



PCS/PPS

REST API Solutions Guide

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REST API Solutions Guide

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6.0.1	Updated the "Adding a Member to Cluster" section.
6.0	Updated the "PCS/PPS Configuration Using REST APIs" section with IF MAP related REST APIs.
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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 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. 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
Cache-Control: no-store
Connection: Keep-Alive
Content-Type: application/json
Expires: -1
Keep-Alive: timeout=15
{ "api_key": "p5mMlc7RQu81R2NvssLCCZhP05kf0N2ONFeYeLXX6aU=" }
```

REQUEST

```
POST /api/v1/realm_auth HTTP/1.1
Host:
Authorization:
Content-Type:
```


RESPONSE

```

HTTP/1.1
Cache-Control:
Connection:
Content-Type:
Expires:
Keep-Alive:
{ "api_key": }

```

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" }
}

```

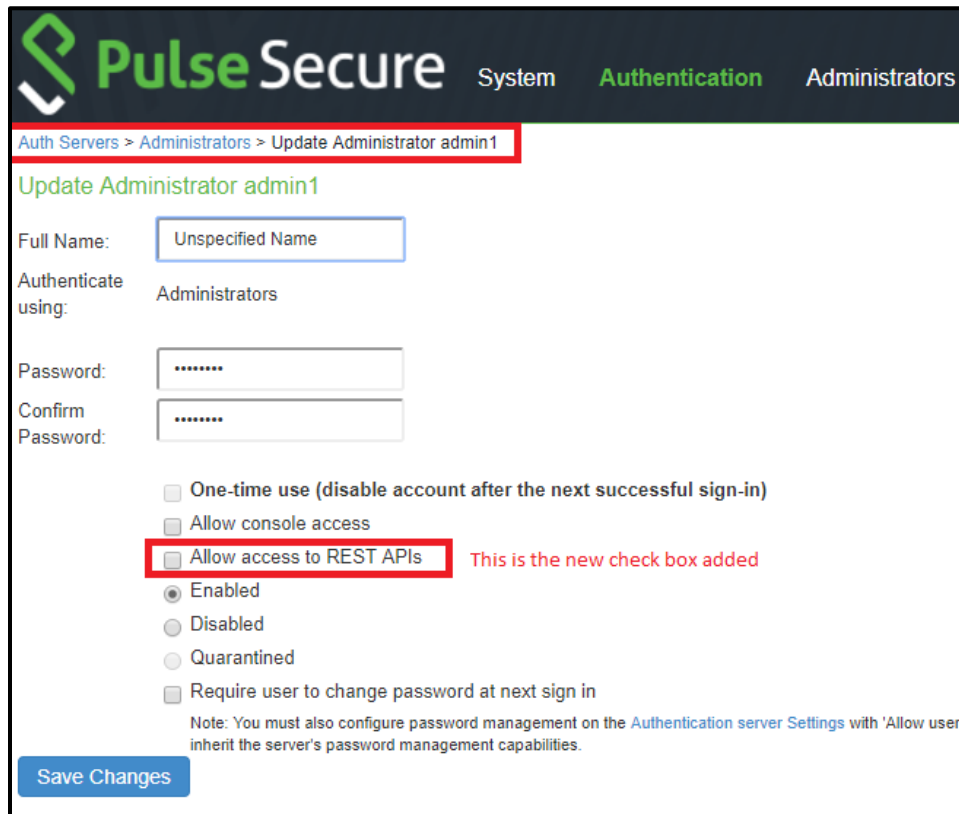
Configurations for REST APIs

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" Auth. server has been added. REST API authentication would be successful only for those users who have this option enabled.

To enable this check box:

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**.



Pulse Secure System **Authentication** Administrators

[Auth Servers](#) > [Administrators](#) > [Update Administrator admin1](#)

Update Administrator admin1

Full Name:

Authenticate using: Administrators

Password:

Confirm Password:

One-time use (disable account after the next successful sign-in)

Allow console access

Allow access to REST APIs This is the new check box added

Enabled

Disabled

Quarantined

Require user to change password at next sign in

Note: You must also configure password management on the [Authentication server Settings](#) with 'Allow users inherit the server's password management capabilities.'

Enabling REST API Access for an Administrator from the 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 that any characters other than "y" or "n" are invalid responses.

```

~ — ssh shri@10.243.53.143

Internal port configuration completed, proceeding to next step...
-----

Internal NIC: .[OK]
Currently there are no administrators configured...

Please create an administrator user.
Admin username: admindb
Password:
Confirm password:
Do you want to enable REST API access for this administrator (y/n): y
The administrator was successfully created.
-----

```

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**.

```

~ — ssh shri@10.243.53.143

Current version: 9.0R1 (build 63950)
Rollback version: 8.3R4 (build 60528)
Reset version: 8.1R4.1 (build 37682)

Licensing Hardware ID: 0332MJ0WK0NUP111S
Serial Number: 0332122015100018

Please choose from among the following options:
 0. Start shell
100. mount root rw and start rsync...
101. mount root rw and chpx /home/bin...
102. modify platform code...
103. validate files...
104. Start sshd for debugging ...
105. Manage fault injection scenarios
 1. Network Settings and Tools
 2. Create admin username and password
 3. Display log/status
 4. System Operations
 5. Toggle password protection for the console (Off)
 6. Create a Super Admin session.
 7. System Maintenance
 8. Reset allowed encryption strength for SSL
Choice: 2

Please create an administrator username and password.
Admin username: consoleadmin

Password:
Confirm password:
Do you want to enable REST API access for this administrator (y/n): y
The administrator consoleadmin was successfully created.

```

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
```

```
cDVtTWxjN1JRdTgxUjJOdnNzTENDWmhQMDVrZjBOMk9ORmVZZUxYWDZhVT06
```

```
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+DPQZdUrQi5IWPuihJf8tnrsBV0XCQly6WgZ79Jv1fyzmssg==",
  "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
```

```
cDVtTWxjN1JRdTgxUjJOdnNzTENDWmhQMDVrZjBOMk9ORmVZZUxYWDZhVT06
```

```
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!"
      }
    ]
  }
}

```

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

cDVtTWxjN1JRdTgxUjJOdnNzTENDWmhQMDVrZjBOMk9ORmVZUZxYWDZhVT06

Content-Type: application/json

Cache-Control: no-cache

Postman-Token: 1ca1c683-4cb4-f629-53d9-cdabb9d6f092

```

{
  "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!"
      }
    ]
  }
}

```

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
cDVtTWxjN1JRdTgxUjJOdnNzTENDWmhQMDVrZjBOMk90RmVZZUxYWDZhVT06
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+DPQZdUrQi5IWPuihJf8tnrsBV0XCQly6WgZ79Jv1fyzmssg=="
}

```

```
"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
```

```
cDVtTWxjN1JRdTgxUjJOdnNzTENDWmhQMDVrZjBOMk9ORmVZZUxYWDZhVT06
```

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

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
```

```
cDVtTWxjN1JRdTgxUjJOdnNzTENDWmhQMDVrZjBOMk9ORmVZZUxYWDZhVT06
```

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

```
Cache-Control: no-cache
```

```
Postman-Token: c94a2f29-2b52-4ed1-3987-302cbce96a30
```

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
```

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+UR6n8AgABAAAOfSnIBrU19vdwUslG5LG4cg1QH6CbXDSmY4ZW0x85HY="
  },
  "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!"
      }
    ]
  }
}
```

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
```

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

```

PCS/PPS Configurations Using REST APIs

- [Getting Active Sessions](#)
- [Getting Particular Active Session Details](#)
- [Deleting a Particular Active Session](#)
- [Deleting All Active Sessions](#)
- [Querying Set of Leased Licenses in the License Server System](#)
- [Configuring Certificates based on CSR Workflow](#)
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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":
"sidb03b1e971b7ebel63bb70c966a8ae2b50767aae300000000",
          "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
QXNzN1FMN3VYdTJlaHpMZTF5QjRBQTdoM1lNa3Q0NXRkc2dHc0hoNzU3Yz06
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
QXNzN1FMN3VYdTJlaHpMZTF5QjRBQTdoM1lNa3Q0NXRkc2dHc0hoNzU3Yz06

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
QXNzN1FMN3VYdTJlaHpMZTF5QjRBQTdoM1lNa3Q0NXRkc2dHc0hoNzU3Yz06

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
c2czWUJmcllyUjcwN2daSFh6RHdqME1YSnNhddZmcXlaOVZKNFNSdStaZz06

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/W0VhDAABAAApoB/uSUYcwJS1k7HeXVMXK6+KsIPTrJnjXrUci
  JEef2EKWYyqgbDGoXhzYaGd16Ye29oOw2KRQlyCM/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

```

```
aWZuM2VmZVZTRU9YNVZkVVZ3eFpiYWdob3VCTndxZEkyExubUcyVU5ibz06

```

```
Content-Type: application/json

```

```
{
  "cert" : "MIINzgIBAzCCDYoGCSqGSIB3DQEHAaCCDXsEgg13MIINczCCBg
QGCSqGSIB3DQEHAaCCBfUEggXxMIIF7TCCBekGCyqGSIB
3DQEMCgECoiIE9jCCBPIwHAYKKoZIhvcNAQwBAzA0BAjp
YgwUOJOWeAICB9AEggTQFjak4T3ftSlkdoiOtc/xvh
Sfrrkezs109tN6tqyuVYWFQUZkpUIg4v2pU1zOvFOTPlno
VCmeiL2HX70zuLPALcnSvGmaq61I+Y5dBWMmXMo+bs8s
U36p6YS4D9Bq3VIMecAHwzc/30hPf
+gaaoYSQiMuLa34CnNeFxpfxMlH0sXi1QeqaLAtMno5AMQW
1/nHSAyJPwa5OWrJ5mkfHKh4kog893diYwo1mlIqlp7Qseza
4+uosWAtih/jac1iDmlb03kjr+OQAukXFQ19ejvyrmMhcjhoz

```

ARqwMgEj6I+JpdJPUxvwVytQ20Nj4lNDRnAb5sp1oAi0u5aN
49afY6kRjNuKUeUkEmrpmumNJJufkDkKx1eqYOB0qQ50K1w
9qFhEOaOLivGQa1IjzNyc+Bbs2TMw8RJWDSa7TVJhQKBCVjt
IOSFzsVjyWJeI9VzB+iUbi
+XCHYRQP0W6el6HWg2b31iNhMID5Lt2GWQOzT6iUVNls
ZFoofyfxsZBY0JC6nsbvZVMRNBGXE2fEFA/qIga8Gn5E
9zcIqibnXXW0jAOa+m3d+KRR49XaoAjgZpJ3ErqLVz1l/nGTix
9W3H4mSHd9xX43h6Pbz0tGmu6l9nnWP/52y6/TMQQB
5v0RHe0klj+uX00ZuezmmeYEapX+SObQrMqmnvTgWApf
7FzulcvAIHomQ184MJzarNnhOpO1AQGESaa6tABtk
2Yzpbm+g5SAgnjwxH0IjeF/kwapQttIYc1TM3qQ9EsPKqbpqNa
4qETIRLI3R6GVNTBnG/g9M9MQh2MtnvonSOlpjDs+Tt
LoO+BtY
9J2XSMK0wtXyONb67xjTRRsC1ulFavP4RdyHpmM
4JO3+VW1F4n8Vzl+RYrRj0sKja/jHm1ElZvhxJHbwEMFDSv
FIqAVfQGQKyliJWSjalNeO2TEPVJOf2o+TofnYDq4hk0t
ABVdWLRfmn3byi9l+xioIOLputEGG8Zto
AdlPkag/lKbnWa37z3eHnfQC9qWU8dcONBQo/HFxupj
482jQa7lUg3fp7apM4CuDQEGJWYNS4/Z+5+zEqq9q+/w
9ke5Y/a/5ukeP9HRS3xpeEe56qb98qP×3dXSSDgXtD1L
6r48Dl+4ISYmLEl0yFwXtJ3vuYk5NiUjmZsuI1tnLQoxim5z6NUZ
5/7G04mG/BzAX3qT74MlRzVDa7uZdJPYJLyTGUtIdn
562HvYnrGtO9P+08OH6c2Dp4eOgNQCrhPP51ZHd9VNo0nyqt
ZmZ0E4oHN4G7ud+6fwIvaSF9gpwliTWAF5122dr1llAe3ZFPs
5bZv7jrfY7LGuTh+1003MshmtYZAiW8nM1ODm4HstQsSx
HWVb+WK4uiorvhq2cplJ
+71rGQI/kCM8hdZJOUYzsrnQXQUn/rs100w9VAP88SG9mJi
QynoX4+BKYtnn4XE4D3tEFUygD2RmG2GdeGBjOeHh/Ke
MrXk2z9oLEn7CaDeZQCp/7wGdDLfb/nAkmyiO6DWkPzZDAz
GdSDd0gRTkY4LdtyjPTkeADN
+wXvjh6tutjgWgHEHI3xnvMan1/rzZV80SGpbqWFECk1
58YuprYqVRN2CmJCILoVbUaay6Vq9jaHkIkt3lxzU
6UkNTKxqo3Rhad9StfxCRqlrYxgd8wEwYJKoZIHvc
NAQkVMQYEBAEAAAawXQYJKoZIHvcNAQkUMVAeTgBs
AGUALQA2AGMANQA0AGUAMABjADQALQAyAGYANQBkAC0ANABj
AGYAMAAAtAGEAYwBiAGUALQBhADAAyGbjAGUAZgA4AGIAYg
A4AGEAMzBpBgkrBgEEAYI3EQExXB5aAE0AaQBjAHIAbwBzAG
8AZgB0ACAAUgBTAEAAIABTAEMAaABhAG4AbgBlAGw
AIABDAHIAeQBwAHQAbwBnAHIAyQBwAGgAaQBjACAAUABYAG

8AdgBpAGQAZQByMI IHZwYJKoZ IhvcNAQcGoI IHWDCCB
1QCAQAwggdNBGkqhkig9w0BBwEwHAYKKoZ IhvcNAQw
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+T9prJJq7pEPKy18ocTSTPbINsSJ
8f6z+R01/cxOnpyZ3pe2kWneC0xVUeTCsfip5DEbOfga
Cy4omJstlx57Z5GQrVfs01V21NjY6i0Ev7e2AGyn
+Kq2ZcrTBzIjQpoA0djljaFodkBVPwROkXCEjScfV/YjURTSgVcv
1F1k/OyVf3EDcTXzjtOEuvkLrYsBANzAtcchE7tMlJdVlDv
41A5nudd1plgQkwp911LOM5AieKMGuaSFLCq0RNTho
61AFTeEOCgK1uDoRtac
+TtgzrAyQGpUwQ/j/CFzy2yhQzSg2+nOFDA4D2I2Bw
3SyMVAw45NtPPYnoplY9j0iRPfSOUzbHqULI8PvRyICY
3EhIv7MVzG812TMD1WOvZzaNonSB4plj+rq+aL6YH15O3/AQ
5v/n3b/ebrKDSSTYROClNvfxwF+nLTMeCPumAfb8JWd
AmOvsUmyd8j8b6CgE2fMsR6yzZMmTcdispYe1r
+at4hd7v57K2JKcTKffS23zU9QZ6w30+soSr4dKhXVKo
Fny8pGZkgA5Dd5ksytKJgKJHM5Z6yRij8cc0WwPrqK
9jZvFqx0+t8rAFUA1QRbM6nnwF4g6z2vMdEtUYtn
NXIZIWe5E6YJlmxzn26dFAt2AnM8MelPSNVaxVqho
CZAZOdRmhYXg4uT
+4rMazBXJ7txtCNsQd/sW4WpOp9jzRoANfhxK2uKkFRS
62216u6hCoVCMj5D7UjB/4S80NZIwa67cikY/89t4v
EZbwvS0dLQ2CMiQVeeUFTto4Hq32RaVRPhIJql0MH/fy
MIvSfqEoMUnY/D/26rKnivVp9XZdyd2ZKMV5nNFtbw
C6UhhQ76PwKRg5GsOuDjUxHzy0DXIgtcSuZwUeu
DNM0iyVZ2LVCRPyTWAiur0nepcn1nVcehlxddqGSu
1AWSqmOODMmwytm6mDKAvLnN8qjpL742bTIHkmxt
UvoNxrGT4i+0jwGWLGNy6sx3JAXIYZv85xt+cV5KDvm
F822w6CtUs5181WvBdAC6WD
+wmnQzGsqvSbj9jLLKFxOtLYs863dDDtENDZIytrCKjEKNlo

```

Y8X0f1N1fczguZ8ssBa6XWQ4hjpgwanpjBsvReJZcWogUFq
YuXtZUB/mIUSZyNSIFwCO4cWa4vqE4P1Pj156jnIdpqwgqalj
HTm7WsCEIbgdBfyJp75/vJR/A4PAJcsZmFfIayNwM/zePFh
Zp0UdxrnoptZfsF4XspgZEPbHyxmfQG7f8sfAQq0iQlH0kpa
BD3VuTrudgOfFbVfrjim8UXUNhKpYSgy3GWeHXadrOHs
OZ0Yj0a/ay5Wwny7RJAZO00UCMLGRVfxYjj9RQvCPphej
NVmhLNqlT3dqEczH3TptR4xILuoXC6sQkViBhV
7dEp0nVzA6jUzCGOnYmCW7/N6+bD1XHC6dg
76igIUHHiJz0jqHfIoxqAak+72Iv706QtVMYI+Cpe
4FLRqhoNUJpHAT7+5EOq2WqWXB+KXk5/Wh
7/CIo6pZsAEU0elDDz/mex2oUfigYvtywFPBo0f
WzTqkVvP7P18E5wudKl9Q+JYoNZVaapChTDJF
9/OoVE1g0rrQ5nxzKQRrTbtekZSJ5j66p107ux2R+Q
7MpRsmwT8ERgW8CexPHOAikAWSBpWaT6ogh
1MletHIK++ShXSIRa3NbDjrwkU8q0E9wlCUyAfXnQv
4pTQaGHadF/j2F2foMBAW2Jgh1KP9UgB54K+KLRjofc
EUqqh+j42bh2/c0jAppJtWNgn2jFQzuK2I3E0MVVNOEPJm
EvpDXM1DZzhFNxeL8D
+Lfmn1B4zNTdngE0arUOspr72Rm0Rx43OcU0w/nkL6DckhvIZdco
4PSLLXJeBW/fBc2Ws04/qxEKwreGwCr3fM17X4HZtCRJOsVj0Bg
6JAp3f30Os55bjQanFubM9YFZrC6rGnKshyiUIFutMPwzbuI
WCWQP29TnlSJWk91C0jb2oy6/209o7U78grLvGllSyynqehN
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
aWZuM2VmZVZTRU9YNVZkVVZ3eFpiYWdob3VCTndxZEkyExubUcyVU5ibz06

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
```

```
aWZuM2VmZVZTRU9YNVZkVVZ3eFpiYWdob3VCTndxZEkyExubUcyVU5ibz06
```

```
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
```

```
aWZuM2VmZVZTRU9YNVZkVVZ3eFpiYWdob3VCTndxZEkyExubUcyVU5ibz06
```

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

RESPONSE

```
HTTP/1.1 200 OK
```

```
Content-Length: 193
```

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

```
{
  "system-information": {
    "cluster-node": {},
    "hardware-model": "VA-SPE",
    "host-name": "node228",
    "os-name": "ive-sa",
    "os-version": "9.0R3",
    "serial-number": "VASPHBVSLF2RUI1CS"
  }
}
```


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 bmF6ZWVyO1BzZW51cmUxMjMk
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 amFjazpqcW5pcGVy
Content-Type: application/json
{
  "realm": "RadiusAdminRealm"
}
```

RESPONSE

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "api_key": "MGMzZjJkZDZlYmRlYzgzMDI5MjZkYmE1MGM0MzdiMDI="
}
```

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
```

```
T1dFM056VTBPVE15T0dFeU16WXpOakU0WVRFek9EWXhOamRoTVdVNFpqYz06
```

```
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
```

```
T1dFM056VTBPVE15T0dFeU16WXpOakU0WVRFek9EWXhOamRoTVdVNFpqYz06
```

```
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
TldVNF16TmtOVEZqTkRFek1EUXdPVGRoTlRrMk9UWTBaR013TkRnM1ptST06
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
TldVNF16TmtOVEZqTkRFek1EUXdPVGRoTlRrMk9UWTBaR013TkRnM1ptST06
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!"
            }
        ]
    }
}

```

```

    }
  ]
}
}

```

Get 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"
    }
  ]
}

```

Add 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
RU9jaHYwZmlqVnJibDBqeE9obTlYZDVOdHhVS2FMesttVzBqL1pKUXh6bz06
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!"
      }
    ]
  }
}

```

Update 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
RU9jaHYwZmlqVnJibDBqeE9obTlYZDVOdHhVS2FMesttVzBqL1pKUXh6bz06

```

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!"
      }
    ]
  }
}
```


Delete 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!"
      }
    ]
  }
}
```

Get 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
```

Add Groups to LDAP

REQUEST

```
PUT /api/v1/configuration/authentication/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!"
      }
    ]
  }
}
```

Update 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!"
    }
]
}
}

```

Delete LDAP Source Group

REQUEST

```

PUT /api/v1/configuration/authentication/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
TldvNF16TmtOVEZqTkRFek1EUXdPVGRoTlRrMk9UWTBaR013TkRnM1ptST06
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: 10.209.114.228
Authorization: Basic
TldvNF16TmtOVEZqTkRFek1EUXdPVGRoTlRrMk9UWTBaR013TkRnM1ptST06
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
TWN2cUEzbfRYQXcySjBSbGpKWTazdk1oa2RiTDFLUVJDUjNNdlQ0U1RJdz06
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"
}

```

Deleting Cluster Member

REQUEST

```

DELETE /api/v1/cluster/members/node225 HTTP/1.1
Host: 10.209.114.228
Authorization: Basic
TWN2cUEzbfRYQXcySjBSbGpKWTazdk1oa2RiTDFLUVJDUjNNdlQ0U1Rjdz06
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"
            }
        ]
    }
}

```

Joining a Cluster

REQUEST

```
PUT /api/v1/cluster HTTP/1.1
Host: 10.209.114.228
Authorization: Basic
SkUyVlBaVjRjcGxleElRMnNiZXpYajE2dEVIUm9Oa05WWDdRWHh3MmpJZz06
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"
      }
    ]
  }
}
```

Configuring IF MAP Server

REQUEST

```
PUT /api/v1/configuration/system/ifmap/overview/ifmap-config/
Host: xx.xxx.xxx.xxx
Authorization: Basic
SkUyVlBaVjRjcGxleElRMnNiZXpYajE2dEVIUm9Oa05WWDdRWHh3MmpJZz06
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+UR6n8AgABAAAe9Px2XELrbvvAZACcoOJXBM1051lgG8QQLNr4hcLNrE=",
    "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+UR6n8AgABAAAe9Px2XELrbvvAZACcoOJXBM1051lgG8QQLNR4hcLNrE=",
    "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
SkUyVlBaVjRjcGxleElRMnNiZXpYajE2dEVIUm90a05WWDdRWHh3MmpJZz06
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!"  
    }  
  ]  
}  
}
```

PCS-Specific Configurations Using REST APIs

- [Creating a VLAN](#)
- [Deleting a VLAN](#)
- [Creating a User Role](#)
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- [Importing TOTP Users from One Device to Another Device](#)
- [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!"
      }
    ]
  }
}

```

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

QmJYZlZ6eER2Tzhodjh4NzhlU28vU1NNZ0tHelJUUHsbC9pdjcrZlRxcz06

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/y46bhB4wz6mnpupQH0oTHOTfTexJxP2k=",
    "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+UR6n8AgABAAAQkYh+Te/ebXL7gSn+W6IEPOV2YFsaaiKH2SVxkb81TKzWhS1EPFlsNXBpuQP5sW
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+UR6n8AgABAAAA2Th1sUV9vXDS9gRdMtlyCB40l6tacMTwhWsTlIFd7Q4=",
    "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+UR6n8AgABAAAA2Th1sUV9vXDS9gRdMtlyCB40l6tacMTwhWsTlIFd7Q4=",
    "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
```

```
MEthMXM0MmJraHpyYms0WFZCZ29Xb3k1Nk5NL3JqaDBwQ05iTmFhUlh5ST06
```

```
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
```

```
MEthMXM0MmJraHpyYms0WFZCZ29Xb3k1Nk5NL3JqaDBwQ05iTmFhUlh5ST06
```

```
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
```

```
Postman-Token: 5aa23287-a4b1-7619-1a1d-57ed0e693097
```

```
{
  "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

```

```

Y1VPZE1XZ1ZubVEvVnIrcWwrd3lJY3F0Y05WTGhDVkx1M0wrkd5YR3hzVT06

```

```

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!"
      }
    ]
  }
}
```

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
Authorization: Basic
TnBDUk1veFFFQTJKZjM0S2ZxV2JKUlhRaDJaWGFrYnkvWVpTR3hhNTdmbz0=
Host: 10.209.125.7
Content-Length: 35
Content-Type: application/json
Request Body:
{"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\""}
    ]
  }
}
```

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+qDMiguTtWZaxnGHGTGQEChD7BTMGjz1QYb000z
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+CAuOp3OamTox2sgmvE7YNjC0S1SPgyFfx0kfzCb2
K3Mrcq1UuJUJLhK7L3lne4f1QiWkoZ8q8zluaV+eRSJHBez9Pjo+Lz
BpYwoXStduOC20FVY4+KCHDasufdAOCd/Lga4mFFE5ItAui18ObOf
RtxLvoZUIuGS8w019mbRaND1Va52sUzuZBclqx+4lueBCQYEUNrDr
HVG0AzqUBbAeL+WV8VRJrxVW8sIlArqY8n29pD66BozsGKoxBq
XSe/fZxEdu9ZqI4xfzSCCsfgTiv0LAM4p+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": "2lubWxSvAwABAAAAIx9igwcQok
9s+MV0zg/b+oer3z7Kj0iXbVzJ+qDMiguTtWZ
axnGHGTGQEcHD7BTMGjz1QYb000zBF+6DG
p2y/9pj+8Wf4SXTQbYIeDomT4w2Kl4oclEZhFru
WLWn1l+58x2b0kxsURCb+P0It8K+msqFXBh
OEDY7l0W4+P+A8UZaz6In/gMq8Qd766i7
RN1oZ+hZHUMYJUB72tzIQ+CiA8tTv6aweC6
TGy9/a9C6vVbLY0+ZUgGTffWzJxcoZbEbdwiCFo
Zyex5UWTUFIj0Z4XAPoZ4HTWZsxP5YwXcJpsnb
OzCqW/dTB6WpYWYp6R+MUn2yu/hZeu7z1qVhXlr8b
K5LifH/u6J76SpErLleELh1bYF17DWPfo6xspG7rffhs2
k9vPVBloq2kud+42hPo6vZaMfcwaz9lKRrftIqAu2o3
JBJfdNhrUTOu2+Y6Qmc0in6MfIBNNrVr9D6hdWmIdr
Nr7PXHa4uJoP+CAuOp3OamTox2sgmvE7YNjC0S1SP
gyFfx0kfzCb2K3Mrcq1UuJUJLhK7L3lne4f1QiWKoZ8q
8zluaV+eRSJHBez9Pjo+LzBpYwoXStduOC20FVY4+KCHD
asufdA OCD/Lga4mFFE5ItAui18ObOfRtxLvoZUIuGS8w019mb
RaND1Va52sUzuZBclqx+4lueBCQYEUNrDrHVG0AzqUBb
AeL+WV8VRJrxVW8sIlArqY8n29pD66BozsGKoxBqXSe/f
ZxEDu9ZqI4xfzSCCsfgTiv0LAM4p+cZekhcvRwtuImNjX+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
Y1VPZE1XZlZubVEvVnIrcWwrd3lJY3F0Y05WTGhDVkx1M0wrkd5YR3hzVT06

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
Y1VPZE1XZ1ZubVEvVnIrcWwrd3lJY3F0Y05WTGhDVkx1M0wrkd5YR3hzVT06
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

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
VU9qSTlGTzNrYVlk5d0t2aXpBNldpZ0FyZlNlS3FmTkNnQUh0R0ZuR0xSbz06
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"
                    }
                  ]
                }
              }
            ]
          }
        }
      }
    }
  }
}

```


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+UR6n8AgABAAAAofSnIBrU19vdwUs1G5LG4cg1QH6CbXDSmY4ZW0x85HY="
  },
  "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
VU9qSTlGTzNrYVks5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
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+UR6n8AgABAAAOfSnIBrU19vdwUslG5LG4cg1QH6CbXDSmY4ZW0x85HY="
}
```

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
VU9qSTlGTzNrYVks5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
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
VU9qSTlGTzNrYVks5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
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
VU9qSTlGTzNrYVks5d0t2aXpBN1dPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
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
VU9qSTlGTzNrYVks5d0t2aXpBNldPZ0FyZlN1S3FmTkNnQUh0R0ZuR0xSbz06
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+UR6n8AgABAAAofSnIBrU19vdwUslG5LG4cg1QH6CbXDSmY4ZW0x85HY="
}
```

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
```