisco CSP 2100 user or all users.

To get detailed information about all users, use the ?deep parameter.

Parameters

Name	Description	Importance
username	Name of the user	Required

Examples

curl -u admin:admin -X GET https://192.0.2.1/api/running/csp_users

```
{
  "csp_user:csp_users": {
    "users": {
      "user": [
        {
          "name": " abc-admin "
        },
        {
          "name": " abc-oper"
        }
      ]
    }
  }
}
```

curl -u admin:admin -X GET https://192.0.2.1/api/running/csp_users/users/user?deep

{"users": {"user": [{"group": "admin-group", "name": "abc-admin"}, {"group": "operator-group", "name": "abc-oper"}, {"group": "service-group", "name": "abc-service"}]}}

```
{
  "csp_user:csp_users": {
    "users": {
      "user": [
        {
          "name": " abc-admin",
          "group": "admin-group",
          "password":
"$6$ELkOUGuH$Kxe/44dlO1OjIjvm2cbvQK84WTpwQlsD8MYGA2Q/qOuyeLoe7o6e94ptF3PUFo8r6tNlGLLEhzhvR./BYdx.."
        },
        {
          "name": " abc-oper",
          "group": " operator-group ",
          "password":
"$6$f8rtb/kZ$nA/CvUq8Cpl399jk/wpliHVJcEpydzVAhFqm4ssn3LjOLZLhBGTKKloeijopivbVjrQDyOwPQsDDtpgW6/uxL0"
        }
      ]
    }
  }
}
```

curl -u admin:admin -X GET https://192.0.2.1/api/running/csp_users/users/user/abc-oper

```
{
  "csp_user:user": {
    "name": "abc-oper",
    "group": " operator-group",
    "password":
"$6$f8rtb/kZ$nA/CvUq8Cpl399jk/wpliHVJcEpydzVAhFqm4ssn3LjOLZLhBGTKKloeijopivbVjrQDyOwPQsDDtpgW6/uxL0"
  }
}
```

API History

Release	Modification
2.1.0	This API is introduced.

Create a New User

Method

POST

Module

https://*ip-address:port-number*/api/running/csp_users/users/user -H "Content-Type:application/vnd.yang.data+json" -d '{"user":{"name": "*username*", "password": "*password*", "group": "*group*"}}'

Description

Creates a new user.

Note: Only the members of the **admin-group** group can use this API to create a new user.

Parameters

Name	Description	Importance
name *username*	Specifies the username.	Required
password *password*	Specifies the password in clear text. In running configuration, the password is displayed as a hashed entry. The password is mandatory, the user is considered as a local user and is authenticated locally by the Cisco CSP 2100. A user can also be defined remotely. In such cases, remote authentication is used to authenticate the user. Local authentication is used only if the remote authentication is not available. Local authentication is not used as the secondary authentication method if the remote authentication is rejected.	Required
group *group*	Specifies the group for the user. Valid values are admin-group, operator-group, service-group, and vnf-operator-group.	Required

Examples

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/csp_users/users/user -H "Content-Type:application/vnd.yang.data+json" -d '{"user":{"name": "abc-oper","password": "newSecret@123456","group": "operator-group"}}'
```

API History

Release	Modification
2.3.0	Introduced a new VNF group, vnf-operator-group
2.1.0	This API is introduced.

Change a User's Password

Release 2.2.2 and Later Releases

Method

POST

Module

https://*ip-address:port-number*/api/running/change-password/_operations/users -H "Content-Type:application/vnd.yang.data+json" -d '{"user":{"username":"*username*", "old-password": "*old-password*", "new-password": "*new-password*"}}'

Description

Changes a user's password.

Note: Only the members of the **admin-group** group can use this API to change the password of other users. Members of other groups can only change their own password.

Parameters

Name	Description	Importance
username *username*	Specifies the username.	Required
old-password *old-password*	Specifies the old password.	Required
new-password *new-password*	Specifies the new password.	Required

Examples

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/change-password/_operations/users -H "Content-Type:application/vnd.yang.data+json" -d '{"user":{"username": "abc-oper","old-password": "
oldSecret@123456", "new-password": "newSecret@123456"}}'
```

API History

Release	Modification
2.2.2	This API is introduced.

Release 2.1.0

Method

POST

Module

https://*ip-address:port-number*/api/running/csp_users/users/user -H "Content-Type:application/vnd.yang.data+json" -d '{"user":{"name":"*username*", "password": "*new_password*"}}'

Description

Changes a user's password.

Note: Only the members of the **admin-group** group can use this API to change the password of other users. Members of other groups can only change their own password.

Parameters

Name	Description	Importance
name *username*	Specifies the username.	Required
password *new_password*	Specifies the new password.	Required

Examples

```
curl -u admin:admin -X POST https://192.0.2.1/api/running/csp_users/users/user -H "Content-
Type:application/vnd.yang.data+json" -d '{"user":{"name": "abc-oper","password": "Secret@123456"}}'
```

API History

Release	Modification
2.1.0	This API is introduced.

Change a User's Group

Method

PATCH

Module

https://*ip-address:port-number*/api/running/csp_users/users/user -H "Content-Type:application/vnd.yang.data+json" -d '{"user":{"name":"*username*", "group": "*new_group*"}}'

Description

Changes a user's group.

Note: Only the members of the **admin-group** group can use this API to change a user's group.

Parameters

Name	Description	Importance
name *username*	Specifies the username.	Required
group *new_group*	Specifies the new group.	Required

Examples

```
curl -u admin:admin -X PATCH https://192.0.2.1/api/running/csp_users/users/user -H "Content-
Type:application/vnd.yang.data+json" -d '{"user":{"name": "abc-test","group": "operator-group"}}'
```

API History

Release	Modification
2.1.0	This API is introduced.

Delete a User

Method

DELETE

Module

https://*ip-address:port-number*/api/running/csp_users/users/user/*username*

Description

Deletes a user.

Note: Only the members of the **admin-group** group can use this API to delete a user.

Parameters

Name	Description	Importance
username	Specifies the username to be deleted.	Required

Examples

```
curl -u admin:admin -X DELETE https://192.0.2.1/api/running/csp_users/users/user/abc-oper
```

API History

Release	Modification
2.1.0	This API is introduced.

Get Status Information about Password Expiry

Method

GET

Module

https://*ip-address:port-number*/api/operational/system-settings/password/expiry

Description

Retrieves the status of password expiry for CSP.

Parameters

None

Example

```
curl -u admin:admin -X GET https://192.0.2.1/api/operational/system-settings/password/expiry
```

API History

Release	Modification
2.4.0	This API is introduced.

Enable or Disable Password Expiry on CSP

Method

POST

Module

https://*ip-address*/api/running/system-settings/operations/password-expiry -H "Content-type: application/vnd.yang.data+json" -d '{"input":{"action": "*enable|disable"*}**}'**

Description

Enables or disables password expiry for CSP host.

Parameters

Name	Description	Importance
action *enable|disable*	Specifies the password states on CSP. Valid values are: disable: Prevents expiry of password for CSP host. Therefore, you are not prompted to change password. enable: Enables expiry of password for CSP host. By default, password state is enable.	Optional

Example

```
curl -k -u admin:admin -X POST https://192.0.2.1/api/running/system-settings/operations/passowrd-expiry -H " Content-type:application/vnd.yang.data+json" -d '{"input":{"action":"disable"}}'
{
   "system_setting:output": {
    "results": "Password expiry disabled for all users"
    }
]
```

API History

Release	Modification
2.4.0	This API is introduced.

Enable or Disable TPM based Disk Encryption

Method

POST

Module

https://*ip-address*/api/running/system-settings/tpm -H "Content-type: application/vnd.yang.data+json" -d '{"system-settings:tpm":{"encryption": "*enable|disable"*}**}'**

Description

Enables or disables TPM based disk encryption.

Parameters

Name	Description	Importance
disable	Disables TPM based disk encryption. By default, encryption state is disable.	Optional
enable	Enables TPM based disk encryption of private certificates and ssh keys folder.	Required

Example

```
curl -ku admin:admin -X PUT https://192.0.2.1/api/running/system-settings/tpm -H " Content-type:application/vnd.yang.data+json" -d '{"system-settings":{"encryption":"enable"}}'

curl -ku admin:admin -X GET https://192.0.2.1/api/running/system-settings/tpm?with-defaults --insecure

{
"system_setting:tpm": {
"encryption": "disable"
}
}

curl -ku admin:admin -X GET https://192.0.2.1/api/operational/system-settings/tpm/encryption-status --insecure
{
"system_setting:encryption-status":"encryption_complete"
}
```

API History

Release	Modification
2.6.0	This API is introduced.

vNICs APIs

Get Statistics for vNICs

Method

GET

Module

https://*ip-address:port-number*/api/operational/vnic_stats/vnic_stat -H "Accept:application/vnd.yang.collection+json"

https://*ip-address:port-number*/api/operational/vnic_stats/vnic_stat/*name*

Description

Retrieves statistics for all vNICs or a specific vNIC. The vNIC statistics are updated every 10 seconds.

In the output of this REST API, the vNIC name is shown in the vnet*num* format. For each running service, the *num* value is increased (vnet0, vnet1, and so on) corresponding to the (first, second, and so on) vNIC for each service.

Starting with release 2.3.0, the MAC address field is not displayed. Use the Get method of Service APIs to know about the vNIC and VF MAC addresses.

Starting with release 2.6.0, use the Get method of Service APIs to view statistics of all NIC interfaces.

Parameters

Name	Description	Importance
name	Name of the vNIC	Optional

Example

```
curl -u admin:admin -X GET https://192.0.2.1/api/operational/vnic_stats/vnic_stat -H
"Accept:application/vnd.yang.collection+json"
{
  "collection": {
    "vnic_stats:vnic_stat": [
    {
      "name": "vnet0",
      "service_name": "tiny1",
      "stats": {
        "receive": {
          "bytes": 648,
          "packets": 8,
          "errors": 0,
          "dropped": 0,
          "rate_mbps": "0.0"
        },
        "transmit": {
          "bytes": 1412802,
          "packets": 4131,
          "errors": 0,
          "dropped": 0,
          "rate_mbps": "0.0"
        }
      }
    }
  ]
}
curl -u admin:admin -X GET https://192.0.2.1/api/operational/vnic_stats/vnic_stat/vnet0
{
  "vnic_stats:vnic_stat": {
    "name": "vnet0",
    "service_name": "tiny_rest15b",
    "stats": {
      "receive": {
        "bytes": 828,
        "packets": 10,
        "errors": 0,
        "dropped": 0,
        "rate_mbps": "0.0"
      },
      "transmit": {
        "bytes": 103200894,
        "packets": 301757,
        "errors": 0,
        "dropped": 0,
        "rate_mbps": "0.0"
      }
    }
  }
}
```

API History

Release	Modification
2.6.0	This command has been deprecated.
2.3.0	Removed MAC address field to be displayed.
1.0	This API is introduced.

Get Bandwidth for vNICs

Method

GET

Module

https://*ip-address:port-number*/api/running/services/service/a/vnics/vnic/0 -H "Content-Type:application/vnd.yang.data+json" -d '{"vnic": [{"nic":"*nic_num*", "bandwidth": "*bandwidth*"}]}'

Description

Retrieves bandwidth of all vNICs or a specific vNIC.

Parameters

Name	Description	Importance
nic *nic_num*	A number for the vNIC. Valid range is from 0 to 23. In Release 2.2.3 and earlier releases, valid supported range is from 0 to 9.	Required
bandwidth *bandwidth*	Bandwidth in megabits per second and should be a positive integer.	Optional

Example

```
curl -ku admin:admin -X GET https://192.0.2.1/api/running/services/service/a/vnics/vnic/0 -H " Content-type:application/vnd.yang.data+json" -d '{"vnic": [{"nic":”0”, "bandwidth": "20000"}]}'
{
  "vsb:vnic": {
    "nic": 0,
    "tagged": false,
    "bandwidth": 20000,
    "adminstatus": "up",
    "type": "access",
    "passthrough_mode": "none",
    "model": "virtio",
    "span-port": false,
    "mgmt-vnic": false,
    "network_name": "Eth2-1"
}
```

API History

Release	Modification
2.6.0	This API is introduced.

Configure vNIC Bandwidth

Method

PATCH

Module

https://*ip-address:port-number*/api/running/services/service/a/vnics/vnic/0 -H "Content-Type:application/vnd.yang.data+json" -d '{"vnic": [{"nic":"*nic_num*", "bandwidth": "*bandwidth*"}]}'

Description

Enables you to configure vNIC bandwidth. By default, the configured bandwidth is 0.

Parameters

Name	Description	Importance
nic *nic_num*	A number for the vNIC. Valid range is from 0 to 23. In Release 2.2.3 and earlier releases, valid supported range is from 0 to 9.	Required
bandwidth *bandwidth*	Bandwidth in megabits per second and should be a positive integer. The maximum bandwidth for an interface based on the configured value is controlled. For SRIOV, the actual bandwidth is closer to the configured value, and for OVS and DPDK it varies but maximum is the configured value.	Optional

Example

```
curl -ku admin:admin -X PATCH https://192.0.2.1/api/running/services/service/a/vnics/vnic/0 -H " Content-type:application/vnd.yang.data+json" -d '{"vnic": [{"nic":"0", "bandwidth": "20000"}]}'
```

API History

Release	Modification
2.6.0	This API is introduced.

Get Adminstatus of vNICs

Method

GET

Module

https://*ip-address:port-number*/api/running/services/service/a/vnics/vnic/1 -H "Content-Type:application/vnd.yang.data+json" -d '{"vnic": [{"nic":"*nic_num*", "adminstatus": "*adminstatus*"}]}'

Description

Retrieves adminstatus of all vNICs or a specific vNIC.

Parameters

Name	Description	Importance
nic *nic_num*	A number for the vNIC. Valid range is from 0 to 23. In Release 2.2.3 and earlier releases, valid supported range is from 0 to 9.	Required
adminstatus *adminstatus*	Shuts down or re-enables a disabled vNIC. Valid values are up and down. The default value is up in the absence of explicit user configuration.	Optional

Example

```
curl -ku admin:admin -X GET https://192.0.2.1/api/running/services/service/a/vnics/vnic/1 -H " Content-type:application/vnd.yang.data+json" -d '{"vnic": [{"nic":”1”, "adminstatus": "up"}]}'
{
  "vsb:vnic": {
    "nic": 1,
    "tagged": false,
    "adminstatus": "up",
    "type": "access",
    "passthrough_mode": "none",
    "model": "virtio",
    "span-port": false,
    "mgmt-vnic": false,
    "network_name": "Eth1-1" }
}
```

API History

Release	Modification
2.6.0	This API is introduced.

Configure vNIC Adminstatus

Method

PATCH

Module

https://*ip-address:port-number*/api/running/services/service/a/vnics/vnic/1 -H "Content-Type:application/vnd.yang.data+json" -d '{"vnic": [{"nic":"*nic_num*", "adminstatus": "*adminstatus*"}]}'

Description

Configures shut down or re-enables a disabled vNIC. By default, all vNICs have the status as, up.

Parameters

Name	Description	Importance
nic *nic_num*	A number for the vNIC. Valid range is from 0 to 23. In Release 2.2.3 and earlier releases, valid supported range is from 0 to 9.	Required

adminstatus *adminstatus*	Shuts down or re-enables a disabled vNIC. Valid values are up and down. The default value is up in the absence of explicit user configuration.	Optional

Example

```
curl -ku admin:admin -X PATCH https://192.0.2.1/api/running/services/service/a/vnics/vnic/1 -H " Content-type:application/vnd.yang.data+json" -d '{"vnic": [{"nic":"1", "adminstatus": "up"}]}'
```

API History

Release	Modification
2.6.0	This API is introduced.

Start, Stop, Show Counters APIs

Method

POST

Modules

https://*ip-addres:port-number*/api/running/start-stop-counters/_operations/start-counters -d '{"input": {"parameter": "*value*"}}'

https://*ip-addres:port-number*/api/running/start-stop-counters/_operations/stop-counters -d '{"input": {"parameter": "*value*"}}'

https://*ip-addres:port-number*/api/running/start-stop-counters/_operations/show-counters -d '{"input": {"parameter": "*value*"}}'

Description

Provides statistics data of an interface within a period for traffic monitoring or debugging purpose.

Note: Always note that the output of REST API includes the "\n" newline string, and "\" escape character for the double quote ".

Parameters

Name	Description	Importance
all	Specifies all interfaces in CSP. It has three possible values, "all-intf", all-pnics, all-services". • all-intf: for all interfaces including physical interfaces and virtual interfaces. • all-pnics: for all physical interfaces. • all-services: for all interfaces inside the services.	Required
pnic	Specifies a physical interface	Required

service-node	Specifies a service name with "service" and an optional "vnic" for virtual interface name in the form of object, { "service" : "myservice", "vnic" : "1" }.	Optional
period	Supported only in start-counters API. It records the statistics data of an interface and the unit is seconds.	Optional

Example

curl -ku 'admin:admin' -d '{"input":{"all":"all-intf"}}'-X POST https://192.0.2.1/api/running/start-stop-counters/_operations/start-counters

curl -ku 'admin:admin' -d '{"input":{"all":"all-intf"}}'-X POST https://192.0.2.1/api/running/start-stop-counters/_operations/stop-counters

curl -ku 'admin:admin' -d '{"input":{"all":"all-intf"}}'-X POST https://192.0.2.1/api/running/start-stop-counters/_operations/show-counters

curl -ku 'admin:admin' -d '{"input":{"service-node":{"service" : "tiny2", "vnic": "0"}}}'-X POST https://192.0.2.1/api/running/start-stop-counters/_operations/start-counters

curl -ku 'admin:admin' -d '{"input":{"service-node":{"service" : "tiny2", "vnic": "0"}}}'-X POST https://192.0.2.1/api/running/start-stop-counters/_operations/stop-counters

curl -ku 'admin:admin' -d '{"input":{"service-node":{"service" : "tiny2", "vnic": "0"}}}'-X POST https://192.0.2.1/api/running/start-stop-counters/_operations/show-counters

```
{
"start-stop-counters:output": {
"counters": " \n{\"tiny2\": {\"0\": {\"rx_multicast\": 0, \"rx_packets\": 0, \"tx_multicast\": 0,
\"rx_bytes\": 0, \"tx_errors\": 0, \"start_time\": \"2019-10-30 20:16:32\", \"tx_bytes\": 0,
\"tx_broadcast\": 0, \"stop_time\": \"2019-10-30 20:16:44\", \"rx_broadcast\": 0, \"duration\": \"0
days,0 hours,0 mins,12 secs\", \"collisions\": 0, \"tx_dropped\": 0, \"rx_dropped\": 0, \"tx_packets\":
0, \"rx_errors\": 0}}}\n"
}
}
```

For a period of 15 seconds:

curl -ku 'admin:admin' -d '{"input":{"pnic": "Eth0-1", "period": 15}}'-X POST https://192.0.2.1/api/running/start-stop-counters/_operations/start-counters

After 15 seconds:

curl -ku 'admin:admin' -d '{"input":{"pnic": "Eth0-1"}}'-X POST https://192.0.2.1/api/running/start-stop-counters/_operations/show-counters

```
{
"start-stop-counters:output": {
"counters": " \n{\"@CSP\": {\"Eth0-1\": {\"rx_multicast\": 0, \"rx_packets\": 0, \"tx_multicast\": 0,
\"rx_bytes\": 0, \"tx_errors\": 0, \"start_time\": \"2019-10-31 18:15:03\", \"tx_bytes\": 0,
\"tx_broadcast\": 0, \"stop_time\": \"2019-10-31 18:15:12\", \"rx_broadcast\": 0, \"duration\": \"0
days,0 hours,0 mins,9 secs\", \"collisions\": 0, \"tx_dropped\": 0, \"rx_dropped\": 0, \"tx_packets\": 0,
\"rx_errors\": 0}}}\n"
}
}
```

API History

Release	Modification
2.6.0	This API is introduced.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation*.

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