Pulse Secure®

Pulse Connect Secure/Pulse Policy Secure

REST API Solutions Guide

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8.3	Added the following section for 9.1R6 release - Enabling/Disabling ICE License - Getting the Current Status of ICE License
8.2.1	Added the following section for 9.1R5 release - Fetching Active Number of HTML5 Sessions
8.2	Updated the following section for 9.1R5 release: - Getting License Report from License Server
8.1	Updated Profiler REST APIs URL
8.0	Added/Updated the following sections for 9.1R4 release: - Getting Active Sessions - Getting System Information - Fetching the User Login Statistics - Health Check Status - VIP Failover - Applying License - Deleting License - Getting License Clients - Getting License Report from License Server - Profiler REST APIs
7.1	Removed the unused header “Postman-Token” from the Guide.
7.0	Updated the “PCS/PPS Configuration Using REST APIs” section with: - Export without ESAP and Pulse Client packages API. - Backup/restore binary configuration - Added sample curl commands
6.0	Updated the “PCS/PPS Configuration Using REST APIs” section with IF MAP related REST APIs.
5.1	Updated the “PCS/PPS Configuration Using REST APIs” section with AD and LDAP related REST APIs.
5.0	Updated with “PCS/PPS Configuration Using REST APIs” section.

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Overview

The REST API provides a standardized method for Next-Gen firewalls, NAC devices, and third-party systems to interact with PCS/PPS. Representational state transfer (REST) or RESTful Web services are one way of providing interoperability between computer systems on the Internet. REST-compliant Web services allow requesting systems to access and manipulate textual representations of Web resources using a uniform and predefined set of stateless operations. In a RESTful Web service, requests made to a resource's URI will elicit a response that may be in XML, HTML, JSON or some other defined format. PCS/PPS supports JSON format only.

REST methods determine the HTTP method for manipulating the resources defined in the service operation. The kind of operations available include those predefined by the HTTP verbs GET, POST, PUT, DELETE and so on. The response may confirm that some alteration has been made to the stored resource, and it may provide hypertext links to other related resources or collections of resources. By making use of a stateless protocol and standard operations, REST systems aim for fast performance, reliability, and the ability to grow, by re-using components that can be managed and updated without affecting the system as a whole, even while it is running.

Note: REST API Support for PCS/PPS involves only Configuration APIs. Also, PCS/PPS supports only the GET, POST, PUT and DELETE APIs.

The valid and supported values are described in the Table 1.

Table 1: Valid and Supported Values

HTTP Verb	Definition
DELETE	Delete an existing resource.
GET	Retrieve a representation of a resource.
POST	Create a new resource
PUT	Create a new resource to a new URL or modify an existing resource to an existing URL.

The error codes supported are described in the Table 2.

Table 2: Error Codes Supported

HTTP Verb	Definition
200 OK	Requesting for resource information successful using GET Resource update successful using PUT
201 Created	Resource creation successful using POST
204 No Content	Deletion of resource successful with no body. Even PUT, POST may return 204 if no errors or warnings seen
400 – Bad Request	Any Request (GET/PUT/POST/DELETE, and so on) is invalid. Example: Incorrect JSON format

HTTP Verb	Definition
401 – Unauthorized	Any REST Call with invalid credentials
403 – Forbidden	REST Call with valid credentials but no permission
404 – Not found	Requested resource in URI does not exist
422 – Unprocessable Entity	Any validation/referential integrity errors that would result in failure of PUT/POST/DELETE request
500 Server Error	When PCS/PPS rest server is not responding

Authentication for REST APIs

Basic authentication using the HTTP authorization header is used to authenticate username/password on the Administrators auth. server. It is expected that the user is already configured in the Administrators auth. server. On a successful login, a random token (api_key) is generated **once** and sent back as a JSON response. Further access to APIs can use this api_key value as username and password as empty in their Authorization header for access.

Note: A new random api_key is generated on a successful login. The user can continue to use this key till the administrator:

- Enables/disables the user account
- Enables/disables the Allow REST API feature for that user

Basic Authentication using the HTTP Authorization Header

Configurations for REST APIs

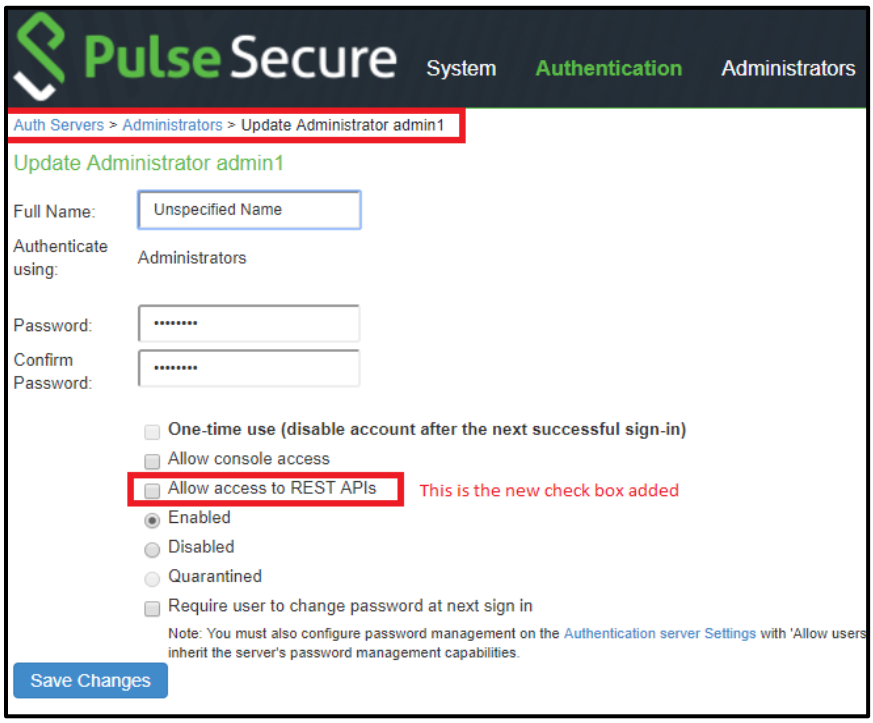
The configuration of PCS/PPS can be accessed using REST APIs. The PCS/PPS configuration is represented in a json form when accessed using REST APIs. The structure of the JSON representation is very similar to the structure of PCS/PPS XML configuration.

A new admin UI option for users under "Administrators" authserver has been added. REST API authentication would be successful only for those users who have this option enabled.

REST API access can be enabled from Pulse Connect Secure Admin console as shown below or from Pulse Connect Secure serial console.

To enable this check box in Pulse Connect Secure Admin Console:

1. Go to Authentication > Auth. Servers >Administrators > Update Administrator admin1.
2. Select the Allow access to REST APIs check box. See figure below.
3. Click Save Changes.

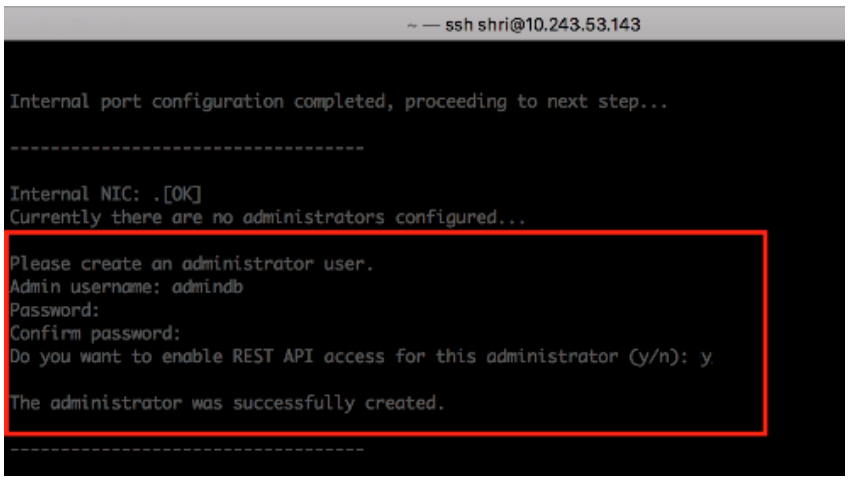


Enabling REST API Access for an Administrator from the Serial Console

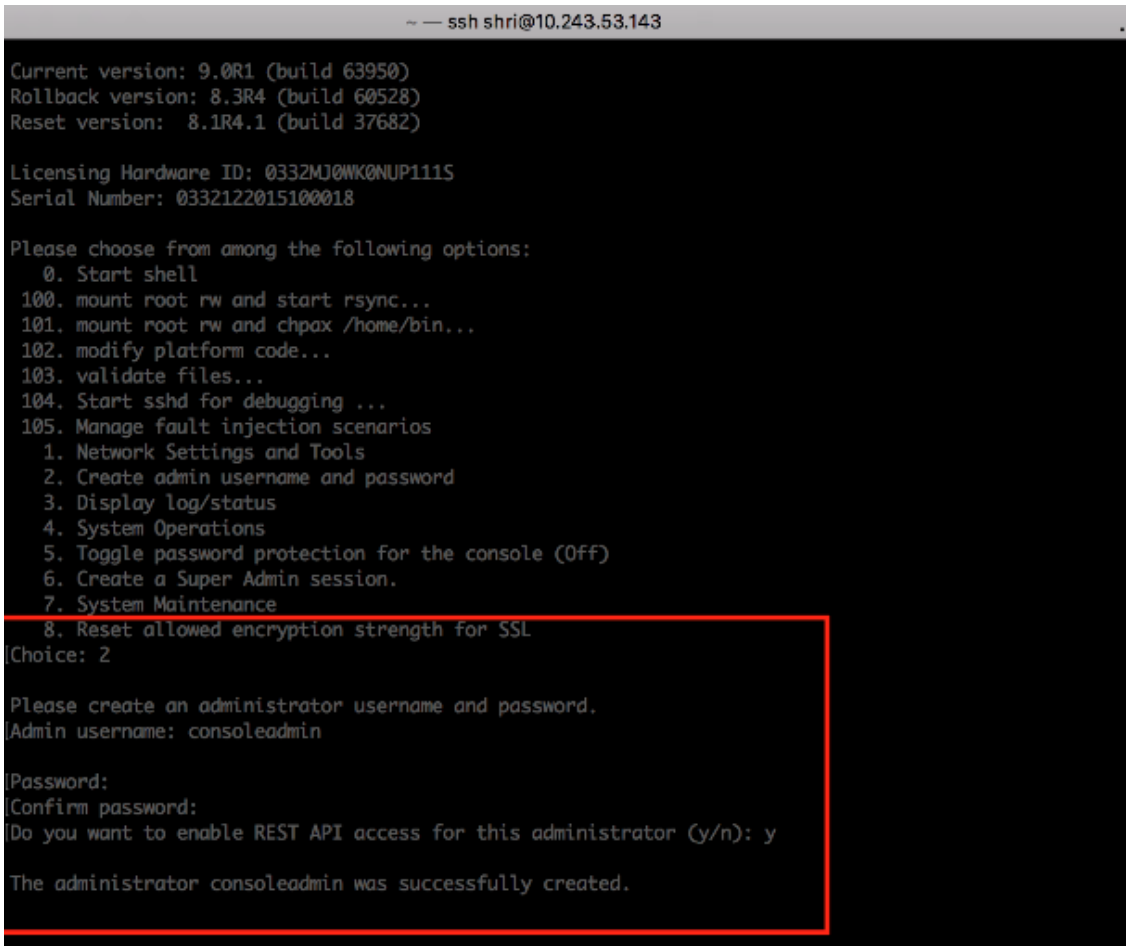
REST API access for an administrator user can be enabled during initial configuration and while creating a new administrator user.

During initial provisioning, there are no administrator accounts configured and the system prompts to create a new administrator user. For the option "Do you want to enable REST API access for this administrator (y/n):", enter y.

Note: Any characters other than "y" or "n" are invalid responses.



When creating a new administrator user from the console using the option "2. Create admin username and password", for the option "Do you want to enable REST API access for this administrator (y/n):", enter y.



The entire communication is over TLS. An example is explained below:

```
REQUEST

GET /api/v1/auth HTTP/1.1

Host: 10.209.112.106

Authorization: Basic YWRtaW5kYjpkYW5hMTIz

Content-Type: application/json

RESPONSE

HTTP/1.1 200 OK

Content-Type: application/json

Expires: -1

Keep-Alive: timeout=15

{ "api_key": "p5mMlc7RQu81R2NvssLCCZhP05kf0N2ONFeYeLXX6aU=" }
```

Equivalent Curl Command

Note: While using curl command, ensure appropriate server CA certs is installed in the cert store recognized by curl. The sample curl commands provided in this document assumes you have appropriate server CA certs installed.

```
COMMAND

curl -i -u admindb:dana123 -G https://<hostname>/api/v1/auth

RESPONSE

HTTP/1.1 200 OK

Content-Type: application/json

{"api_key":"p9/h85ytEmkDzvkGSmQ4z77p6Ya7aLIC42vh0F9CGaQ="}


api_key received in response to authentication request should be used as
Username with EMPTY password in all future requests. Refer to the
examples in Sample GET/POST/PUT/DELETE Request and Responses in PCS.
```

Realm-based Authentication (Recommended)

Pulse Secure recommends realm-based authentication instead of basic authentication using the HTTPS authorization header.

```
REQUEST

POST /api/v1/realm_auth HTTP/1.1

Host: 10.209.116.214

Content-Type: application/json

Authorization: Basic YWRtaW46ZGFuYTEyMw==

{

  "realm": "adminrealm"

}

RESPONSE

HTTP/1.1 200 OK

content-type →application/json

{

    "api_key": "NjQzOGU0N2I5MDUyMWZhZWM0NmZiMTMxY2U3M2YyM2Q="

}
```

Authorization header for all future requests should perform Basic Auth using above api_key value as username and password as empty.

```
REQUEST

GET /api/v1/configuration HTTP/1.1

Host: 10.209.112.106

Authorization: Basic
cDVtTWxjN1JRdTgxUjJOdnNzTENDWmhQMDVrZjBOMk9ORmVZZUxYWDZhVT06

RESPONSE

HTTP/1.1 200 OK

Content-Length →283

Content-Type →application/json

{

"administrators":

{ "href": "/api/v1/configuration/administrators" }

,

"authentication":

{ "href": "/api/v1/configuration/authentication" }

,

"system":

{ "href": "/api/v1/configuration/system" }

,

"users":

{ "href": "/api/v1/configuration/users" }

}
```

Sample GET/POST/PUT/DELETE Request and Responses in PCS

Below is a sample of GET/POST/PUT/DELETE request and responses:

GET API Call: Fetch the Specific User under Local Authentication Server

```
REQUEST

GET /api/v1/configuration/authentication/auth-servers/auth-server/Sys-
Local/local/users/user/user0001 HTTP/1.1

Host: 10.209.112.106

Authorization: Basic
cDkvaDg1eXRFbWtEenZrR1NtUTR6NzdwNllhN2FMSUM0MnZoMEY5Q0dhUT06

Content-Type: application/json

RESPONSE

HTTP/1.1 200 OK

Content-Length: 309

Content-Type: application/json

{

    "change-password-at-signin": "false",

    "console-access": "false",

    "enabled": "true",

    "fullname": "user0001",

    "one-time-use": "false",

    "password-encrypted":
"3u+UR6n8AgABAAAATjgR31G4neKag2hxI+wjaNsRRZGD6wMQVkLEQv+DPQZdUrQi5IWPuihJ
f8tnrsBV0XCQly6WgZ79Jv1fyzmssg==",

    "username": "user0001"

}
```

Equivalent Curl Command

```
COMMAND

curl -i -u p9/h85ytEmkDzvkGSmQ4z77p6Ya7aLIC42vh0F9CGaQ=: -X GET
https://<hostname>/api/v1/configuration/authentication/auth-servers/auth-
server/System%20Local/local/users/user/user0001

RESPONSE

HTTP/1.1 200 OK

Content-Type: application/json

Content-Length: 303

{

  "change-password-at-signin": "false",
```

```
  "console-access": "false",
  "enabled": "true",
  "fullname": "user0001",
  "one-time-use": "false",
  "password-encrypted":
"3u+UR6n8AgABAAAAOrKwtwwYUZlizIhEaq54tt550UA39gKEP8AQ7sjr/WTdtPLf36
mpsI5zGWpORVRjEIFAzVOvmxwgXVLBEJnIRQ==",
  "username": "user0001"
}
```

POST API Call: Create User for Existing Local Authentication Server

REQUEST

```
POST /api/v1/configuration/authentication/auth-servers/auth-server/Sys-
Local/local/users/user HTTP/1.1

Host: 10.209.112.106

Authorization: Basic
cDkvaDg1eXRFbWtEenZrR1NtUTR6NzdwNllhN2FMSUM0MnZoMEY5Q0dhUT06

Content-Type: application/json

{
  "change-password-at-signin": "false",
  "console-access": "false",
  "enabled": "true",
  "fullname": "user0001",
  "one-time-use": "false",
  "password-encrypted":
"3u+UR6n8AgABAAAATjgR31G4neKag2hxI+wjaNsRRZGD6wMQVkLEQv+DPQZdUrQi5IWPuihJ
f8tnrsBV0XCQly6WgZ79Jv1fyzmssg==",
  "username": "user0001"
}
```

RESPONSE

```
HTTP/1.1 200 OK

Content-Length: 122

Content-Type: application/json

{
    "result": {
        "info": [
            {
                "message": "Operation succeed without warning or error!"
```

```
            }
        ]
    }
}
```

Equivalent Curl Command

```
COMMAND

curl -i -u hv5uaqOWF5kuISVnUiGEabOL8fsczsK98zVwpHYWgKE=: -X POST
https://<hostname>/api/v1/configuration/authentication/auth-servers/auth-
server/System%20Local/local/users/user -H 'Content-Type:
application/json' -d '{"change-password-at-signin": "false", "console-
access": "false", "enabled": "true", "fullname": "user0001", "one-time-
use": "false", "password-cleartext": "abc123", "username": "user0002"}'

RESPONSE

HTTP/1.1 201 CREATED

Content-Type: application/json

Content-Length: 128


{
  "result": {
    "warnings": [
      {
        "message": "The configuration has been implicitly changed"
      }
    ]
  }
}
```

PUT API Call: Update Full name field of Specific user

```
REQUEST

PUT /api/v1/configuration/authentication/auth-servers/auth-server/Sys-
Local/local/users/user/user0001/fullname HTTP/1.1

Host: 10.209.112.106

Authorization: Basic
cDkvaDg1eXRFbWtEenZrR1NtUTR6NzdwNllhN2FMSUM0MnZoMEY5Q0dhUT06

Content-Type: application/json

Cache-Control: no-cache

{

  "fullname":"REST API test for user0001"
```

```
}
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Length: 122
Content-Type: application/json
{
  "result": {
    "info": [
      {
        "message": "Operation succeed without warning or error!"
      }
    ]
  }
}
```

Equivalent Curl Command

COMMAND

```
curl -i -u hv5uaqOWF5kuISVnUiGEabOL8fsczsK98zVwpHYWgKE=: -X PUT
https://<hostname>/api/v1/configuration/authentication/auth-servers/auth-
server/System%20Local/local/users/user/user0001/fullname -H 'Content-
Type: application/json' -d '{"fullname": "user0001"}'
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: 124
{
  "result": {
    "info": [
      {
        "message": "Operation succeeded without warning or error!"
      }
    ]
  }
}
```

After updating, fetch the User details and observe the fullname field updated:

```
REQUEST

GET /api/v1/configuration/authentication/auth-servers/auth-server/Sys-
Local/local/users/user/user0001 HTTP/1.1

Host: 10.209.112.106

Authorization: Basic
cDkvaDg1eXRFbWtEenZrR1NtUTR6NzdwNllhN2FMSUM0MnZoMEY5Q0dhUT06

Content-Type: application/json

RESPONSE

HTTP/1.1 200 OK

Content-Length →327

Content-Type →application/json

{

  "change-password-at-signin": "false",

  "console-access": "false",

  "enabled": "true",

  "fullname": "REST API test for user0001",

  "one-time-use": "false",

  "password-encrypted":
"3u+UR6n8AgABAAAATjgR31G4neKag2hxI+wjaNsRRZGD6wMQVkLEQv+DPQZdUrQi5IWPuihJ
f8tnrsBV0XCQly6WgZ79Jv1fyzmssg==",

  "username": "user0001"

}
```

DELETE API Call: DELETE Specific User

```
REQUEST

DELETE /api/v1/configuration/authentication/auth-servers/auth-server/Sys-
Local/local/users/user/user0001 HTTP/1.1

Host: 10.209.112.106

Authorization: Basic
cDkvaDg1eXRFbWtEenZrR1NtUTR6NzdwNllhN2FMSUM0MnZoMEY5Q0dhUT06

Content-Type: application/json

RESPONSE

HTTP/1.1 200 OK

Content-Length →122

Content-Type →application/json

{
```

```
  "result": {
    "info": [
      {
        "message": "Operation succeed without warning or error!"
      }
    ]
  }
}
```

Equivalent Curl Command

```
COMMAND

curl -i -u hv5uaqOWF5kuISVnUiGEabOL8fsczsK98zVwpHYWgKE=: -X DELETE
https://<hostname>/api/v1/configuration/authentication/auth-servers/auth-
server/System%20Local/local/users/user/user0002/

RESPONSE

HTTP/1.1 204 NO CONTENT

Content-Type: application/json

Content-Length: 0
```

After deleting, try to fetch the resource and you would observe 404 response.

```
REQUEST

GET /api/v1/configuration/authentication/auth-servers/auth-
server/Sys-Local/local/users/user/user0001 HTTP/1.1

Host: 10.209.112.106

Authorization: Basic
cDkvaDg1eXRFbWtEenZrR1NtUTR6NzdwNllhN2FMSUM0MnZoMEY5Q0dhUT06

Content-Type: application/json

Cache-Control: no-cache

RESPONSE

404 NOT FOUND

Content-Length: 105

Content-Type: application/json

{
  "result": {
    "errors": [
      {
        "message": "Resource does not exist."
```

```
      }
    ]
  }
}
```

Representing Configuration Resources Using Links

When performing a GET request on a configuration resource, the json response may have "href" attributes to represent smaller resources within.

As an example, `"GET /api/v1/configuration"` returns:

```
{
  "users": {
    "href": "/api/v1/configuration/users"
  },
  "system": {
    "href": "/api/v1/configuration/system"
  },
  "authentication": {
    "href": "/api/v1/configuration/authentication"
  },
  "administrators": {
    "href": "/api/v1/configuration/administrators"
  }
}
```

The href values can be used to access smaller resources.

Sample GET/POST/PUT/DELETE Request and Responses in PPS

Below is a sample of GET/POST/PUT/DELETE request and responses:

GET API Call: Fetch the Details under Endpoint Policy

This example shows how to fetch the details under endpoint policy in PPS.

```
REQUEST
GET /api/v1/configuration/uac HTTP/1.1

Host xx.xx.xx.xx

Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06

Content-Type: application/json

{
    "admissionControl": {
        "href": "/api/v1/configuration/uac/admissionControl"
    },
    "host-enforcer": {
        "href": "/api/v1/configuration/uac/host-enforcer"
    },
    "infranet-enforcer": {
        "href": "/api/v1/configuration/uac/infranet-enforcer"
    },
    "mac-address-realms": {
        "href": "/api/v1/configuration/uac/mac-address-realms"
    },
    "network-access": {
        "href": "/api/v1/configuration/uac/network-access"
    },
    "snmpEnforcement": {
        "href": "/api/v1/configuration/uac/snmpEnforcement"
    }
}
RESPONSE
HTTP/1.1 200 OK

Content-Length: 340

Content-Type: application/json
```

Equivalent Curl Command

```
COMMAND

curl -i -u g4dncT4699c+IWip/+8urgXM0Luy1vQdj9zNxEFWEbM=: -X GET
https://<hostname>/api/v1/configuration/uac

RESPONSE

HTTP/1.1 200 OK

Content-Type: application/json
```

```
Content-Length: 620
{
  "admissionControl": {
    "href": "/api/v1/configuration/uac/admissionControl"
  },
  "host-enforcer": {
    "href": "/api/v1/configuration/uac/host-enforcer"
  },
  "infranet-enforcer": {
    "href": "/api/v1/configuration/uac/infranet-enforcer"
  },
  "mac-address-realms": {
    "href": "/api/v1/configuration/uac/mac-address-realms"
  },
  "network-access": {
    "href": "/api/v1/configuration/uac/network-access"
  },
  "networkDeviceAdministration": {
    "href": "/api/v1/configuration/uac/networkDeviceAdministration"
  },
  "snmpEnforcement": {
    "href": "/api/v1/configuration/uac/snmpEnforcement"
  }
```

POST API Call: Create an SRX Enforcer in Infranet Enforcer Connection

This example shows how to create an SRX Enforcer in Infranet Enforcer connection.

```
REQUEST
POST /api/v1/configuration/uac/infranet-enforcer/connections/infranet-
enforcer/ HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
{
    "idp-for-local-sessions-only": "true",
    "junos": {
        "location-group": "- No 802.1X -",
        "password-encrypted":
"3u+UR6n8AgABAAAAofSnIBrU19vdwUslG5LG4cg1QH6CbXDSmY4ZW0x85HY="
    },
    "name": "SRX",
    "serial-number": [
        "SJFIOQJI4KNM"
    ],
    "severity-filter": "medium",
    "use-idp": "false"
```

```
}
```

RESPONSE

```
HTTP/1.1 201 OK
Content-Length: 122
Content-Type: application/json
{
    "result": {
        "info": [
            {
                "message": "Operation succeed without warning or
error!"
            }
        ]
    }
}
```

Equivalent Curl Command

COMMAND

```
curl -i -u g4dncT4699c+IWip/+8urgXM0Luy1vQdj9zNxEFWEbM=: -X POST
https://<hostname>/api/v1/configuration/uac/infranet-
enforcer/connections/infranet-enforcer -H 'Content-Type:
application/json' -d '{"idp-for-local-sessions-only": "true", "junos": {
"location-group": "- No 802.1X -", "password-
encrypted":"3u+UR6n8AgABAAAAofSnIBrU19vdwUslG5LG4cg1QH6CbXDSmY4ZW0x85HY="
},"name": "SRX","serial-number": ["SJFIOQJI4KNM"],"severity-filter":
"medium", "use-idp": "false"}'
```

RESPONSE

```
HTTP/1.1 201 CREATED


Content-Type: application/json
Content-Length: 124


{
  "result": {
    "info": [
      {
        "message": "Operation succeeded without warning or error!"
      }
    ]
  }
}
```

PUT API Call: Update Existing Configuration Where In Initial Location Group is Configured as Guest

This example updates the existing configuration where in the initial Location Group is configured as "Guest" and then later updated to "Default" Location group.

Before Updating the Location Group

```
REQUEST
GET api/v1/configuration/uac/network-access/radius-clients/radius-client/Radius%20Client HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
{
    "location-group": "Guest",
    "name": "Radius Client",

}
RESPONSE
HTTP/1.1 200 OK
Content-Length: 122
Content-Type: application/json
```

Equivalent Curl Command

```
COMMAND

curl -i -u g4dncT4699c+IWip/+8urgXM0Luy1vQdj9zNxEFWEbM=: -X PUT https://<hostname>/api/v1/configuration/uac/network-access/radius-clients/radius-client/Radius%20Client -H 'Content-Type: application/json' -d '{"location-group": "Default","name": "Radius Client"}'

RESPONSE

HTTP/1.1 200 OK

Content-Type: application/json

Content-Length: 124

{
  "result": {
    "info": [
      {
        "message": "Operation succeeded without warning or error!"
      }
    ]
  }
}
```

After Updating the Location Group

```
REQUEST
PUT api/v1/configuration/uac/network-access/radius-clients/radius-
client/Radius%20Client HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
{

    "location-group": "Default",

    "name": "Radius Client",

}
RESPONSE
HTTP/1.1 200 OK
Content-Length: 122
Content-Type: application/json
{
    "result": {
        "info": [
            {
                "message": "Operation succeed without warning or
error!"
            }
        ]
    }
}
```

DELETE API Call: Delete an SNMP Device

This example shows how to delete SNMP device from PPS.

```
REQUEST
DELETE api/v1/configuration/uac/snmpEnforcement/clients/client/ruckus
HTTP/1.1
Host 10.96.73.37
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
RESPONSE
HTTP/1.1 204 NO CONTENT
Content-Length: 0
Content-Type: application/json
```

Equivalent Curl Command

COMMAND

```
curl -I -u g4dncT4699c+IWip/+8urgXM0Luy1vQdj9zNxEFWEbM=: -X DELETE
https://<hostname>/api/v1/configuration/uac/snmpEnforcement/clients/clien
t/ruckus
```

RESPONSE

```
HTTP/1.1 204 NO CONTENT
Content-Type: application/json
Content-Length: 0
```

PCS/PPS Configurations Using REST APIs

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- Getting Config Without Pulse Packages (ESAP and Pulse Client Packages)
- Backing Up Binary Configuration
- Restoring Binary Configuration (import=normal)
- Restoring Binary Configuration (import=full)

Getting Active Sessions

```
REQUEST

GET /api/v1/system/active-users HTTP/1.1

Host: 10.209.114.225

Authorization: Basic
QXNzN1FMN3VYdTJlaHpMZTF5QjRBQTdoMllNa3Q0NXRkc2dHc0hoNzU3Yz06

Content-Type: application/json

RESPONSE

Content-Type: application/json

{
      "active-users": {
        "active-user-records": {
          "active-user-record": [
           {
             "active-user-name": "user1",
             "agent-type": "Windows 8.1 Google Chrome",
             "authentication-realm": "localrealm",
             "endpoint-security-status": "Not Applicable\nPassed
      Policies: \nFailed Policies: \nEliminated Roles: ",
             "events": 0,
             "login-node": "localhost2",
             "network-connect-ip": null,
             "network-connect-transport-mode": null,
             "session-id":
      "sidb03b1e971b7ebe163bb70c966a8ae2b50767aae300000000",
             "pulse-client-version": "9.1.4.1316",
             "user-roles": "localrealm",
             "user-sign-in-time": "2018/08/23 11:45:40"
           },
           {
             "active-user-name": "user2",
             "agent-type": "Windows 7 Google Chrome",
             "authentication-realm": "localrealm",
             "endpoint-security-status": "Not Applicable\nPassed
      Policies: \nFailed Policies: \nEliminated Roles: ",
             "events": 0,
             "login-node": "localhost2",
             "network-connect-ip": null,
             "network-connect-transport-mode": null,
```

```
            "session-id":
      "sid68377b6249d24784edfdd07edfe61ee9934b556100000000",
            "user-roles": "localrealm",
            "user-sign-in-time": "2018/08/23 11:46:15"
          }
         ]
       },
       "total-matched-record-number": 2,
       "total-returned-record-number": 2,
       "user-login-permission": true
     }
}
```

Getting Particular Active Session Details

```
REQUEST
GET /api/v1/system/active-users?name=user2 HTTP/1.1
Host: 10.209.114.225
Authorization: Basic
QXNzN1FMN3VYdTJlaHpMZTF5QjRBQTdoMllNa3Q0NXRkc2dHc0hoNzU3Yz06
Content-Type: application/json
RESPONSE
Content-Type: application/json
{
     "active-users": {
       "active-user-records": {
          "active-user-record": [
            {
              "active-user-name": "user2",
              "agent-type": "Windows 7 Google Chrome",
              "authentication-realm": "localrealm",
              "endpoint-security-status": "Not Applicable\nPassed
     Policies: \nFailed Policies: \nEliminated Roles: ",
              "events": 0,
              "login-node": "localhost2",
              "network-connect-ip": null,
              "network-connect-transport-mode": null,
              "session-id":
     "sid68377b6249d24784edfdd07edfe61ee9934b556100000000",
```

```
                "user-roles": "localrealm",
                "user-sign-in-time": "2018/08/23 11:46:15"
              }
            ]
          },
          "total-matched-record-number": 1,
          "total-returned-record-number": 1,
          "user-login-permission": true
        }
}
```

Deleting a Particular Active Session

REQUEST

```
DELETE /api/v1/system/active-
users/session/sid68377b6249d24784edfdd07edfe61ee9934b556100000000 HTTP/1.1
Host: 10.209.114.225
Authorization: Basic
QXNzN1FMN3VYdTJlaHpMZTF5QjRBQTdoMllNa3Q0NXRkc2dHc0hoNzU3Yz06
Content-Type: application/json
```

RESPONSE

```
HTTP/1.1 204 NO CONTENT
Content-Length: 0
Content-Type: application/json
```

Deleting All Active Sessions

REQUEST

```
DELETE /api/v1/system/active-users?all HTTP/1.1
Host: 10.209.114.225
Authorization: Basic
QXNzN1FMN3VYdTJlaHpMZTF5QjRBQTdoMllNa3Q0NXRkc2dHc0hoNzU3Yz06
Content-Type: application/json
```

RESPONSE

```
HTTP/1.1 204 NO CONTENT
Content-Length: 0
Content-Type: application/json
```

Querying Set of Leased Licenses in the License Server System

```
REQUEST
GET /api/v1/license/license-server-lease-information HTTP/1.1
Host: 10.209.114.226
Authorization: Basic
c2czWUJmc1lyUjcwN2daSFh6RHdqME1YSnNhdDZmcXlaOVZKNFNSdStaZz06
Content-Type: application/json
RESPONSE
HTTP/1.1 200 OK
Content-Length: 2210
Content-Type: application/json
{
      "leased-license-counts": {
         "features": {
            "feature": [
              {
                 "clients": {
                    "client-info": [
                       {
                           "leased-count": 0,
                           "name": "client1"
                       }
                     ]
                 },
                 "name": "Advanced Mobile License - Onboarding",
                 "total-count": 0
              },
              {
                 "clients": {
                 "client-info": [
                   {
                      "leased-count": 0,
                      "name": "client1"
                   }
                 ]
              },
```

```
            "name": "Cloud Secure feature",
            "total-count": 0
        },
        {
            "clients": {
              "client-info": [
                {
                    "leased-count": 0,
                    "name": "client1"
                }
              ]
            },
            "name": "Concurrent Meeting Users",
            "total-count": 0
         },
         {
            "clients": {
              "client-info": [
               {
                  "leased-count": 200,
                  "name": "client1"
               },
               {
                  "leased-count": 0,
                  "name": "client2"
               }
              ]
             },
             "name": "Concurrent Users",
             "total-count": 200
          },
          {
             "clients": {
               "client-info": [
                 {
                   "leased-count": 0,
                   "name": "client1"
                 }
               ]
```

```
                },
                "name": "Named Users",
                "total-count": 0
              },
              {
                "clients": {
                  "client-info": [
                    {
                      "leased-count": 0,
                      "name": "client1"
                    }
                  ]
                },
                "name": "Premier Java Remote Desktop Applet",
                "total-count": 0
              }
            ]
          },
          "machine-id": "VASPMVKIT1NJNFPPS",
          "query-summary": {},
          "release-info": {
          "build-number": "10124",
          "version": "9.0"
      },
          "serial-number": null,
          "signature":
      "HMx/W0VhDAABAAAApoB/uSUYcwJSlk7HeXVMXK6+KsIPTrJnjXrUci
      JEef2EKWyqgbDGoXhzYaGDl6Ye29oOw2KRQlyCM/HRpIpujA==",
          "time-stamp": "Fri Aug 24 14:43:00 2018"
      }
}
```


Pulling State from a License Server on a License Client

```
REQUEST

PUT /api/v1/license/license-client-lease-state HTTP/1.1

Host: 10.209.114.228

Authorization: Basic
OWZBcVNKUkRCcEdjSEVQY3A0aDZ2UnFwdjhXbExIYzUxRS91TVU1VnBnMD06
```

```
Content-Type: application/json
{


}
```

Note: While using above URL (i.e., license-client-lease-state) by PUT operation, we provide empty JSON body as input, because PUT operation expects JSON body.

RESPONSE

```
HTTP/1.1 200 OK
Content-Length: 86
Content-Type: application/json
{
   "result": {
      "info": [
         {
           "message": "Success"
         }
      ]
   }
}
```

Configuring Certificates based on CSR Workflow

REQUEST

```
POST /api/v1/system/certificates/device-certificates HTTP/1.1
Host: 10.209.114.228
Authorization: Basic
aWZuM2VmZVZTRU9YNVZkVVZ3eFpiYWdob3VCTndxZEkyaExubUcyVU5ibz06
Content-Type: application/json
{
      "cert" :"MIINzgIBAzCCDYoGCSqGSIb3DQEHAaCCDXsEgg13MIINczCCBg
      QGCSqGSIb3DQEHAaCCBfUEggXxMIIF7TCCBekGCyqGSIb
      3DQEMCgECoIIE9jCCBPIwHAYKKoZIhvcNAQwBAzAOBAjp
      YgwUOJOweAICB9AEggTQFjak4T3ftSlkdoiOtc/xvh
      Sfrrkezsl09tN6tqyuVYWFQUZkpUIg4v2pU1zOvFOTPplno
      VCmeiL2HX7OzuLPALcnSvGmaq61I+Y5dBWMmXMo+bs8s
      U36p6YS4D9Bq3VIMecAHwzc/30hPf
      +gaaoYSQiMuLa34CnNeFxPfxMlH0sXi1QeqaLAtMno5AMQW
```

```
1/nHSAyJPwa5OWrJ5mkfHKh4kog893diYwo1mlIqlp7Qseza
4+uosWAthih/jac1iDmlb03kjR+OQAukXFQ19ejvyrmMhcjhoz
ARqwMgEj6I+JpdJPUxvwVytQ20Nj4lNDRnAb5sp1oAi0u5aN
49afY6kRjNuKUeUkEmrpmumNJJufkDkKx1eqYOBOqQ50K1w
9qFhEOaOLivGQa1IjzNyc+Bbs2TMw8RJWDsA7TVJhQKBcVjt
IOSFzsVjyWJeI9VzB+iUbi
+XCHYRQP0W6el6HWg2b31iNhMID5Lt2GWQOzT6iUVNls
ZFoofyfXsZBY0JC6nsbvZVMRNBGXE2fEFA/qIga8Gn5E
9zcIqibnXXW0jAOa+m3d+KRR49XaoAjgzpJ3ErqLVz1l/nGTix
9W3H4mSHd9xX43h6Pbz0tGmu6l9nnWP/52y6/TMQQB
5v0RHe0klj+uX00ZuezmmeYEapX+SObQrMqmnvTgWApf
7FzulcvAIHomQ184MJzarNnhOpO1AQGESaa6tABtk
2Yzpbm+g5SAgnjwxH0IjeF/kwapQttIYc1TM3qQ9EsPKqbpaQna
4qETIRLI3R6GVNTBnG/g9M9MQh2MtnvonSOlpjDs+Tt
LoO+BtY
9J2XSMK0wtXyONb67xjTRRsC1u1fAvP4RdyHpmM
4JO3+VW1F4n8Vzl+RYrRj0sKja/jHm1ElZvhxJHbwEMFDSv
FIqAVfQGQKy1iJWSjalNeO2TEPVJOf2o+TofnYDq4hk0t
ABVdWLRfmn3byi91+xioIOLputEGG8Zto
AdlPkag/lKBnWa37z3eHnfQC9qWU8dcONBQo/HFxupj
482jQa7lUg3fp7apM4CuDQEgJWYNS4/Z+5+zEqq9q+/w
9ke5Y/a/5ukeP9HRS3xpeEe56qb98qPx3dXSSDgXtD1L
6r48Dl+4ISYmLEl0yFwXtJ3vuYk5NiUjmZsuI1tnLQoxim5z6NUZ
5/7G04mG/BzAX3qT74MlRzVDa7uZdJPyJLyTGUtidn
562HvYnrGtO9P+08OH6c2Dp4eOgNQCrhPP51ZHd9VNo0nyqt
ZmZ0E4oHN4G7ud+6fwIvaSF9gpw1iTWAF5122dr1llAe3ZFPs
5bzv7jrfY7LGuTh+l003MshmtYZAiw8nM1ODm4HstQsSx
HWVb+WK4uiorvhq2cplJ
+71rGQI/kCM8hdZJOUYzsrnQXQUn/rS1O0w9VAP88SG9mJi
QynoX4+BKYtnn4XE4D3tEFUygD2RmG2GdeGBjOeHh/Ke
MrXk2z9oLEn7CaDeZQCp/7wGdDLfb/nAkmyiO6DWkPZzDAz
GdSDd0gRTkY4LdtyjPTkeADN
+wXvjh6tutjgWgHEHI3xnvMan1/rzZV80SGpbqWFEcLCk1
58YuprYqVRN2CmJCILoVbUaay6Vq9jaHkIkT3lxzU
6UkNTKxqo3Rhad9StfxCRqlrYxgd8wEwYJKoZIhvc
NAQkVMQYEBAEAAAAwXQYJKoZIhvcNAQkUMVAeTgBs
AGUALQA2AGMANQA0AGUAMABjADQALQAyAGYANQBkAC0ANABj
AGYAMAAtAGEAYwBiAGUALQBhADAAYgBjAGUAZgA4AGIAYg
A4AGEAMzBpBgkrBgEEAYI3EQExXB5aAE0AaQBjAHIAbwBzAG
```

```
8AZgB0ACAAUgBTAEEAIABTAEMAaABhAG4AbgBlAGw
AIABDAHIAeQBwAHQAbwBnAHIAYQBwAGgAaQBjACAAUAByAG
8AdgBpAGQAZQByMIIHZwYJKoZIhvcNAQcGoIIHWDCCB
1QCAQAwggdNBgkqhkiG9w0BBwEwHAYKKoZIhvcNAQw
BBjAOBAgQOOB7+SpClQICB9CAggcgKOhImrEmUqPOG
8XR59tFV0HOdvnlfzxI7aM6PnAgwPiMSxa6e69kZ/DCeY
5V5XZkfW+nYAZvgGuZw26oLgVz14T/j0Z3kYTKcn1Mx
+gvj5coadwfR21HirvwyndeXKJ6w1Yh4omK/x4891AFgv
KizeeOewczIGmWCqQh81HUgiR8aAfLU2neKxcLoGOfhQnN
5k/SSKsBTuUBQ80zGiXh+48xS4CTzE8vEyDXyQqE09sqxoDt
WTw7U5cV8qXwpgy+FSb4c/Y/RCggTqmCL+NwSMCvhEGf
KSq9ZwJvniEpsQ1mHzK/e4ZRQH/C
+eNCccV/6zR5onNbZ0fpVTGDCCG0Z9705zzGur5z83CGy
53fcHS2fdoQP6kqps7VeKbym2NBBT6tx9ZD4Ue988EQwk
M0dw/7/9resv6VnL+T9prJJq7pEPKyl8ocTSTPbINsSJ
8f6z+R01/cxOnpyZ3pe2kWneC0xVUeTCsfip5DEbOfga
Cy4omJstlx57Z5GQrVfsO1V21NjY6i0Ev7e2AGyn
+Kq2ZcrTBzijQpoA0djljaFodkBVPwROkXCEjScfV/YjURTSgVcv
1F1k/OyVf3EDcTXzjtOEuvkLrYsBANzAtcchE7tMlJdVlDv
4lA5nudd1plgQkwp911LOM5AieKMGuaSFLCq0RNTho
61AFTeEOCgK1uDoRtac
+TtgzrAyQGpUwQ/j/CFzy2yhQzSg2+nOFDA4D2I2Bw
3SyMVAw45NtPPYnoplY9j0iRPfSOUzbHqULI8PvRyICY
3EhIv7MVzG812TMD1WOvZzaNonSB4plj+rq+aL6YHl5O3/AQ
5v/n3b/ebrKDSSTYROC1nVfxxwF+nLTMeCPumAfb8JWd
AmOvsUmyd8j8b6CgE2fMsR6yzZMmTcdispYe1r
+at4hd7v57K2JKcTKffS23zU9QZ6w30+soSr4dKhXVKo
Fny8pGZkgA5Dd5ksytKJgKJHM5Z6yRij8cc0WwPrqK
9jZvFxq0+t8rAFUA1QRbM6nnwF4g6z2vMdEtUYtn
NXIZIWe5E6YJ1mxzn26dFAt2AnM8MelPSNVaxVqho
CZAZOdRmhYXg4uT
+4rMazBXJ7txtCNsQd/sW4WpOp9jzRoANfhxK2uKkfRS
62216u6hCoVCMj5D7UjB/4S80NZIwa67cikY/89t4v
EZbwvS0dLQ2CMiQVeeUFTo4Hq32RaVRPhIJql0MH/fy
MIvSfqEoMUnY/D/26rKnivVp9XZdyd2ZKMV5nNFtbw
C6UhhQ76PwKRg5GsOuDjUxHzy0DXIgTcSuZWUeu
DNM0iyVZ2LVCRPyTWAiur0nepcn1nVcehlxddqGSu
1AWSqmOODMmwymtm6mDKAvLnN8qjpL742bTIHkmxt
UvoNxrgT4i+0jwGWlGNy6sx3JAXIYZv85xt+cV5KDvm
```

```
      F822w6CtUs5l8lWvBdAC6WD
      +wmnQzGsqvSbj9jLLKFxOtLYs863dDDtENdZIytrCKjEKNlo
      Y8X0flN1fczguZ8ssBa6XWQ4hjgwanpjBsvReJZcWogUFq
      YuXtZUB/mIUSZyNSIFwCO4cWa4vqE4P1Pjl56jnIdpqwgqalj
      HTm7WsCEIbgdBfyJp75/vJR/A4PAJcsZmFfIayNwM/zePFh
      Zp0Udxrnoptzfsf4XspgZEPbHyxmfQG7f8sfAQq0iQlH0kpa
      BD3VuTrudgOfFbVfrjim8UXUNhKpYSgy3GWeHXadrOHs
      OZ0Yj0a/AY5Wwny7RJAZO00UCMLGRVFxYjj9RQvCPphej
      NVmhLNqlT3dqEczH3TptR4xILuoXC6sQkViBhV
      7dEp0nVzA6jUzCGOnYmCWi7/N6+bD1XHC6dg
      76igIUHHiJz0jqHfIoxqAak+72Iv706QtVMyI+Cpe
      4FLRqhoNUJpHAT7+5EOq2WqWXB+KXk5/Wh
      7/CIo6pZsAuEAU0elDDz/mex2oUfigYvtywFPBo0f
      WzTqkWvP7Pl8E5wudKl9Q+JYoNZVaapChTDJF
      9/OoVE1g0rrQ5nxzKQRrTbtekZSJ5j66p107ux2R+Q
      7MpRsmwT8ERgW8CexPHOAIKAWSBpWaT6ogh
      1MletHIK++ShXSIRa3NbDjrwkU8q0E9wlCUyAfXnQv
      4pTQaGHadF/j2F2foMBAW2Jgh1KP9UgB54K+KLRjoIFc
      EUqqh+j42bh2/c0jAppJtWNgn2jFQzuK2I3E0MVVNOEPJm
      EvpDXM1DZZhFNxeL8D
      +LfMn1B4zNTdngE0arUOspr72Rm0Rx43OcU0w/nkL6DckhvIZdco
      4PSLLXJeBW/fBc2Ws04/qxEKwreGwCr3fM17X4HZtCRJOsVj0Bg
      6JAp3f30Os55bjQanFubM9YFZrC6rGnKshyiUIFutMPwzbuI
      WCWQP29TnlSJWk91C0jb2oy6/2O9o7U78grLvGllSyynqehN
      8TLxP9MDswHzAHBgUrDgMCGgQU9XDxDBt/loGEHzU/DE
      0xAa6823YEFFmEIfAiPtILVXcDNuDn0rU1xc24AgIH0A==",
        "password": "juniper",
        "internal-interfaces": { },
         "external-interfaces": { },
        "management-interface": true
}
RESPONSE
HTTP/1.1 201 OK
Content-Length: 112
Content-Type: application/json
{
      "result": {
       "info": [
          {
```

```
            "message": "Operation successfully completed."
          }
        ]
      }
}
```

Creating a CSR for a Device Certificate

```
REQUEST
POST /api/v1/system/certificates/device-certificate-csrs HTTP/1.1
Host: 10.209.114.228
Authorization: Basic
aWZuM2VmZVZTRU9YNVZkVVZ3eFpiYWdob3VCTndxZEkyaExubUcyVU5ibz06
Content-Type: application/json
{
      "subject-common-name": "QA.pcs.company.com",
      "key-type": "ECDSA",
      "ecc-curve": "P-384"
}
RESPONSE
HTTP/1.1 201 OK
Content-Length: 266
Content-Type: application/json
{
      "result": {
         "info": [
          {
             "message": "Created CSR 'CSR_164' successfully"
          },
          {
             "message": "Use POST
      /api/v1/system/certificates/device-certificate-
      csrs/CSR_164/certificate to upload the signed certificate"
          }
       ]
      }
}
```

Deleting Device Certificate by Its Subject Name

```
REQUEST

DELETE /api/v1/system/certificates/device-
certificates/srikrsa.test.saqacertserv.com HTTP/1.1

Host: 10.209.114.228

Authorization: Basic
aWZuM2VmZVZTRU9YNVZkVVZ3eFpiYWdob3VCTndxZEkyaExubUcyVU5ibz06

Content-Type: application/json

RESPONSE

HTTP/1.1 204 NO CONTENT

Content-Length: 0

Content-Type: application/json
```

Getting System Information

```
REQUEST

GET /api/v1/system/system-information HTTP/1.1

Host: 10.209.114.228

Authorization: Basic
aWZuM2VmZVZTRU9YNVZkVVZ3eFpiYWdob3VCTndxZEkyaExubUcyVU5ibz06

Content-Type: application/json

RESPONSE

HTTP/1.1 200 OK

Content-Length: 193

Content-Type: application/json

{
      "rollback-partition-information": {
         "build": "2330",
         "os-name": "ive-sa",
         "os-version": "9.1R2"
      },
      "software-inventory": {
         "software": {
           "build": "4520",
           "name": "IVE-OS",
           "type": "operating-system",
           "version": "9.1R4"
```

```
        }
    },
    "system-information": {
        "hardware-model": "PSA5000-V",
        "host-name": "localhost2",
        "os-name": "ive-sa",
        "os-version": "9.1R4",
        "serial-number": "VASPHJPEG824R1U0S"
    }
}
```

Realm-based Administrator User Using Administrator Local Authentication Server

```
REQUEST
POST /api/v1/realm_auth HTTP/1.1
Host: 10.209.114.228
Authorization: Basic YWRtaW4xOmRhbmExMjM=
Content-Type: application/json
{
    “realm”: “<realm-name>”
}
RESPONSE
HTTP/1.1 200 OK
Content-Type: application/json
{
    "api_key": "MjUwOGQyNzAyOWU3MWQ2MzNiMTM2Njg2MzAwNDg3MjU="
}
```

Realm-based Administrator User Using AD Authentication Server

```
REQUEST
POST /api/v1/realm_auth HTTP/1.1
Host: 10.209.114.228
Authorization: Basic bmF6ZWVyOlBzZWN1cmUxMjMk
Content-Type: application/json
{
```

```
      "realm": "AdminADRealm"
}
RESPONSE
HTTP/1.1 200 OK
Content-Type: application/json
{
      "api_key": "ODRjOTcxOTY5ZTlmYTcwY2QwYzk1ZDBjMWQ5N2RmN2Q="
}
```

Realm-based Administrator User Using LDAP Authentication Server

```
REQUEST
POST /api/v1/realm_auth HTTP/1.1
Host: 10.209.114.228
Authorization: Basic bmF6ZWVyOlBzZWN1cmUxMjMk
Content-Type: application/json
{
     "realm": "LDAPRealm"
}
RESPONSE
HTTP/1.1 200 OK
Content-Type: application/json
{
      "api_key": "ZTQxNTIxOTJhNmUwMjg3MWI5MjZkYmE1MGM0MzdiMDI="
}
```

Realm-based Administrator User Using Radius Authentication Server

```
REQUEST
POST /api/v1/realm_auth HTTP/1.1
Host: 10.209.114.225
Authorization: Basic amFjazpqdW5pcGVy
Content-Type: application/json
{
      "realm": "RadiusAdminRealm"
}
RESPONSE
```

```
HTTP/1.1 200 OK
Content-Type: application/json
{
      "api_key": "MGMzZjJkZDZlYmRlYzg0MDE5NzkwYzE1ZGM5MmQyYTQ="
}
```

Realm-based Administrator User from a Particular Source IP

```
REQUEST
PUT /api/v1/configuration/administrators/admin-
realms/realm/AdminLocalAuthRealm/authentication-policy/source-
ip/customized HTTP/1.1
Host: 10.209.114.228
Authorization: Basic
T1dFM056VTBPVEl5T0dFeU16WXpOakU0WVRFek9EWXhOamRoTVdVNFpqYz06
Content-Type: application/json
{
      "customized": "selected-ip"
}
RESPONSE
HTTP/1.1 200 OK
Content-Length: 124
Content-Type →application/json
{
      "result": {
         "info": [
           {
              "message": "Operation succeeded without warning or
      error!"
           }
       ]
      }
}
REQUEST
POST /api/v1/configuration/administrators/admin-
realms/realm/AdminLocalAuthRealm/authentication-policy/source-
ip/ips/ip HTTP/1.1
Host: 10.209.114.228
Authorization: Basic
T1dFM056VTBPVEl5T0dFeU16WXpOakU0WVRFek9EWXhOamRoTVdVNFpqYz06
```

```
Content-Type: application/json
{
   "access": "allow",
   "address": "10.96.158.3",
   "netmask": "255.255.255.255"
}
RESPONSE
HTTP/1.1 201 CREATED
Content-Length: 124
Content-Type: application/json
{
      "result": {
        "info": [
         {
           "message": "Operation succeeded without warning or
      error!"
         }
       ]
      }
}
```

Realm-based Administrator Authorization Role Mapping to .Administrator Role

```
REQUEST
PUT /api/v1/configuration/administrators/admin-
realms/realm/AdminADRealm/role-mapping-rules HTTP/1.1
Host: 10.209.114.228
Authorization: Basic
TldVNFl6TmtOVEZqTkRFek1EUXdPVGRoTlRrMk9UWTBaR0l3TkRnM1ptST06
Content-Type: application/json
{
      "user-selects-role": "false",
      "rule": [
        {
           "roles": [
            ".Administrators"
           ],
           "stop-rules-processing": "true",
           "group": {
```

```
            "group-names": [
               "PCS-QA/systems"
            ]
          },
          "name": "AdminADRoleMapping"
        }
      ],
      "user-selects-roleset": "false"
}
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Length: 124
Content-Type: application/json
{
      "result": {
        "info": [
          {
            "message": "Operation succeeded without warning or
      error!"
          }
        ]
      }
}
```

Specifying Session Validity for REST Admin Session

REQUEST

```
PUT /api/v1/configuration/administrators/admin-roles/admin-
role/%2EAdministrators/general/session-options HTTP/1.1
Host: 10.209.114.228
Authorization: Basic
TldVNFl6TmtOVEZqTkRFek1EUXdPVGRoTlRrMk9UWTBaR0l3TkRnM1ptST06
Content-Type: application/json
{
    "idle-timeout": "5"
}
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Length: 124
```

```
Content-Type: application/json
{
          "result": {
              "info": [
                  {
                      "message": "Operation succeeded without
      warning or error!"
                  }
              ]
          }
}
```

Getting Active Directory Search Groups

```
REQUEST
GET /api/v1/configuration/authentication/auth-servers/auth-
server/ADServer/ad/server-catalog/groups HTTP/1.1
Host: 10.209.116.192
Authorization: Basic
RU9jaHYwdmlqVnJibDBqeE9obTlYZDVOdHhVS2FMeSttVzBqL1pKUXh6bz06
Content-Type: application/json
RESPONSE
HTTP/1.1 200 OK
Content-Length: 294
Content-Type: application/json
{
      "ad-group": [
       {
         "group": "PCS-QA/core",
         "name": "PCS-QA/core",
         "sid": "S-1-5-21-3875260349-1888520165-453808128-1112"
       },
       {
         "group": "PCS-QA/systems",
         "name": "PCS-QA/systems",
         "sid": "S-1-5-21-3875260349-1888520165-453808128-1108"
       }
     ]
}
```

Adding Search Group to Active Directory

REQUEST

```
PUT /api/v1/configuration/authentication/auth-servers/auth-
server/ADServer/ad/server-catalog/groups HTTP/1.1
Host: 10.209.116.192
Authorization: Basic
RU9jaHYwdmlqVnJibDBqeE9obTlYZDVOdHhVS2FMeSttVzBqL1pKUXh6bz06
Content-Type: application/json
{
      "ad-group": [
         {
             "group": "PCS-QA/systems",
             "name": "PCS-QA/systems"
         },
         {
             "group": "PCS-QA/core",
             "name": "PCS-QA/core"
         }
      ]
}
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Length: 124
Content-Type: application/json
{
   "result": {
      "info": [
       {
         "message": "Operation succeeded without warning or error!"
       }
      ]
   }
}
```

Updating Active Directory Group

NOTE: To update a group, first get already available list using GET operation and append new group to it before PUT.

REQUEST

```
PUT /api/v1/configuration/authentication/auth-servers/auth-
server/ADServer/ad/server-catalog/groups HTTP/1.1
Host: 10.209.116.192
Authorization: Basic
RU9jaHYwdmlqVnJibDBqeE9obTlYZDVOdHhVS2FMeSttVzBqL1pKUXh6bz06
Content-Type: application/json
{
      "ad-group": [
        {
           "group": "PCS-QA/core",
           "name": "PCS-QA/core",
           "sid": "S-1-5-21-3875260349-1888520165-453808128-1112"
        },
        {
           "group": "PCS-QA/systems",
           "name": "PCS-QA/systems",
           "sid": "S-1-5-21-3875260349-1888520165-453808128-1108"
        },
        {
           "group": "PCS-QA/client",
           "name": "PCS-QA/client",
           "sid": "S-1-5-21-3875260349-1888520165-453808128-1113"
        }
      ]
}
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Length: 124
Content-Type: application/json
{
      "result": {
         "info": [
          {
            "message": "Operation succeeded without warning or
          error!"
```

```
          }
         ]
    }
}
```

Deleting Active Directory Groups

```
REQUEST

PUT /api/v1/configuration/authentication/auth-servers/auth-
server/ADServer/ad/server-catalog/groups HTTP/1.1

Host: 10.209.116.192

Authorization: Basic
RU9jaHYwdmlqVnJibDBqeE9obTlYZDVOdHhVS2FMeSttVzBqL1pKUXh6bz06

Content-Type: application/json

{
      "ad-group": [
      ]
}

RESPONSE

HTTP/1.1 200 OK

Content-Length: 124

Content-Type: application/json

{
      "result": {
         "info": [
           {
             "message": "Operation succeeded without warning or
         error!"
           }
         ]
    }
}
```

Getting All LDAP Group List

```
REQUEST

GET /api/v1/configuration/authentication/auth-servers/auth-
server/LDAPServer/ldap/server-catalog/groups HTTP/1.1

Host: 10.209.116.192
```

```
Authorization: Basic
RU9jaHYwdmlqVnJibDBqeE9obTlYZDVOdHhVS2FMeSttVzBqL1pKUXh6bz06

Content-Type: application/json
```

Adding Groups to LDAP

REQUEST

```
PUT /api/v1/configuration/authentication/auth-servers/auth-
server/LDAPServer/ldap/server-catalog/groups HTTP/1.1

Host: 10.209.116.192

Authorization: Basic
RU9jaHYwdmlqVnJibDBqeE9obTlYZDVOdHhVS2FMeSttVzBqL1pKUXh6bz06

Content-Type: application/json

{
      "user-group": [
        {
          "dn": "CN=Administrators,CN=Builtin,DC=pcs-
      qa,DC=blrlab,DC=net",
          "group-type": "static",
          "name": "Administrators"
        },
        {
          "dn": "CN=Users,CN=Builtin,DC=pcs-qa,DC=blrlab,DC=net",
          "group-type": "static",
          "name": "Users"
        }
       ]
}
```

RESPONSE

```
HTTP/1.1 200 OK

Content-Length: 124

Content-Type: application/json

{
      "result": {
         "info": [
           {
             "message": "Operation succeeded without warning or
         error!"
           }
         ]
    }
```

```
}
```

Updating LDAP Source Group

NOTE: To update a group, first get already available list using GET operation and append new group to it and then perform PUT operation.

REQUEST

```
PUT /api/v1/configuration/authentication/auth-servers/auth-
server/LDAPServer/ldap/server-catalog/groups HTTP/1.1
Host: 10.209.116.192
Authorization: Basic
RU9jaHYwdmlqVnJibDBqeE9obTlYZDVOdHhVS2FMeSttVzBqL1pKUXh6bz06
Content-Type: application/json
{
      "user-group": [
        {
          "dn": "CN=Administrators,CN=Builtin,DC=pcs-
      qa,DC=blrlab,DC=net",
          "group-type": "static",
          "name": "Administrators"
        },
        {
          "dn": "CN=Users,CN=Builtin,DC=pcs-qa,DC=blrlab,DC=net",
          "group-type": "static",
          "name": "Users"
        },
        {
          "dn": "CN=Guests,CN=Builtin,DC=pcs-qa,DC=blrlab,DC=net",
          "group-type": "static",
          "name": "Guests"
        }
    ]
}
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Length: 124
Content-Type: application/json
{
      "result": {
```

```
        "info": [
          {
            "message": "Operation succeeded without warning or
        error!"
          }
        ]
    }
}
```

Deleting LDAP Source Group

REQUEST

```
PUT /api/v1/configuration/authentication/auth-servers/auth-
server/LDAPServer/ldap/server-catalog/groups HTTP/1.1
Host: 10.209.116.192
Authorization: Basic
RU9jaHYwdmlqVnJibDBqeE9obTlYZDVOdHhVS2FMeSttVzBqL1pKUXh6bz06
Content-Type: application/json
{
      "user-group": [
      ]
}
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Length: 124
Content-Type: application/json
{
      "result": {
         "info": [
           {
             "message": "Operation succeeded without warning or
         error!"
           }
         ]
    }
}
```

Creating a Cluster

```
REQUEST

PUT /api/v1/cluster HTTP/1.1

Host: 10.209.114.228

Authorization: Basic
TldVNFl6TmtOVEZqTkRFek1EUXdPVGRoTlRrMk9UWTBaR0l3TkRnM1ptST06

Content-Type: application/json

{

    "cluster-name": "cluster1",

    "cluster-password": "dana123",

    "member-name": "nodeA",

    "action": "create"

}

RESPONSE

HTTP/1.1 200 OK

Content-Length: 118

Content-Type: application/json

{

          "result": {

              "info": [

                  {

                      "message": "Created cluster
      'cluster1' successfully"

                  }

              ]

          }

}
```

Adding a Member to Cluster

```
REQUEST

POST /api/v1/cluster/members HTTP/1.1

Host: 10.209.116.214

Authorization: Basic
THI5bmxreU50UE04MWJ6OHRhbjhFMW1PYTVuV3V5MG5XN0oyNmNWcTRhbz06

Content-Type: application/json

{

   "member-name" : "node225",
```

```
   "member-ip" : "3.209.114.225",
   "member-netmask" : "255.0.0.0",
   "member-gateway" : "3.0.0.1",
   "member-external-ip" : "2.209.114.225",
   "member-external-netmask" : "255.0.0.0",
   "member-external-gateway" : "2.0.0.1"
}
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Length: 125
Content-Type: application/json
{
  "result": {
    "info": [
      {
        "message": "Added member 'node225' to cluster
successfully"
      }
    ]
  }
}
```

Cluster Status

REQUEST

```
GET /api/v1/cluster HTTP/1.1
Host: 10.209.114.228
Authorization: Basic
TWN2cUEzbFRYQXcySjBSbGpKWTAzdk1oa2RiTDFLUVJDUjNNdlQ0UlRJdz06
Content-Type: application/json
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Length: 619
Content-Type: application/json
{
      "members": [
          {
              "enabled": true,
              "external-ip": "",
```

```
            "external-network": "",
            "internal-ip": "3.209.114.225",
            "internal-netmask": "255.0.0.0",
            "name": "node225",
            "notes": "Enabled, Unreachable",
            "status-code": "0x18"
        },
        {
            "enabled": true,
            "external-ip": "10.209.114.194",
            "external-network": "255.255.240.0",
            "internal-ip": "3.209.114.228",
            "internal-netmask": "255.0.0.0",
            "name": "nodeA",
            "notes": "Leader",
            "status-code": "0x19004"
        }
        ],
        "mode": "Active/Active",
        "name": "cluster1"
}
{
        "external-vip-ipv4": "10.204.56.76",
        "external-vip-owner": "node-51-39",
        "internal-vip-ipv4": "10.204.56.75",
        "internal-vip-owner": "node-51-39",
        "members": [
          {
            "enabled": true,
            "external-ip": "10.204.56.82",
            "external-netmask": "255.255.240.0",
            "internal-ip": "10.204.51.39",
            "internal-netmask": "255.255.240.0",
            "name": "node-51-39",
            "notes": "Leader",
            "status-code": "0x1b004"
          },
          {
            "enabled": true,
```

```
            "external-ip": "10.204.56.87",
            "external-netmask": "255.255.240.0",
            "internal-ip": "10.204.56.88",
            "internal-netmask": "255.255.240.0",
            "name": "Node-something",
            "notes": "Enabled, Unreachable",
            "status-code": "0x18"
          }
        ],
        "mode": "Active/Passive",
        "name": "TEST-CLUSTER"
}
```

Deleting Cluster Member

```
REQUEST

DELETE /api/v1/cluster/members/node225 HTTP/1.1

Host: 10.209.114.228

Authorization: Basic
TWN2cUEzbFRYQXcySjBSbGpKWTAzdk1oa2RiTDFLUVJDUjNNdlQ0UlRJdz06

Content-Type: application/json

RESPONSE

HTTP/1.1 200 OK

Content-Length: 129

Content-Type: application/json

{
          "result": {
              "info": [
                  {
                      "message": "Removed member 'node225'
      from cluster successfully"
                  }
              ]
          }
}
```

Health Check Status

```
REQUEST
GET /api/v1/system/healthcheck
Host: 10.209.114.228
Content-Type: application/json
RESPONSE
HTTP/1.1 200 OK
Content-Type: application/json
{
   "message": "Security Gateway is accessible."
}

REQUEST
GET /api/v1/system/healthcheck?status=all HTTP/1.1
Host: 10.209.114.228
Content-Type: application/json
RESPONSE
Content-Type: application/json
{
    "CPU-UTILIZATION4": 8,
    "SSL-CONNECTION-COUNT": 0,
    "MAX-LICENSED-USERS-REACHED": "NO",
    "SWAP-UTILIZATION": 1,
    "DISK-UTILIZATION": -1,
    "USER-COUNT": 0,
    "VPN-TUNNEL-COUNT": 0
}

REQUEST
GET /api/v1/system/healthcheck?status=sbr HTTP/1.1
Host: 10.209.114.228
Content-Type: application/json
RESPONSE
Content-Type: application/json
{
   "SBR-AVAILABLE": 1
}
```

Joining a Cluster

```
REQUEST
PUT /api/v1/cluster HTTP/1.1
Host: 10.209.114.228
Authorization: Basic
SkUyV1BaVjRjcGxleElRMnNiZXpYajE2dEVIUm9Oa05WWDdRWHh3MmpJZz06
Content-Type: application/json
{
   "cluster-name": "cluster",
   "cluster-password": "dana123",
   "member-address": "3.209.114.225",
   "action": "join"
}
RESPONSE
HTTP/1.1 200 OK
Content-Length: 116
Content-Type: application/json
{
   "result": {
     "info": [
       {
         "message": "Joined cluster 'cluster' successfully"
       }
     ]
   }
}
```

VIP Failover

```
REQUEST
PUT /api/v1/cluster
Host: 10.209.114.228
Authorization: Basic
SkUyV1BaVjRjcGxleElRMnNiZXpYajE2dEVIUm9Oa05WWDdRWHh3MmpJZz06
Content-Type: application/json
{
   "action": "vip-failover"
}
```

```
RESPONSE
In case of active-passive cluster:
{
  "result": {
    "info": [
      {
        "message": "VIP fail-over initiated"
      }
    ]
  }
}
In case of active-active cluster:
{
  "result": {
    "info": [
      {
        "message": "Node not part of an Active-Passive cluster.
Invalid operation."
      }
    ]
  }
}
```

Configuring IF MAP Server

```
REQUEST
PUT /api/v1/configuration/system/ifmap/overview/ifmap-config/
Host: xx.xxx.xxx.xxx
Authorization: Basic
SkUyV1BaVjRjcGxleElRMnNiZXpYajE2dEVIUm9Oa05WWDdRWHh3MmpJZz06
Content-Type: application/json
{
      "ifmap-config": " server "
}
RESPONSE
HTTP/1.1 200 OK
Content-Length: 116
Content-Type: application/json
{
```

```
    "result": {
       "info": [
          {
              "message": ": "Operation succeeded without warning or
error!"
          }
       ]
    }
}
```

Configuring IF MAP Client

```
REQUEST

PUT /api/v1/configuration/system/ifmap/overview/ifmap-config/

Host: xx.xxx.xxx.xxx

Authorization: Basic
SkUyV1BaVjRjcGxleElRMnNiZXpYajE2dEVIUm9Oa05WWDdRWHh3MmpJZz06

Content-Type: application/json

{

"auth-type": "basic",

    "cert": "None",

    "ifmap-config": "client",

    "password-encrypted":
"3u+UR6n8AgABAAAAe9Px2XELrbvvAZACcoOJXBM105llgG8QQLNR4hcLNrE=",

    "server-url": "https://<PPS-IP-Address>/dana-ws/soap/dsifmap",

    "username": "admin1"

}

{

    "auth-type": "cert",

    "cert": "xx.xxx.xx.xx",

    "ifmap-config": "client",

    "password-encrypted":
"3u+UR6n8AgABAAAAe9Px2XELrbvvAZACcoOJXBM105llgG8QQLNR4hcLNrE=",

    "server-url": "https://<PPS-IP_Address>/dana-ws/soap/dsifmap",

    "username": "admin1"

}


RESPONSE

HTTP/1.1 200 OK

Content-Length: 116
```

```
Content-Type: application/json
{
    "result": {
       "info": [
          {
              "message": ": "Operation succeeded without warning or
error!"
          }
       ]
    }
}
```

Configuring No IF MAP Server

REQUEST

```
PUT /api/v1/configuration/system/ifmap/overview/ifmap-config/
Host: xx.xxx.xxx.xxx
Authorization: Basic
SkUyV1BaVjRjcGxleElRMnNiZXpYajE2dEVIUm9Oa05WWDdRWHh3MmpJZz06
Content-Type: application/json
{
      "ifmap-config": "no-ifmap"
}
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Length: 116
Content-Type: application/json
{
    "result": {
       "info": [
          {
              "message": ": "Operation succeeded without warning or
error!"
          }
       ]
    }
}
```

Getting Config Without Pulse Packages (ESAP and Pulse Client Packages)

REQUEST

```
GET /api/v1/configuration/authentication/endpoint/host-
checker/esaps?expand&&excludePulsePackages HTTP/1.1
Host: 10.209.125.139
Authorization: Basic
dS9UOURJRWswZzVyMTdieUJqVnhaQnExZUpTTW9ndCtIdGZzMnczMmlzRT06
Content-Type: application/json
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Length: 561
Content-Type: application/json
{
      "active-version": "3.3.5",
         "default-version": "3.3.5",
         "esap": [
           {
               "esap-version": "3.3.5",
               "last-activated-time": "Sun 17 Mar 2019 23:54:12
         PDT",
               "upload-time": "Sun 17 Mar 2019 23:53:35 PDT"
            },
            {
               "esap-version": "3.3.6",
               "last-activated-time": "Never",
               "upload-time": "Mon 18 Mar 2019 21:45:31 PDT"
            },
            {
               "esap-version": "3.3.7",
               "last-activated-time": "Never",
               "upload-time": "Mon 18 Mar 2019 21:46:12 PDT"
            }
         ],
         "force-same-esap": "false",
         "opswat-sdk-version": "4"
}
```

Backing Up Binary Configuration

```
REQUEST

GET /api/v1/system/binary-configuration HTTP/1.1

Host: 10.204.51.39

Authorization: Basic
dS9UOURJRWswZzVyMTdieUJqVnhaQnExZUpTTW9ndCtIdGZzMnczMmlzRT06

RESPONSE

HTTP/1.1 200 OK

Content-Type: text/html; charset=utf-8

Content-Length: 50753630

UEsDBBQAAAAIAE9VmU4J1asqz3cDAKx3AwAKABwAc3lzdGVtLmNmZ1VUCQADvUHB

XL1BwVx1eAsAAQQAAAAABAAAAAAAC4D0fwnTMa1OLV2XgACOdwMAINEfP2AuIVXV

B1FhtptLC259gyNPT7WwhtQKbp2Y2+d1h1MTflQis8wbHytXP19D+SM+amX5UKeO

GDUggxgbrEQMXmwOSv8YBrvXIBShmGO5BVqfUemvdNK3OB+S/g8+LIPG5i2c3LVm

W8hY3PLQ9CJHMrFSBFtgyTX2at85MGCsupxd2gOQQ9e138KrI2hBoywDzCJiRUSU

...
```

Restoring Binary Configuration (import=normal)

The import normal mode will import the binary configuration excluding the IP, network configurations and cluster configuration. The normal mode is similar to default option in binary import.

```
REQUEST

PUT /api/v1/system/binary-configuration?import=normal HTTP/1.1

Or

PUT /api/v1/system/binary-configuration HTTP/1.1

Host: 10.204.51.39

Authorization: Basic
dS9UOURJRWswZzVyMTdieUJqVnhaQnExZUpTTW9ndCtIdGZzMnczMmlzRT06

Content-Type: text/html; charset=utf-8

RESPONSE

HTTP/1.1 200 OK

{
  "result": {
    "info": [
      {
        "message": "Operation successfully completed."
      }
    ]
```

```
  }
}
Error Cases:
import mode specified is incorrect (other than normal or full)
Content-Length: 100
Content-Type: application/json
{
 "result": {
     "errors": [
       {
          "message": "Invalid import mode"
       }
     ]
  }
}
Content type is not a base 64 encoded binary configuration string
Content-Length: 126
Content-Type: application/json
{
 "result": {
    "errors": [
      {
        "message": "Error - Failed to extract configuration files"
      }
     ]
  }
}
```

Restoring Binary Configuration (import=full)

The import full mode will import everything from the binary configuration provided in the body. This is similar to full binary import.

```
REQUEST
PUT /api/v1/system/binary-configuration?import=full HTTP/1.1
Host: 10.204.51.39
Authorization: Basic
dS9UOURJRWswZzVyMTdieUJqVnhaQnExZUpTTW9ndCtIdGZzMnczMmlzRT06
Content-Type: text/html; charset=utf-8
Body data:
Base64 configuration string as received in GET request)
```

```
UEsDBBQAAAAIAE9VmU4J1asqz3cDAKx3AwAKABwAc3lzdGVtLmNmZ1VUCQADvUHB
XL1BwVx1eAsAAQQAAAAABAAAAAAAC4D0fwnTMa1OLV2XgACOdwMAINEfP2AuIVXV
B1FhtptLC259gyNPT7WwhtQKbp2Y2+d1h1MTflQis8wbHytXP19D+SM+amX5UKeO
GDUggxgbrEQMXmwOSv8YBrvXIBShmGO5BVqfUemvdNK3OB+S/g8+LIPG5i2c3LVm
……
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Length: 112
Content-Type: application/json
{
  "result": {
    "info": [
      {
        "message": "Operation successfully completed."
      }
    ]
  }
}
Error Cases:
import mode specified is incorrect (other than normal or full)
Content-Length: 100
Content-Type: application/json
{
 "result": {
    "errors": [
      {
         "message": "Invalid import mode"
      }
    ]
  }
}
Content type is not a base 64 encoded binary configuration string
Content-Length: 126
Content-Type: application/json
{
 "result": {
   "errors": [
     {
       "message": "Error - Failed to extract configuration files"
     }
```

```
        ]
    }
}
```

PCS-Specific Configurations Using REST APIs

- Creating a VLAN
- Deleting a VLAN
- Creating a User Role
- Fetching the User Login Statistics
- Updating the User Role Settings
- Deleting a User Role
- Creating a User Realm
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- Creating an AD Authentication Server
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- Creating Sign-In-Policy
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- Fetching Active Number of HTML5 Sessions
- Updating Password in Clear Text
- Applying Authcode and Downloading Licenses from PCLS on VA-SPE|PSA-V
- Applying License
- Deleting License
- Getting License Clients
- Getting License Report from License Server
- Enabling/Disabling ICE License
- Getting the Current Status of ICE License
- Exporting TOTP Users from One Device to Another Device
- Importing TOTP Users from One Device to Another Device
- Sample Error Responses
- Limitations

Creating a VLAN

To create a VLAN on a cluster node:

REQUEST

```
POST /api/v1/configuration/system/network/vlans/Node88/vlan/ HTTP/1.1
Host: 10.209.113.88
Authorization: Basic
MVhDbDJTSUhkV3ZjUkd6WXM1T1V3MU5wbHNmemJPbTJxSHI2NVZCdXp5bz06
Content-Type: application/json
{
    "arp-cache": {
        "arp-entry": []
    },
    "name": "vlan-int-1",
    "routes": {
        "route": []
    },
    "settings": {
        "default-gateway": "2.0.0.1",
        "default-vlan-interface": "false",
        "enable-ipv6": "enabled",
        "ip-address": "2.2.2.2",
        "ipv6-address": "fc00:7777:5678:5678::222",
        "ipv6-default-gateway": "fc00:7777:5678:5678::3",
        "ipv6-prefix-length": "64",
        "is-enabled": "enabled",
        "netmask": "255.0.0.0",
        "vlan-id": "2",
        "vlan-parent": "0"
    },
    "virtual-ports": {
        "virtual-port": []
    }
}
```

RESPONSE

```
HTTP/1.1 201 CREATED
Content-Length: 128
Content-Type: application/json
{
"result": {
"warnings": [
{
"message": "The configuration has been implicitly changed"
}
            ]
          }
}
```

Deleting a VLAN

To delete a VLAN from cluster node:

```
REQUEST

DELETE /api/v1/configuration/system/network/vlans/Node88/vlan/vlan-int-1
HTTP/1.1
Host: 10.209.113.88

Authorization: Basic
MVhDbDJTSUhkV3ZjUkd6WXM1T1V3MU5wbHNmemJPbTJxSHI2NVZCdXp5bz06
Content-Type: application/json

RESPONSE

HTTP/1.1 204 NO CONTENT

Content-Length: 0

Content-Type: application/json
```

Creating a User Role

To create a user role:

```
REQUEST

POST /api/v1/configuration/users/user-roles/user-role/ HTTP/1.1

Host: 10.209.113.88

Authorization: Basic
```

```
MVhDbDJTSUhkV3ZjUkd6WXM1T1V3MU5wbHNmemJPbTJxSHI2NVZCdXp5bz06

Content-Type: application/json

{
    "name": "rest-userrole-4",
    "web": {
        "web-bookmarks": {
            "bookmark": [
                {
                    "auto-allow": "disable",
                    "description": "",
                    "name": "web-bm-1",
                    "new-window": "false",
                    "no-address-bar": "false",
                    "no-tool-bar": "false",
                    "parent": "--none--",
                    "standard": {
                        "url": "http://www.msn.com"
                    }
                }
            ]
        },
        "web-options": {
            "browsing-untrusted-sslsites": "true",
            "flash-content": "false",
            "hpxproxy-connection-timeout": "1800",
            "http-connection-timeout": "240",
            "java-applets": "true",
            "mask-hostname": "false",
            "persistent-cookies": "false",
            "rewrite-file-urls": "false",
            "rewrite-links-pdf": "false",
            "unrewritten-page-newwindow": "false",
            "user-add-bookmarks": "false",
```

```
            "user-enter-url": "false",
            "users-bypass-warnings": "false",
            "warn-certificate-issues": "true",
            "websocket-connection-timeout": "900"
        }
    }
}
RESPONSE
HTTP/1.1 201 CREATED
Content-Length: 122
Content-Type: application/json
         {
             "result": {
                 "info": [
                     {
                         "message": "Operation succeed without
   warning or error!"
                     }
                 ]
             }
         }
```

Fetching the User Login Statistics

To fetch the user login statistics:

```
REQUEST
GET /api/v1/system/user-stats HTTP/1.1
Host: 10.209.113.88
Authorization: Basic
MVhDbDJTSUhkV3ZjUkd6WXM1T1V3MU5wbHNmemJPbTJxSHI2NVZCdXp5bz06
Content-Type: application/json
RESPONSE
HTTP/1.1 200 OK
Content-Length: 169
Content-Type: application/json
{
         "user-stats": {
```

```
            "allocated-user-count": "25",
            "current-user-count": "0",
            "max-active-user-count-24hrs": "1",
            "min-active-user-count-24hrs": "0"
        }
}
```

Updating the User Role Settings

To update the user role settings:

```
REQUEST

PUT /api/v1/configuration/users/user-roles/user-role/rest-userrole-4
HTTP/1.1

Host: 10.209.113.88

Authorization: Basic
MVhDbDJTSUhkV3ZjUkd6WXM1T1V3MU5wbHNmemJPbTJxSHI2NVZCdXp5bz06

Content-Type: application/json

{

    "name": "rest-userrole-4",

    "web": {

        "web-bookmarks": {

            "bookmark": [

                {

                    "auto-allow": "disable",

                    "description": "",

                    "name": "web-bm-1",

                    "new-window": "false",

                    "no-address-bar": "false",

                    "no-tool-bar": "false",

                    "parent": "--none--",

                    "standard": {

                        "url": "http://www.yahoo.com"

                    }

                }

            ]
```

```
        },
        "web-options": {
            "browsing-untrusted-sslsites": "true",
            "flash-content": "false",
            "hpxproxy-connection-timeout": "1800",
            "http-connection-timeout": "240",
            "java-applets": "true",
            "mask-hostname": "false",
            "persistent-cookies": "false",
            "rewrite-file-urls": "false",
            "rewrite-links-pdf": "false",
            "unrewritten-page-newwindow": "false",
            "user-add-bookmarks": "false",
            "user-enter-url": "false",
            "users-bypass-warnings": "false",
            "warn-certificate-issues": "true",
            "websocket-connection-timeout": "900"
        }
    }
}
        }
    }
}
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Length: 122
Content-Type: application/json
{
         "result": {
            "info": [
              {
                "message": "Operation succeed without warning or
   error!"
              }
            ]
```

```
          }
}
```

Deleting a User Role

To delete a user role:

```
REQUEST

DELETE /api/v1/configuration/users/user-roles/user-role/rest-userrole-4
HTTP/1.1

Host: 10.209.113.88

Authorization: Basic
MVhDbDJTSUhkV3ZjUkd6WXM1T1V3MU5wbHNmemJPbTJxSHI2NVZCdXp5bz06

Content-Type: application/json

RESPONSE

HTTP/1.1 204 NO CONTENT

Content-Length: 0

Content-Type: application/json
```

Creating a User Realm

To create a user realm:

```
REQUEST

POST /api/v1/configuration/users/user-realms/realm/ HTTP/1.1

Host: 10.209.113.88

Authorization: Basic
MVhDbDJTSUhkV3ZjUkd6WXM1T1V3MU5wbHNmemJPbTJxSHI2NVZCdXp5bz06

Content-Type: application/json

{
    "accounting-server": "None",

    "authentication-group": "",

    "authentication-policy": {

        "browser": {

            "customized": "any-user-agent",

            "user-agent-patterns": {

                "user-agent-pattern": []

            }
```

```
        },
        "certificate": {
            "cert-key-value-pairs": {
                "cert-key-value-pair": []
            },
            "customized": "allow-all-users"
        },
        "host-checker": {
            "enforce-all-policies": "false",
            "enforce-policy-list": null,
            "evaluate-all-policies": "false",
            "evaluate-logic": "all-policies-must-succeed",
            "evaluate-policy-list": null
        },
        "limits": {
            "guaranteed-minimum": null,
            "limit-concurrent-users": "false",
            "max-sessions-per-user": "1",
            "maximum": null
        },
        "password": {
            "primary-password-expiration-warning-days": "14",
            "primary-password-management": "true",
            "primary-password-minimum-length": "4",
            "primary-password-restricted": "allow-passwords-of-minimum-
length",
            "secondary-password-expiration-warning-days": "14",
            "secondary-password-management": "false",
            "secondary-password-minimum-length": "4",
            "secondary-password-restricted": "allow-passwords-of-minimum-
length"
        },
        "source-ip": {
            "customized": "any-ip",
```

```
            "ips": {
                "ip": []
            }
        }
    },
    "authentication-server": "AD server",
    "description": "",
    "device-server": "None",
    "directory-server": "AD server",
    "dynamic-policy": {
        "dynamic-policy-evaluation": "false",
        "refresh-interval": "60",
        "refresh-policies": "false",
        "refresh-roles": "false"
    },
    "editing-description": "false",
    "inbound-ifmap-attributes": "false",
    "migration-sharing-type": "enable-session-migration",
    "name": "rest-user-realm",
    "role-mapping-rules": {
        "rule": [
            {
                "name": "rest-admin-rule",
                "roles": [
                    "test1"
                ],
                "stop-rules-processing": "false",
                "user-name": {
                    "test": "is",
                    "user-names": [
                        "user1"
                    ]
                }
```

```
            }
        ],
        "user-selects-role": "false",
        "user-selects-roleset": "false"
    },
    "secondary-authentication-settings": {
        "authentication-must-succeed": "true",
        "name": "-",
        "password-input": "user",
        "predefined-password": "",
        "predefined-user-name": "",
        "user-name-input": "user"
    },
    "session-migration": "false"
}
```

RESPONSE

```
HTTP/1.1 201 CREATED
Content-Length: 122
Content-Type: application/json
{
    "result": {
        "info": [
            {
                "message": "Operation succeed without warning or error!"
            }
        ]
    }
}
```

Deleting a User Realm

To delete a user realm:

```
REQUEST

DELETE /api/v1/configuration/users/user-realms/realm/rest-user-realm
HTTP/1.1

Host: 10.209.113.88

Authorization: Basic
MVhDbDJTSUhkV3ZjUkd6WXM1T1V3MU5wbHNmemJPbTJxSHI2NVZCdXp5bz06

Content-Type: application/json

RESPONSE

HTTP/1.1 204 NO CONTENT

Content-Length: 0

Content-Type: application/json
```

Creating a Resource Profile

To create a web resource profile:

```
REQUEST

POST /api/v1/configuration/users/resource-profiles/web-profiles/web-
profile/ HTTP/1.1

Host: 10.209.113.88

Authorization: Basic
MVhDbDJTSUhkV3ZjUkd6WXM1T1V3MU5wbHNmemJPbTJxSHI2NVZCdXp5bz06

Content-Type: application/json

{

    "custom": {

        "bookmarks": {

            "bookmark": [

                {

                    "apply": "all",

                    "description": "",

                    "name": "web-resourceprofile",

                    "new-window": "false",

                    "no-address-bar": "false",

                    "no-tool-bar": "false",
```

```
                "roles": null,
                "url": "http://www.google.com"
            }
        ]
    },
    "client-authentication": [],
    "java-acl": [],
    "rewriting-options": {
        "ptp": [],
        "selective-rewriting": "false",
        "use-jsam": [],
        "use-wsam": []
    },
    "sso-basic-ntlm-kerberos": [],
    "sso-header": [],
    "sso-post": [],
    "url": "http://www.google.com",
    "web-compression": [],
    "webacl": [
        {
            "rules": {
                "rule": [
                    {
                        "action": "allow",
                        "name": "Allow http://www.google.com:80/*",
                        "resource": "http://www.google.com:80/*"
                    }
                ]
            }
        }
    ],
    "webcaching": []
},
```

```
    "description": "",
    "name": "web-resourceprofile",
    "roles": [
        "rest-userrole-3"
    ]
}
RESPONSE
HTTP/1.1 201 CREATED
Content-Length: 128
Content-Type: application/json
{
    "result": {
        "warnings": [
            {
                "message": "The configuration has been implicitly changed"
            }
        ]
    }
}
```

Deleting a Resource Profile

To delete a web resource profile:

```
REQUEST
DELETE /api/v1/configuration/users/resource-profiles/web-profiles/web-
profile/web-resourceprofile HTTP/1.1
Host: 10.209.113.88
Authorization: Basic
MVhDbDJTSUhkV3ZjUkd6WXM1T1V3MU5wbHNmemJPbTJxSHI2NVZCdXp5bz06
Content-Type: application/json
RESPONSE
HTTP/1.1 204 NO CONTENT
Content-Length: 0
Content-Type: application/json
```

Creating a Resource Policy

To create a web resource policy:

```
REQUEST

POST /api/v1/configuration/users/resource-policies/web-policies/web-
acls/web-acl/ HTTP/1.1

Host: 10.209.113.88

Authorization: Basic
MVhDbDJTSUhkV3ZjUkd6WXM1T1V3MU5wbHNmemJPbTJxSHI2NVZCdXp5bz06

Content-Type: application/json

{

    "action": "allow",

    "apply": "selected",

    "description": "",

    "name": "web-acl-policy",

    "parent-type": "none",

    "resources": [

        "1.1.1.1:80,443/*"

    ],

    "roles": [

        "rest-userrole-1"

    ],

    "rules": {

        "rule": []

    }

}

RESPONSE

HTTP/1.1 201 CREATED

Content-Length: 122

Content-Type: application/json

{

    "result": {

        "info": [

            {

                "message": "Operation succeed without warning or error!"
```

```
            }
        ]
    }
}
```

Fetching a Resource Policy

To fetch a web resource policy:

```
REQUEST

GET /api/v1/configuration/users/resource-policies/web-policies/web-
acls/web-acl/name=web-acl-policy,parent-type=none HTTP/1.1

Host: 10.209.113.88

Authorization: Basic
MVhDbDJTSUhkV3ZjUkd6WXM1T1V3MU5wbHNmemJPbTJxSHI2NVZCdXp5bz06

Content-Type: application/json

RESPONSE

HTTP/1.1 200 OK

Content-Length: 245

Content-Type: application/json

{
    "action": "allow",
    "apply": "selected",
    "description": "",
    "name": "web-acl-policy",
    "parent-type": "none",
    "resources": [
        "1.1.1.1:80,443/*"
    ],
    "roles": [
        "rest-userrole-1"
    ],
    "rules": {
        "rule": []
    }
}
```

Deleting a Resource Policy

To delete a web resource policy:

```
REQUEST

DELETE /api/v1/configuration/users/resource-policies/web-policies/web-acls/web-acl/name=web-acl-policy,parent-type=none HTTP/1.1

Host: 10.209.113.88

Authorization: Basic MVhDbDJTSUhkV3ZjUkd6WXM1T1V3MU5wbHNmemJPbTJxSHI2NVZCdXp5bz06

Content-Type: application/json

RESPONSE

HTTP/1.1 204 NO CONTENT

Content-Length: 0

Content-Type: application/json
```

Creating an AD Authentication Server

```
REQUEST

POST /api/v1/configuration/authentication/auth-servers/auth-server HTTP/1.1

Host: 10.209.114.152

Authorization: Basic QmJYZlZ6eER2Tzhodjh4NzhlU28vU1NNZ0tHelJJUHhsbC9pdjcrZlRxcz06

Content-Type: application/json

{
    "ad": {
        "server-catalog": {
            "custom-variables": {
                "custom-variable": []
            },
            "expressions": {
                "custom-expression": []
            },
            "groups": {
                "ad-group": []
            }
        },
        "settings": {
```

```
            "additional-options": {
                "allow-trusted-domains": "false",
                "change-machine-password-after-every": "0",
                "enable-ntlm-protocol": "true",
                "enable-periodic-password-change-of-machine-account":
"false",
                "kerberos": "true",
                "max-domain-connections": "5",
                "ntlm-protocol": "ntlmv2"
            },
            "container-name": "Computers",
            "domain": "TEST",
            "kerberos-realm": "TEST.SAQACERTSERV.COM",
            "nodenames": [
                {
                    "computer-name": "0332MWK0NRP111",
                    "machine-hardware-id": "0332MOGWK0NRP111S",
                    "node": "localhost2"
                }
            ],
            "password-encrypted":
"3u+UR6n8AgABAAAAyCaUPKhCg3J/y46bhB4wz6mnupQH0oTHOTfTexJxP2k=",
            "save-credentials": "true",
            "username": "Administrator"
        }
    },
    "logical-name": "",
    "name": "AD-Server",
    "user-record-sync": "false"
}
```


RESPONSE


```
HTTP/1.1 201 CREATED
Content-Length: 128
Content-Type: application/json
{
"result": {
"warnings": [
{
"message": "The configuration has been implicitly changed"
}
            ]
```

```
            }
}
```

Deleting an AD Authentication Server

```
REQUEST

DELETE /api/v1/configuration/authentication/auth-servers/auth-
server/AD-Server HTTP/1.1

Host: 10.209.114.152

Authorization: Basic
QmJYZlZ6eER2Tzhodjh4NzhlU28vU1NNZ0tHelJJUHhsbC9pdjcrZlRxcz06

Content-Type: application/json

RESPONSE

HTTP/1.1 204 NO CONTENT

Content-Length: 0

Content-Type: application/json
```

Creating an LDAP Authentication Server

```
REQUEST

POST /api/v1/configuration/authentication/auth-servers/auth-server HTTP/1.1

Host: 10.209.114.152

Authorization: Basic
QmJYZlZ6eER2Tzhodjh4NzhlU28vU1NNZ0tHelJJUHhsbC9pdjcrZlRxcz06

Content-Type: application/json

{

    "ldap": {

        "server-catalog": {

            "attributes": {

                "user-attribute": [

                    {

                        "name": "cn"

                    },

                    {

                        "name": "department"

                    },
```

```
                    {
                        "name": "departmentNumber"
},
                    {
                        "name": "employeeNumber"
                    },
                    {
},
                    {
                        "name": "o"
                    },
                    {
                        "name": "ou"
                    },
                    {
                        "name": "sAMAccountName"
                    },
                    {
                        "name": "uid"
                    },
                    {
                        "name": "homeDirectory"
                    },
                    {
                        "name": "homeDrive"
                    },
                    {
"name": "wWWHomePage"
                    }
                ]
            },
            "custom-variables": {
                "custom-variable": []
            },
```

```
            "expressions": {
                "custom-expression": []
            },
            "groups": {
                "user-group": []
            }
        },
        "settings": {
            "admin-dn":
"CN=Administrator,CN=Users,DC=test,DC=saqacertserv,DC=com",
            "admin-password-encrypted":
            }
"3u+UR6n8AgABAAAAQkYh+Te/ebXL7gSn+W6IEPOV2YFsaaikH2SVxkb8lTKzWhS1EPFlsNXBpuQP5sW
XfeOYfjmhQSRZ5DP/z9UhQ/l16DDne9/u7Lw67HyE/8Q=",
"attribute-to-update-at-server": "",
            "attribute-type": "type-integer",
            "attribute-value-to-update-at-server": "<LOGINTIMELDAP>",
            "authentication-required-to-search-ldap": "true",
            "backup-port-1": null,
            "backup-port-2": null,
            "backup-server-1": "",
            "backup-server-2": "",
            "connection-timeout": "15",
            "connection-type": "plain",
            "enable-attribute-update-at-server": "false",
            "group-base-dn": "",
            "group-filter": "",
            "ldap-server-type": "active-directory",
            "meetings": {
                "email-address": "mail",
                "full-name": "displayname",
                "name-attribute-mapping": "",
                "user-name": "samaccountname"
            },
            "member-attribute": "",
            "nested-group-level": "0",
            "port": "389",
            "query-attribute": "",
```

```
            "reverse-group-search": "false",
            "search-timeout": "60",
            "server": "10.209.124.88",
            "server-catalog": "catalog",
            "test-user-dn": "",
            "user-base-dn": "DC=test,DC=saqacertserv,DC=com",
            "user-filter": "samaccountname=<USER>",
            "validate-referral-cert": "verifyserverconfigured",
            "validate-server-cert": "false"
        }
    },
    "logical-name": "",
    "name": "LDAP-Server",
    "user-record-sync": "false"
}
RESPONSE
HTTP/1.1 201 CREATED
Content-Length: 128
Content-Type: application/json
{
  "result": {
  "warnings": [
   {
     "message": "The configuration has been implicitly changed"
   }
  ]
          }
}
```

Creating a Radius Server

```
REQUEST
POST /api/v1/configuration/authentication/auth-servers/auth-server
HTTP/1.1
Host: 10.209.114.152
Authorization: Basic
QmJYZlZ6eER2Tzhodjh4NzhlU28vU1NNZ0tHelJJUHhsbC9pdjcrZlRxcz06
Content-Type: application/json
{
    "logical-name": "",
```

```
    "name": "Radius-Server",
    "radius": {
        "server-catalog": {
            "attributes": {
                "user-attribute": []
            },
            "custom-variables": {
                "custom-variable": []
            },
            "expressions": {
                "custom-expression": []
            }
        },
        "settings": {
            "accounting-port": "1813",
            "authenticate-with-tokens-onetimepassword": "false",
            "authentication-port": "1812",
            "backup-accounting-port": "1813",
            "backup-authentication-port": "1812",
            "backup-server": "10.209.126.179",
            "backup-shared-secret-encrypted":
"3u+UR6n8AgABAAAA2Th1sUV9vXDS9gRdMt1yCB4Ol6tacMTwhWsTlIFd7Q4=",
            "custom-radius-rules": {
                "custom-radius-rule": []
            },
            "interim-update-interval": null,
            "load-balance-auth": "false",
            "nasid": "",
            "nasipaddr": "10.209.113.88",
            "process-radius-disconnect": "false",
            "retries": "0",
            "server": "10.209.126.179",
            "shared-secret-encrypted":
"3u+UR6n8AgABAAAA2Th1sUV9vXDS9gRdMt1yCB4Ol6tacMTwhWsTlIFd7Q4=",
            "timeout": "30",
            "use-nc-assigned-ip": "false",
            "use-subsession-interim-update": "false",
            "user-name": "<USER>(<REALM>)[<ROLE SEP=\",\">]"
        }
    },
```

```
    "user-record-sync": "false"
}
```

RESPONSE

```
HTTP/1.1 201 CREATED
Content-Length: 128
Content-Type: application/json
{
  "result": {
  "warnings": [
   {
     "message": "The configuration has been implicitly changed"
   }
  ]
}
```

Modifying Radius Server Details

REQUEST

```
PUT /api/v1/configuration/authentication/auth-servers/auth-
server/Radius-Server HTTP/1.1
Host: 10.209.114.152
Authorization: Basic
QmJYZlZ6eER2Tzhodjh4NzhlU28vU1NNZ0tHelJJUHhsbC9pdjcrZlRxcz06
Content-Type: application/json
{
    "name": "Radius-Server",
    "radius": {
        "settings": {
            "backup-accounting-port": "1814",
            "backup-authentication-port": "1816",
            "backup-server": "2.2.2.2"
        }
    }

}
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Length: 128
Content-Type: application/json
```

```
{
    "result": {
        "info": [
            {
                "message": "Operation succeeded without warning or
error!"
            }
        ]
    }
}
```

Creating Sign-In-Policy

```
REQUEST

POST /api/v1/configuration/authentication/signin/urls/access-
urls/access-url/ HTTP/1.1

Host: 10.209.113.89

Authorization: Basic
MEthMXM0MmJraHpjYms0WFZCZ29Xb3k1Nk5NL3JqaDBwQ05iTmFhUlh5ST06

Content-Type: application/json

{

    "description": "",

    "enabled": "true",

    "page": "Default Sign-In Page",

    "realm-select": "pick-list",

    "url-pattern": "test/url3/",

    "user": {

        "enable-new-ux-pages": "false",

        "meeting-url": "*/meeting/",

        "post-authentication-signin-notification-id": "None",

        "post-authentication-signin-notification-skip": "false",

        "pre-authentication-signin-notification-id": "None",

        "realms": [

            "Users"

        ]

    }

}
```

```
RESPONSE

HTTP/1.1 201 CREATED

Content-Length: 128

Content-Type: application/json

{

    "result": {

        "info": [

            {

                "message": "Operation succeeded without warning or
error!"

            }

        ]

    }

}
```

Deleting Sign-in-Policy

```
REQUEST

DELETE /api/v1/configuration/authentication/signin/urls/access-
urls/access-url/test%5C%2Furl3%5C%2F HTTP/1.1

Host: 10.209.113.89

Authorization: Basic
MEthMXM0MmJraHpjYms0WFZCZ29Xb3k1Nk5NL3JqaDBwQ05iTmFhUlh5ST06

Cache-Control: no-cache

RESPONSE

HTTP/1.1 204 NO CONTENT

Content-Length: 0

Content-Type: application/json
```

Disabling Sign-in-URL

```
REQUEST

PUT /api/v1/configuration/authentication/signin/urls/access-urls/access-
url/test%5C%2Furl1%5C%2F/enabled HTTP/1.1

Host: 10.209.113.89

Authorization: Basic
MEthMXM0MmJraHpjYms0WFZCZ29Xb3k1Nk5NL3JqaDBwQ05iTmFhUlh5ST06
```

```
Content-Type: application/json
{
    "enabled": "false"
}
RESPONSE
HTTP/1.1 200 OK
Content-Length: 128
Content-Type: application/json
{
    "result": {
        "info": [
            {
                "message": "Operation succeeded without warning or
error!"
            }
        ]
    }
}
```

Creating a Web Bookmark for a Role

To create a web bookmark for a role:

```
REQUEST
POST /api/v1/configuration/users/user-roles/user-role/rest-userrole-
1/web/web-bookmarks/bookmark HTTP/1.1
Host: 10.209.113.88
Authorization: Basic
MVhDbDJTSUhkV3ZjUkd6WXM1T1V3MU5wbHNmemJPbTJxSHI2NVZCdXp5bz06
Content-Type: application/json
Cache-Control: no-cache
{
    "auto-allow": "disable",
    "description": "",
    "name": "webbm",
    "new-window": "false",
    "no-address-bar": "false",
    "no-tool-bar": "false",
```

```
    "parent": "--none--",
    "standard": {
        "url": "http://www.yahoo.com"
     }
}
RESPONSE
HTTP/1.1 201 CREATED
Content-Length: 122
Content-Type: application/json
{
    "result": {
        "info": [
            {
                "message": "Operation succeed without warning or error!"
            }
        ]
    }
}
```

Reordering

For re-ordering existing ordered elements in the configuration, a PUT API can be used with an 'order' suffix. This API can be used to reorder any ordered element in the configuration including role-mapping-rules, resource policies and ACLs.

Example: Reorder existing role-mapping-rules in a specific realm.

```
REQUEST
PUT /api/v1/configuration/users/user-realms/realm/testRealm/role-
mapping-rules/rule/order HTTP/1.1
Host: 10.209.112.106
Authorization: Basic
Y1VPZE1XZ1ZubVEvVnIrcWwrd3lJY3F0Y05WTGhDVkx1M0wrdk5YR3hzVT06
Content-Type: application/json
{
  "rule": [
    {
      "href": "/api/v1/configuration/users/user-
```

```
realms/realm/testRealm/role-mapping-rules/rule/rule3"

    },

    {

      "href": "/api/v1/configuration/users/user-
realms/realm/testRealm/role-mapping-rules/rule/rule1"

    }

  ]

}
```

RESPONSE

```
HTTP/1.1 200 OK

content-length: 122

content-type: application/json

{

    "result": {

        "info": [

            {

                "message": "Operation succeed without warning or error!"

            }

        ]

    }

}
```

Fetching the Resource with Multiple Identifiers

Example: Retrieve one of SNMP Trap server configured on PCS device

REQUEST

```
GET /api/v1/configuration/system/log/snmp/localhost2/trap-servers/trap-
server/ip=1.1.1.1,port=162 HTTP/1.1

Host: 10.209.112.106

Authorization: Basic
T0o1dzVpK3g4U0dKV0d1TkJCdWlwVzREaUc0SjZvbkExMVljc0RtNU14bz06
```

RESPONSE

```
HTTP/1.1 200 OK

content-length: 65

content-type: application/json
```

```
{
    "community": "public",
    "ip": "1.1.1.1",
    "port": "162"
}
```

Updating Resource Identified Using Multiple Identifiers

Example: Updating the community string for specific SNMP trap server identified by IP and port

```
REQUEST

PUT /api/v1/configuration/system/log/snmp/localhost2/trap-servers/trap-
server/ip=1.1.1.1,port=162/community HTTP/1.1

Host: 10.209.112.106

Authorization: Basic
T0o1dzVpK3g4U0dKV0d1TkJCdWlwVzREaUc0SjZvbkExMVljc0RtNU14bz06

Content-Type: application/json

{
    "community": "pulsesecure"
}

RESPONSE

HTTP/1.1 200 OK

content-length: 122

content-type: application/json

{
    "result": {
        "info": [
            {
                "message": "Operation succeed without warning or error!"
            }
        ]
    }
}
```

Fetching Active Number of HTML5 Sessions

```
REQUEST

GET /api/v1/stats/active-html5-sessions HTTP/1.1

Host: 10.96.116.40

Authorization: Basic
b1hBV3FaTktKQzhaOU5MNTNsLzJGQXZmNWZ1TGhFSUUyUlVJVDlaRnFVYz06

Content-Type: application/json

RESPONSE

HTTP/1.1 200 OK

content-length: 32

content-type: application/json

{

    "active-html5-sessions": 3

}
```

Updating Password in Clear Text

Example: Updating password of System Local User.

```
REQUEST

PUT /api/v1/configuration/authentication/auth-servers/auth-
server/System%20Local/local/users/user/user0001/password-cleartext
HTTP/1.1

Host: 10.209.112.106

Authorization: Basic
T0o1dzVpK3g4U0dKV0d1TkJCdWlwVzREaUc0SjZvbkExMVljc0RtNU14bz06

Content-Type: application/json

{

   "password-cleartext": "Psecure"

}

RESPONSE

HTTP/1.1 200 OK
```

```
content-length: 128

content-type: application/json

{

   "result": {

     "warnings": [

       {

          "message": "The configuration has been implicitly changed"

       }

     ]

   }

}
```

Applying Authcode and Downloading Licenses from PCLS on VA-SPE|PSA-V

In PCS 8.3R4|PPS 5.4R4, this REST API can be used to download the license key from PCLS and install on the Virtual Appliance.

```
REQUEST
PUT /api/v1/license/auth-code HTTP/1.1
Host: 10.209.125.7
Authorization: Basic
TnBDUk1veFFFQTJKZjM0S2ZxV2JKUlhRaDJaWGFrYnkvWVpTR3hhNTdmbz0=
Content-Length: 35
Content-Type: application/json
{
  "auth-code":"<auth-code-to-apply>"
}
RESPONSE
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: 191
{
   "result": {
     "info": [
```

```
       {"message": "Installed new license key \"landmark utility
prestige trip mayor diesel faucet summer prestige income heritage\""}
     ]
   }
}
```

Applying License

REQUEST

```
PUT /api/v1/license/license-key?action=install HTTP/1.1
Host: 10.209.125.7
Authorization: Basic
TnBDUk1veFFFQTJKZjM0S2ZxV2JKUlhRaDJaWGFrYnkvWVpTR3hhNTdmbz0=
Content-Type: application/json
{
   "keys":[
     "key1",
     “key2”,
     ….
   ]
}
Example:
{
   "keys":[
     "operation tree crayon holiday kingdom lasso doorway square
dish modem gecko",
     "buffalo safety inch topaz banquet nitrogen garnish step
recital wedge trace"
   ]
}
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Type: application/json
{
    "result": {
       "info": [
        {
          "message": "Installed licenses"
        }
       ]
    }
}
```

Deleting License

REQUEST

```
PUT /api/v1/license/license-key?action=delete HTTP/1.1
Host: 10.209.125.7
Authorization: Basic
TnBDUk1veFFFQTJKZjM0S2ZxV2JKUlhRaDJaWGFrYnkvWVpTR3hhNTdmbz0=
Content-Type: application/json
{
   "keys":[
      "key1",
      “key2”,
      ….
   ]
}

Example:
{
   "keys":[
      "operation tree crayon holiday kingdom lasso doorway square
dish modem gecko",
      "buffalo safety inch topaz banquet nitrogen garnish step
recital wedge trace"
   ]
}
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Type: application/json
{
   "result": {
     "info": [
       {
          "message": "Deleted <number> licenses"
       }
     ]
   }
}
```

Getting License Clients

REQUEST

```
GET /api/v1/license/license-clients HTTP/1.1
Host: 10.209.125.7
Authorization: Basic
TnBDUk1veFFFQTJKZjM0S2ZxV2JKUlhRaDJaWGFrYnkvWVpTR3hhNTdmbz0=
Content-Type: application/json
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "license_clients": [
    {
      "feature_capacities": [
        {
          "feature_name": "add_user_count",
          "leased_value": 25
        },
        {
          "feature_name": "onboard",
          "leased_value": 0
        },
        {
          "feature_name": "embeddedrdpapplet",
          "leased_value": 0
        },
        {
          "feature_name": "vm_cores_leasable",
          "leased_value": 4
        },
        {
          "feature_name": "add_meeting_user_count",
          "leased_value": 0
        },
        {
          "feature_name": "cloudsecure_count",
          "leased_value": 0
        },
        {
          "feature_name": "named_user_count",
          "leased_value": 0
        },
        {
```

```
        "feature_name": "ueba",
        "leased_value": 0
      }
    ],
    "last_renewal": "Wed, 04 Dec 2019 06:32:26 GMT",
    "machine_id": "VASPH3944M9D8551S",
    "name": "va_spe_3_3_125_4"
  },
  {
    "feature_capacities": [
      {
        "feature_name": "add_user_count",
        "leased_value": 25
      },
      {
        "feature_name": "onboard",
        "leased_value": 0
      },
      {
        "feature_name": "embeddedrdpapplet",
        "leased_value": 0
      },
      {
        "feature_name": "vm_cores_leasable",
        "leased_value": 4
      },
      {
        "feature_name": "add_meeting_user_count",
        "leased_value": 0
      },
      {
        "feature_name": "cloudsecure_count",
        "leased_value": 0
      },
      {
        "feature_name": "named_user_count",
        "leased_value": 0
      },
      {
        "feature_name": "ueba",
        "leased_value": 0
      }
    ],
    "last_renewal": "Thu, 05 Dec 2019 13:45:31 GMT",
    "machine_id": "VASPHXVK2E117PM8S",
    "name": "va_spe_3_3_125_8"
  },
]
```

```
}
```

Getting License Report from License Server

REQUEST

```
GET /api/v1/license/report HTTP/1.1
Host: 10.209.125.7
Authorization: Basic
TnBDUk1veFFFQTJKZjM0S2ZxV2JKUlhRaDJaWGFrYnkvWVpTR3hhNTdmbz0=
Content-Type: application/json
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Type: application/json
```

License Usage Report

```
{
   "LicenseUsageReport": {
     "MachineID": "VASPMMXXXXXXXX",
     "build-number": "4762",
     "cumulative-report": {…},
     "granular-report": {…},
     "cluster-granular-report": {…},
     "time-stamp": "Mon Jan 13 20:04:40 2020",
     "version": "9.1"
   }
}
```

Cumulative Report

https://<license-server>/api/v1/license/report/cumulative-report

```
{
   "cumulative-report": {
     "add-meeting-user-count": {
       "Year":[
        {
          "Month": [
            {
              "Date": [
                {
                  "Leased": "0",
                  "Maximum": "30",
                  "id": "06"
                }
                {…},
                {…},
                {…},
                {…}
```

```
              ]
              "Leased": "0",
              "Maximum": "30",
              "id": "Jan",
            }
            {…}
          ]
          "id": "2020"
        }
        {…}
      ]
    }
}
```


Granular Report

https://<license-server>/api/v1/license/report/granular-report


```
{
  "license-client": [
   {
     "add-user-count": {
       "Year": [
         {
           "Month": [
             {
               "Date": [
                {…},
                {…},
                {…},
                {…}
               ]
               "Leased": "0",
               "Maximum": "0",
               "id": "Jan"
             }
           ],
           "id": "2020"
         }
       ]
      },
      "name": "PSA_V_10_209_125_101",
      "software-version": "7.4"
   },
   {…}
}
```


Cluster Granular Report

https://<license-server>/api/v1/license/report/cluster-granular-report


```
{
   "add-user-count": {
```

```
     "Year": [
       {
         "Month": [
           {
             "Date": [
               {
                 "Leased": "40",
                 "Maximum": "21",
                 "client-node": "node63lc,node66lc",
                 "id": "24"
               },
               {
                 "Leased": "40",
                 "Maximum": "1",
                 "client-node": "node63lc,node66lc",
                 "id": "25"
               },
               {
                 "Leased": "40",
                 "Maximum": "1",
                 "client-node": "node63lc,node66lc",
                 "id": "26"
               }
             ],
             "Leased": "40",
             "Maximum": "21",
             "id": "Feb"
           }
         ],
         "id": "2020"
       }
     ]
    },
    "cluster-name": "liccluster"
}
```


The following extensions of the API are supported:

1. /api/v1/license/report – entire license report in JSON
2. /api/v1/license/report/cumulative-report – The cumulative report.
   - Following trace-down options available here
     i. /api/v1/license/report/cumulative-report/<license-feature-type>
     ii. /api/v1/license/report/cumulative-report/<license-feature-type>/<year>
     iii. /api/v1/license/report/cumulative-report/<license-feature-type>/<year>/<month>
     iv. /api/v1/license/report/cumulative-report/<license-feature-type>/<year>/<month>/<day>

3. /api/v1/license/report/granular-report – License usage report per license client.
   - Following trace-down options available here
     i. /api/v1/license/report/granular-report/<license-client>
     ii. /api/v1/license/report/granular-report/<license-

client>/<add-user-count>

iii. /api/v1/license/report/granular-report/<license-client>/<add-user-count>/<year>

iv. /api/v1/license/report/granular-report/<license-client>/<add-user-count>/<year>/<month>

v. /api/v1/license/report/granular-report/<license-client>/<add-user-count>/<year>/<month>/<day>

Example:

```
API - /api/v1/license/report/granular-report/node63lc/add-user-count/2020/Mar/20
{
    "Leased": 40,
    "Maximum": 14,
    "id": "20"
}
```

4. /api/v1/license/report/cluster-granular-report – License usage report per license client cluster.

- Following trace-down options available here

i. /api/v1/license/report/cluster-granular-report/<license-client>

ii. /api/v1/license/report/cluster-granular-report/<license-client>/<add-user-count>

iii. /api/v1/license/report/cluster-granular-report/<license-client>/<add-user-count>/<year>

iv. /api/v1/license/report/cluster-granular-report/<license-client>/<add-user-count>/<year>/<month>

v. /api/v1/license/report/cluster-granular-report/<license-client>/<add-user-count>/<year>/<month>/<day>

Example:

```
API - /api/v1/license/report/cluster-granular-report/liccluster/add-user-count/2020/Mar/22
{
    "Leased": 40,
    "Maximum": 16,
    "cluster-member": [
        "node63lc",
        "node66lc"
    ],
    "id": "22"
}
```

Enabling/Disabling ICE License

Enabling ICE License

```
Content of ice_enable.json file:
more ice_enable.json
{
   "mode": "enabled"
}
```

REQUEST

```
curl -k -u TVGJ9xV9XvuA1JDB1nPkjC5BilAQAhUMn2dPHLZgP/o=:
https://10.209.125.4/api/v1/license/ice -X PUT -H "Content-Type:
application/json" -d @ice_enable.json
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "result": {
    "info": [
      {
        "message": "ICE license is enabled"
      }
    ]
  }
}
```

Disabling ICE License

```
Content of ice_disable.json file:
more ice_disable.json
{
   "mode" : "disabled"
}
```

REQUEST

```
curl -k -u TVGJ9xV9XvuA1JDB1nPkjC5BilAQAhUMn2dPHLZgP/o=:
https://10.209.125.4/api/v1/license/ice -X PUT -H "Content-Type:
application/json" -d @ice_disable.json
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "result": {
    "info": [
      {
        "message": "ICE license is disabled"
      }
    ]
  }
}
```

Getting the Current Status of ICE License

REQUEST

```
curl -k -u TVGJ9xV9XvuA1JDB1nPkjC5BilAQAhUMn2dPHLZgP/o=:
https://10.209.125.4/api/v1/license/ice
```

RESPONSE

ICE License Enabled

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "mode": "enabled"
}
```

ICE License Disabled

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "mode": "disabled"
}
```

Exporting TOTP Users from One Device to Another Device

REQUEST

```
GET /api/v1/totp/Google TOTP Auth Server/users HTTP/1.1
Host: 10.209.115.19
Authorization: Basic ZzBPeVdDVmtDT3FoSjBwcVUyRTdzK3hyeHo0OFpzMGtFRjM4WndFNDE1ST06
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Length: 191
Content-Type: application/json
{
      "users": "21ubWxSvAwABAAAAlx9igwcQok9s+MV0zg/b+oer3z
      7Kj0iXbVzJ+qDMiguTtWZaxnGHGTGQEcHD7BTMGjz1QYbO00z
      BF+6DGp2y/9pj+8Wf4SXTQbYIeDomT4w2Kl4oc1EZhFruWLW
      nll+58x2b0kxsURCb+P0It8K+msqFXBhOEDY7l0W4+P+A8UZ
      az6In/gMq8Qd766i7RN1oZ+hzHUMYJUB72tzIQ+CiA8tTv6awe
      C6TGy9/a9C6vVbLY0+ZUgGTffWzJxcoZbEbdwiCFoZyex5
      UWTUFIj0Z4XAPoZ4HTWZsxP5YwXcJpsnbOzCqW/dTB6Wp
      YWYp6R+MUn2yu/hZeu7z1qVhXlr8bK5LifH/u6J76SpErL1eELh1b
      YF17DWPfo6xspG7rffhs2k9vPVB1oq2kud+42hPo6vZaMfcwaz9l
      KRrftIgAu2o3JBJfdNHrUTOu2+Y6Qmc0in6MfIBNNrVr9D6hdWmIdr
      Nr7PXHa4uJoP+CAuOp3OamTox2sgmvE7YNjC0SlSPgyFfx0kfzCb2
      K3Mrcq1UuJUJLhK7L3lne4f1QiWKoZ8q8zluaV+eRSJHBez9Pjo+Lz
```

```
      BpYwoXStduOC20FVY4+KCHDasufdAOCD/Lga4mFFE5ItAui18ObOf
      RtxLvoZUIuGS8w019mbRaNDlVa52sUzuZBClqx+4lueBCQYEUNrDr
      HVG0AzqUBbAeL+WV8VRJrxVW8sIlArqY8n29pD66BozsGKoxBq
      XSe/fZxEDu9ZqI4xfzSCCsfqTiv0LAM4p+cZekhcjvRwtuImNjX+qj7A=="
}
```

Importing TOTP Users from One Device to Another Device

REQUEST

```
POST /api/v1/totp/Google TOTP Auth Server/users HTTP/1.1
Host: 10.209.115.19
Authorization: Basic
ZzBPeVdDVmtDT3FoSjBwcVUyRTdzK3hyeHo0OFpzMGtFRjM4WndFNDE1ST06
Content-Type: application/json
{
      "users": "21ubWxSvAwABAAAAlx9igwcQok
      9s+MV0zg/b+oer3z7Kj0iXbVzJ+qDMiguTtWZ
      axnGHGTGQEcHD7BTMGjz1QYbO00zBF+6DG
      p2y/9pj+8Wf4SXTQbYIeDomT4w2Kl4oc1EZhFru
      WLWnll+58x2b0kxsURCb+P0It8K+msqFXBh
      OEDY7l0W4+P+A8UZaz6In/gMq8Qd766i7
      RN1oZ+hzHUMYJUB72tzIQ+CiA8tTv6aweC6
      TGy9/a9C6vVbLY0+ZUgGTffWzJxcoZbEbdwiCFo
      Zyex5UWTUFIj0Z4XAPoZ4HTWZsxP5YwXcJpsnb
      OzCqW/dTB6WpYWYp6R+MUn2yu/hZeu7z1qVhXlr8b
      K5LifH/u6J76SpErL1eELh1bYF17DWPfo6xspG7rffhs2
      k9vPVB1oq2kud+42hPo6vZaMfcwaz9lKRrftIgAu2o3
      JBJfdNHrUTOu2+Y6Qmc0in6MfIBNNrVr9D6hdWmIdr
      Nr7PXHa4uJoP+CAuOp3OamTox2sgmvE7YNjC0SlSP
      gyFfx0kfzCb2K3Mrcq1UuJUJLhK7L3lne4f1QiWKoZ8q
      8zluaV+eRSJHBez9Pjo+LzBpYwoXStduOC20FVY4+KCHD
      asufdAOCD/Lga4mFFE5ItAui18ObOfRtxLvoZUIuGS8w019mb
      RaNDlVa52sUzuZBClqx+4lueBCQYEUNrDrHVG0AzqUBb
      AeL+WV8VRJrxVW8sIlArqY8n29pD66BozsGKoxBqXSe/f
      ZxEDu9ZqI4xfzSCCsfqTiv0LAM4p+cZekhcjvRwtuImNjX+qj7A=="
}
```

RESPONSE

```
HTTP/1.1 200 OK
content-length →47
Content-Type: application/json
{
      “message' => 'Successfully imported user data'
 }
```

Sample Error Responses

400 BAD REQUEST

```
REQUEST
PUT /api/v1/configuration/users/user-realms/realm/testRealm/role-
mapping-rules/rule/rule1 HTTP/1.1
Host: 10.209.112.106
Authorization: Basic
Y1VPZE1XZ1ZubVEvVnIrcWwrd3lJY3F0Y05WTGhDVkx1M0wrdk5YR3hzVT06
Content-Type: application/json
{
    "name": "rule1",
    "roles": [
        "Users"
    ],
    "stop-rules-processing": "false",
    "user-name": {
        "test": "is",
        "user-names": [
            "*",
        ]
    }
}
RESPONSE
HTTP/1.1 400 BAD REQUEST
content-length: 92
content-type: application/json
{
"message": "The browser (or proxy) sent a request that this server
could not understand."
}
```

Solution: Invalid JSON body content in Request. Please check if JSON is valid.

REQUEST

```
PUT /api/v1/configuration/users/user-roles/user-role/rest-userrole-1
HTTP/1.1

Host: 10.209.113.88

Authorization: Basic
MVhDbDJTSUhkV3ZjUkd6WXM1T1V3MU5wbHNmemJPbTJxSHI2NVZCdXp5bz06

{
    "name": "rest-userrole-1",
    "web": {
        "web-bookmarks": {
            "bookmark": [
                {
                    "auto-allow": "disable",
                    "description": "",
                    "name": "web-bm-1",
                    "new-window": "false",
                    "no-address-bar": "false",
                    "no-tool-bar": "false",
                    "parent": "--none--",
                    "standard": {
                        "url": "http://www.yahoo.com"
                    }
                }
            ]
        },
        "web-options": {
            "browsing-untrusted-sslsites": "true",
            "flash-content": "false",
            "hpxproxy-connection-timeout": "1800",
            "http-connection-timeout": "240",
            "java-applets": "true",
            "mask-hostname": "false",
            "persistent-cookies": "false",
            "rewrite-file-urls": "false",
```

```
            "rewrite-links-pdf": "false",
            "unrewritten-page-newwindow": "false",
            "user-add-bookmarks": "false",
            "user-enter-url": "false",
            "users-bypass-warnings": "false",
            "warn-certificate-issues": "true",
            "websocket-connection-timeout": "900"
        }
    }
}
RESPONSE
HTTP/1.1 400 BAD REQUEST
Content-Length: 99
Content-Type: application/json
{
    "result": {
        "errors": [
            {
                "message": "Accepts only JSON."
            }
        ]
    }
}
```

Note: Include the “Content-Type” header in the request with a value “application/json” as used in the examples above.

403 Forbidden

```
REQUEST
GET /api/v1/auth HTTP/1.1
Host: 10.209.112.106
Authorization: Basic YWRtaW5kYjpkYW5hMTIz
Content-Type: application/json
```

```
RESPONSE

HTTP/1.1 403 Forbidden

cache-control: no-store

connection: Keep-Alive

content-type: text/html; charset=utf-8

expires:-1

keep-alive: timeout=15

strict-transport-security →max-age=31536000

transfer-encoding: chunked
```

Solutions:

1. Make sure admin user used for authentication has "Allow access to REST APIs" option enabled from admin UI
2. Admin Username and Password passed in Authorization header are correct
3. If api_key is available, use api_key value as username and password as empty in authorization header

404 NOT FOUND

```
REQUEST

GET /api/v1/configuration/users/user-realms/realm/testRealm/role-
mapping-rules/rule HTTP/1.1

Host: 10.209.112.106

Authorization: Basic
Y1VPZE1XZ1ZubVEvVnIrcWwrd3lJY3F0Y05WTGhDVkx1M0wrdk5YR3hzVT06

RESPONSE

HTTP/1.1 404 NOT FOUND

content-length: 213

content-type: application/json

{

    "result": {

        "errors": [

            {

                "message": "Invalid resource path; use \"users/user-
realms/realm/testRealm/role-mapping-rules/rule/<resource-id>\" to access
a specific resource"

            }

        ]
```

```
    }
}
```

Solution: Resource-id should be passed in Resource path as shown in example below.

```
REQUEST

GET /api/v1/configuration/users/user-realms/realm/testRealm/role-
mapping-rules/rule/rule1 HTTP/1.1

Host: 10.209.112.106

Authorization: Basic
Y1VPZE1XZ1ZubVEvVnIrcWwrd3lJY3F0Y05WTGhDVkx1M0wrdk5YR3hzVT06

RESPONSE

HTTP/1.1 200 OK

content-length: 167

content-type: application/json

{
    "name": "rule1",
    "roles": [
        "Users"
    ],
    "stop-rules-processing": "false",
    "user-name": {
        "test": "is",
        "user-names": [
            "*"
        ]
    }
}
```

Solution: Invalid JSON body content in Request. Please check if JSON is valid.

422 UNPROCESSABLE ENTITY

REQUEST

```
POST /api/v1/configuration/users/user-realms/realm/testRealm/role-
mapping-rules/rule/ HTTP/1.1

Host: 10.209.112.106

Authorization: Basic
Y1VPZE1XZ1ZubVEvVnIrcWwrd3lJY3F0Y05WTGhDVkx1M0wrdk5YR3hzVT06

Content-Type: application/json

{

    "name": "rule2",

    "roles": [

        "Users",

        "testRole1"

    ],

    "stop-rules-processing": "false",

    "user-name": {

        "test": "is",

        "user-names": [

            "user1"

        ]

    }

}
```

RESPONSE

```
HTTP/1.1 422 UNPROCESSABLE ENTITY

content-length: 368

content-type: application/json

{

    "result": {

        "errors": [

            {

                "message": "[/users/user-
realms/realm[name=testRealm]/role-mapping-rules/rule[name=rule2]/roles]
Invalid reference: no 'User Roles' object found with identifier
'testRole1'."

            },
```

```
            {
                "message": "Failed to resolve path references"
            },
            {
                "message": "Commit failed"
            }
        ]
    }
}
```

Solution: Make sure to have all the referenced resources are created first using POST call and then repeat.

Limitations

1. Configuration of large data objects is not qualified- ESAP, Pulse Client package, Custom Sign-in page, applets, and so on.
2. Resource names similar to resource tags e.g. vlans, roles, etc. should be avoided while creating new resources.

PPS-Specific Configurations Using REST APIs

- Creating the HC Policy
- Deleting the HC Policy
- Creating the Infranet Enforcer
- Deleting the Infranet Enforcer
- Creating a Resource Policy
- Deleting a Resource Policy
- Creating a RADIUS Client
- Deleting a RADIUS Client
- Creating a RADIUS Attribute Policy
- Deleting a RADIUS Attribute Policy
- Creating SNMP Device
- Deleting SNMP Device
- Creating SNMP Policy
- Deleting SNMP Policy
- Creating Device Group - TACACS+
- Deleting Device Group- TACACS+
- Creating TACACS+ Client
- Deleting TACACS+ Client
- Creating Shell Policies
- Deleting Shell Policies
- Creating Admission Control Client
- Deleting Admission Control Client
- Creating Admission Control Policy
- Deleting Admission Control Policy
- Profiler REST APIs

Creating the HC Policy

REQUEST

```
POST api/v1/configuration/authentication/endpoint/host-
checker/policies/policy HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
{
    "policy-name": "HC",
    "regular": {
        "platforms": {
            "chromeos": {
                "dashboard": {
                    "consider-for-reporting": "true"
                },
                "remediation": {
                    "custom-instructions": "",
                    "enable-custom-instructions": "false",
                    "send-reason-strings": "true"
                }
            },
            "windows": {
                "dashboard": {
                    "consider-for-reporting": "true"
                },
                "remediation": {
                    "custom-instructions": "",
                    "delete-files": "false",
                    "enable-custom-instructions": "false",
                    "files": null,
                    "kill-processes": "false",
                    "processes": null,
                    "send-reason-strings": "true"
                },
                "rule-expression": {
                    "custom-expression": "",
                    "requirement": "all"
                },
                "rules": {
                    "advancedRule": [],
                    "firewall-rules": {
                        "firewall-rule": [
                            {
                                "needs-monitoring": "false",
                                "product-list": null,
                                "product-selection-option":
"specific",
                                "rule-name": "rule1",
                                "select-specific-product": "false",
                                "select-specific-vendor": "true",
                                "selected-product-list": {
                                   "product-info": [
                                        {
                                            "product-name":
"Windows Firewall (10.x)",
                                            "turn-on-firewall":
"true"
```

```
                                        },
                                        {
                                            "product-name":
"Windows Firewall (6.x)",
                                            "turn-on-firewall":
"false"
                                        }
                                    ]
                                },
                                "turn-on-firewall-all": "false",
                                "vendor-list": [
                                    "Microsoft Corporation"
                                ]
                            }
                        ]
                    }
                }
            }
        }
    }
}
```

RESPONSE

```
{
    "result": {
        "warnings": [
            {
                "message": "The configuration has been implicitly
changed"
            }
        ]
    }
}
```

Deleting the HC Policy

REQUEST

```
DELETE api/v1/configuration/authentication/endpoint/host-
checker/policies/policy/HC  HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
```

RESPONSE

```
HTTP/1.1 204 NO CONTENT
Content-Length: 0
Content-Type: application/json
```

Creating the Infranet Enforcer

REQUEST

```
POST api/v1/configuration/uac/infranet-
enforcer/connections/infranet-enforcer HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
{
    "idp-for-local-sessions-only": "true",
    "junos": {
        "location-group": "- No 802.1X -",
        "password-encrypted":
"3u+UR6n8AgABAAAAofSnIBrU19vdwUslG5LG4cg1QH6CbXDSmY4ZW0x85HY="
    },
    "name": "SRX",
    "serial-number": [
        "ABCNWPWFS"
    ],
    "severity-filter": "medium",
    "use-idp": "false"
}
```

RESPONSE

```
{
    "result": {
        "info": [
            {
                "message": "Operation succeeded without warning or
error!"
            }
        ]
    }
}
```

Deleting the Infranet Enforcer

REQUEST

```
DELETE api/v1/configuration/uac/infranet-
enforcer/connections/infranet-enforcer/SRX HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
```

RESPONSE

```
HTTP/1.1 204 NO CONTENT
Content-Length: 0
Content-Type: application/json
```

Creating a Resource Policy

REQUEST

```
POST api/v1/configuration/uac/infranet-enforcer/resource-access-
policies/resource-access-policy/ HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
{
    "action": "allow-access",
    "apply": "all-roles",
    "apply-ie-options": "all-options",
    "deny-message": "",
    "description": "",
    "ie-options": [],
    "infranet-enforcer": [
        "(all)"
    ],
    "name": "Resource Policy",
    "resources": [
        "10.25.15.0/24:*"
    ],
    "roles": null,
    "vsys": ""
}
```

RESPONSE

```
{
    "result": {
        "info": [
            {
                "message": "Operation succeeded without warning or
error!"
            }
        ]
    }
}
```

Deleting a Resource Policy

REQUEST

```
DELETE api/v1/configuration/uac/infranet-enforcer/resource-access-
policies/resource-access-policy/Resource%20Policy HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
```

RESPONSE

```
HTTP/1.1 204 NO CONTENT
Content-Length: 0
Content-Type: application/json
```

Creating a RADIUS Client

REQUEST

```
POST /api/v1/configuration/uac/network-access/radius-clients/radius-
client HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
{
    "coa-support": "false",
    "description": "",
    "disconnect-support": "true",
    "dynamic-auth-port": "3799",
    "enable": "true",
   "gatewayid": "",
    "ip-address": "10.204.88.12",
    "ip-address-range": "1",
    "kek-encrypted": "",
    "key-wrap-format": "HEX",
    "key-wrap-support": "false",
    "location-group": "Default",
    "mack-encrypted": "",
    "make-model": "Ruckus Wireless",
    "name": "Ruckus",
    "ruckus-certificate-verification": "false",
    "ruckus-password-encrypted": "",
    "shared-secret-encrypted":
"3u+UR6n8AgABAAAAofSnIBrU19vdwUslG5LG4cg1QH6CbXDSmY4ZW0x85HY="
}
```

RESPONSE

```
{
    "result": {
        "info": [
            {
                "message": "Operation succeeded without warning or
error!"
            }
        ]
    }
}
```

Deleting a RADIUS Client

REQUEST

```
Delete /api/v1/configuration/uac/network-access/radius-clients/radius-
client/Ruckus HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
```

RESPONSE

```
HTTP/1.1 204 NO CONTENT
Content-Length: 0
Content-Type: application/json
```

Creating a RADIUS Attribute Policy

REQUEST

```
POST /api/v1/configuration/uac/network-access/radius-attribute/radius-
attributes-policies/radius-attribute-policy HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
{
    "apply": "all",
    "description": "",
    "location-group": [
        "Guest"
    ],
    "name": "Return Attribute policy",
    "network-interface": "automatic",
    "open-port": "false",
    "return-attribute-flag": "false",
    "return-attributes": {
        "return-attribute": []
    },
    "roles": null,
    "send-session-timeout-by-default": "false",
    "send-termination-action-by-default": "false",
    "vlan": "65",
    "vlan-check": "true"
}
```

RESPONSE

```
{
    "result": {
        "info": [
            {
                "message": "Operation succeeded without warning or
error!"
            }
        ]
    }
}
```

Deleting a RADIUS Attribute Policy

REQUEST

```
DELETE  /api/v1/configuration/uac/network-access/radius-
attribute/radius-attributes-policies/radius-attribute-
policy/Return%20Attribute%20policy/HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
```

RESPONSE

```
HTTP/1.1 204 NO CONTENT
```

```
Content-Length: 0
Content-Type: application/json
```

Creating SNMP Device

REQUEST

```
POST /api/v1/configuration/uac/snmpEnforcement/clients/client HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
{
    "default-vlan": "0",
    "description": "",
    "enable": "true",
    "ip-address": "10.204.88.12",
    "location-group": "none",
    "model": "Ruckus Wireless",
    "name": "ruckus",
    "read-auth-password-encrypted": "",
    "read-auth-protocol": "md5",
    "read-priv-password-encrypted": "",
    "read-priv-protocol": "",
    "read-security-level": "auth",
    "read-username": "public",
    "snmp-enforcement": "false",
    "snmp-version": "V2",
    "ssh-passphrase-encrypted": "",
    "ssh-port-number": "22",
    "ssh-private-key-encrypted": "",
    "ssh-user-name": "",
    "ssh-user-password-encrypted": "",
    "sys-contact": "https://support.ruckuswireless.com/contact_us",
    "sys-description": "Ruckus Wireless ZD1200",
    "sys-location": "350 West Java Dr. Sunnyvale, CA 94089 US",
    "sys-name": "ruckus",
    "trap-auth-password-encrypted": "",
    "trap-auth-protocol": "md5",
    "trap-priv-password-encrypted": "",
    "trap-priv-protocol": "",
    "trap-security-level": "auth",
    "trap-username": "public",
    "use-samecredential": "true",
    "write-auth-password-encrypted": "",
    "write-auth-protocol": "md5",
    "write-priv-password-encrypted": "",
    "write-priv-protocol": "",
    "write-security-level": "auth",
    "write-username": "public"
}
```

RESPONSE

```
{
    "result": {
        "info": [
            {
                "message": "Operation succeeded without warning or
```

```
error!"
            }
        ]
    }
}
```

Deleting SNMP Device

REQUEST

```
DELETE
/api/v1/configuration/uac/snmpEnforcement/clients/client/ruckus/HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
```

RESPONSE

```
HTTP/1.1 204 NO CONTENT
Content-Length: 0
Content-Type: application/json
```

Creating SNMP Policy

REQUEST

```
POST  /api/v1/configuration/uac/snmpEnforcement/snmpPolicies/policy
HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
{
    "apply-to-roles": "selected",
    "description": "",
    "location-group": "Guest Wired",
    "name": "SNMP policy",
    "roles": [
        "Guest Wired Restricted"
    ],
    "vlan": "65"
}
```

RESPONSE

```
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
{
    "result": {
        "info": [
            {
                "message": "Operation succeeded without warning or
error!"
            }
        ]
    }
```

```
}
```

Deleting SNMP Policy

REQUEST

```
DELETE
/api/v1/configuration/uac/snmpEnforcement/snmpPolicies/policy/SNMP%20policy
HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
```

RESPONSE

```
HTTP/1.1 204 NO CONTENT
Content-Length: 0
Content-Type: application/json
```

Creating Device Group - TACACS+

REQUEST

```
POST /api/v1/configuration/uac/networkDeviceAdministration/groups/group/
HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
{
    "admin-realm": "Admin Users",
    "description": "",
    "name": "Device Group"
}
```

RESPONSE

```
{
    "result": {
        "info": [
            {
                "message": "Operation succeeded without warning or error!"
            }
        ]
    }
}
```

Deleting Device Group- TACACS+

REQUEST

```
DELETE
/api/v1/configuration/uac/networkDeviceAdministration/groups/group/Device%20Group
HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
```

RESPONSE

```
HTTP/1.1 204 NO CONTENT
Content-Length: 0
Content-Type: application/json
```

Creating TACACS+ Client

REQUEST

```
POST api/v1/configuration/uac/networkDeviceAdministration/clients/client
HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
{
    "description": "",
    "deviceGroup": "Device Group",
    "enable": "true",
    "ipAddress": "10.204.88.244",
    "ipAddressRange": "1",
    "name": "TACACS client",
    "shared-secret-encrypted":
"3u+UR6n8AgABAAAAofSnIBrU19vdwUslG5LG4cg1QH6CbXDSmY4ZW0x85HY="
}
```

RESPONSE

```
{
    "result": {
        "warnings": [
            {
                "message": "The configuration has been implicitly changed"
            }
        ]
    }
}
```

Deleting TACACS+ Client

REQUEST

```
DELETE
/api/v1/configuration/uac/networkDeviceAdministration/clients/client/TACACS
%20client HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
```

RESPONSE

```
HTTP/1.1 204 NO CONTENT
Content-Length: 0
Content-Type: application/json
```

Creating Shell Policies

REQUEST

```
POST /api/v1/configuration/uac/networkDeviceAdministration/policies/policy
HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
{
    "apply-action": "deny",
    "apply-groups": "all",
    "apply-roles": "all",
    "commandSets": {
        "command-set": []
    },
    "defaultPrivilege": "1",
    "description": "",
    "groups": null,
    "maxPrivilege": "1",
    "name": "TACACS policy",
    "roles": null
}
```

RESPONSE

```
{
    "result": {
        "info": [
            {
                "message": "Operation succeeded without warning or error!"
            }
        ]
    }
}
```

Deleting Shell Policies

REQUEST

```
DELETE
/api/v1/configuration/uac/networkDeviceAdministration/policies/policy/TACACS%20policy
HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
```

RESPONSE

```
HTTP/1.1 204 NO CONTENT
Content-Length: 0
Content-Type: application/json
```

RESPONSE

```
{
    "result": {
        "warnings": [
            {
```

```
                "message": "The configuration has been implicitly changed"
            }
        ]
    }
}
```

Creating Admission Control Client

REQUEST

```
POST  /api/v1/configuration/uac/admissionControl/clients/client HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
{
    "description": "",
    "enable": "true",
    "ipAddress": "10.204.88.12",
    "name": "FORTINET",
    "templateID": "fortigate-text.itmpl"
}
```

RESPONSE

```
{
    "result": {
        "info": [
            {
                "message": "Operation succeeded without warning or error!"
            }
        ]
    }
}
```

Deleting Admission Control Client

REQUEST

```
DELETE  /api/v1/configuration/uac/admissionControl/clients/client/FORTINET HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
```

RESPONSE

```
HTTP/1.1 204 NO CONTENT
Content-Length: 0
Content-Type: application/json
```

Creating Admission Control Policy

REQUEST

```
POST /api/v1/configuration/uac/admissionControl/policies/policy/ HTTP/1.1
Host xx.xx.xx.xx
```

```
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
{
    "action": "ignore",
    "apply": "selected",
    "count": "1",
    "event": "utm:ips",
    "name": "policy1",
    "replacementRole": null,
    "replacementType": "Permanent",
    "roles": null,
    "severity": "critical",
    "templateID": "fortigate-text.itmpl"
}
```

RESPONSE

```
{
    "result": {
        "info": [
            {
                "message": "Operation succeeded without warning or error!"
            }
        ]
    }
```

Deleting Admission Control Policy

REQUEST

```
DELETE /api/v1/configuration/uac/admissionControl/policies/policy/policy1 HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic
VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
```

RESPONSE

```
HTTP/1.1 204 NO CONTENT
Content-Length: 0
Content-Type: application/json
```

Profiler REST APIs

Approving Devices

REQUEST

```
PUT api/v1/profiler/endpoints/simplified/xx:xx:xx:xx:xx:xx HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
{
   "status": "approved"
}
```

RESPONSE

```
HTTP/1.1 200 OK
```

```
Content-Type: application/json
{
  "Successfully updated.”
}
```

Updating Device Attributes

REQUEST

```
PUT api/v1/profiler/endpoints/simplified/xx:xx:xx:xx:xx:xx HTTP/1.1
Host xx.xx.xx.xx
Authorization: Basic VU9qSTlGTzNrYVk5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
Content-Type: application/json
{
   "manufacturer": "Windows",
   "os": "Windows"
}
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "Successfully updated.”
}
```