

# SafeNet Network HSM 7.1

API Reference Guide

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# Chapter 1

## Introduction

### SafeNet Network HSM REST API

#### Introduction

SafeNet Network HSM offers an exciting new way to administer the appliance. In addition to the long-standing Luna shell, administrators now have the ability to use a representational state transfer application programming interface — REST-ful API — to configure and query the appliance.

#### LunaSH Cross Reference

Most existing SafeNet Network HSM customers are familiar with LunaSH. The first question a SafeNet Network HSM administrator familiar with LunaSH might have is: What is the relationship between the REST API resources and the LunaSH commands of SafeNet Network HSM? The tables at the following links provide a cross reference between existing LunaSH commands and REST API resources. Note that the REST API condenses many of the LunaSH commands together for greater efficiency. For this reason, many cross references are not direct 1:1 mappings.

"client" commands (["client" LunaSH Commands Cross Reference](#))

"hsm" commands (["hsm" LunaSH Commands Cross Reference](#))

"ntls" commands (["ntls" LunaSH Commands Cross Reference](#))

"partition" commands (["partition" LunaSH Commands Cross Reference](#))

"service" commands (["service" LunaSH Commands Cross Reference](#))

"stc" commands (["stc" LunaSH Commands Cross Reference](#))

#### What Do I Need to Use the REST API?

SafeNet Network HSM 6.1 is the first release to support the REST API feature. If you have an appliance at an older release, you need to upgrade your appliance to 6.1 or a subsequent release to get the support necessary for the feature.

To make use of the REST API on a SafeNet Network HSM 6.1 or subsequent release appliance, you need to first install the rest-api secure package. The version will change over time but here is an example of the steps to install the REST API.

- Obtain the REST API secure package update
- Transfer it to the appliance via SCP

- Login to the HSM (hsm login)
- Apply the package update for the REST API (package update rest-api-1.0.0-45 -auth d69PbsY696LYW5YP)

You may want to test that the REST API is operational. To do so, follow these steps:

- Open a LunaSH prompt on your appliance
- Type: `webserver enable` NOTE: You must issue this command whenever you reboot or power cycle the appliance. The web server is disabled by default.
- Type: `webserver certificate generate -keytype rsa`
- Type: `service restart webserver`
- Copy the following java script to a file and name it `login.html`. Replace `YOURLUNASAIPADDRESS` with the IP address of the SafeNet Network HSM appliance you want to administer and `YOURLUNASAPASSWORD` with the admin account password.

```
<html>
<head>
  <script src="http://code.jquery.com/jquery-1.11.0.min.js"></script>
</head>

<body>
  <input id="login" type="button" value="Login"/>
  <a href="https://YOURLUNASAIPADDRESS:8080/api/lunasa/hsms">hsms</a>

  <script>

    var loginData = {  username:"admin",
                      password:"YOURLUNASAPASSWORD"};

    $("#login").on("click", function(e) {
      $.ajax({
        type: 'post',
        url: "https://YOURLUNASAIPADDRESS:8080/auth/login/basic",
        dataType: 'json',
        data: JSON.stringify(loginData),
        success: function(data) {
          console.log("worked");
          console.log(data);
        },
        error: function(e,status,error){
          console.log(e);
          console.log(status);
          console.log(error);
        },
        xhrFields: {
          withCredentials: true
        },
        timeout: 2000
      });
    });
  </script>
</body>
</html>
```

- Start your favorite browser.
- Open the `login.html` Java script.
- Click the "login" button in the top-right corner.

- Click the "hsms" button in the top-right corner.
- Accept the self-signed server certificate of the SafeNet Network HSM if informed that the server is unsafe or the connection is not private.
- If successfully connected to the web server on the SafeNet Network HSM, you should see something similar to the following example in the top of your browser:

```
{"hsms":[{"id":"117290","label":"mysa","url":"/api/lunasa/hsms/117290"}]}
```

- Form the URL with the serial number of your HSM to query more details of the HSM and hit enter. Using the above example, the URL is:

```
https://YOURLUNASAIPADDRESS:8080/api/lunasa/hsms/117290
```

- You should see information similar to the following example in your browser (formatting with returns in this example):

```
{"storageSpace":{"free":2097152,"used":0,"total":2097152},
"supportInfo":"","
"counter":"/api/lunasa/hsms/117290/counter",
"pkiEnabled":true,
"debugInfo":"","
"fipsModeEnabled":false,
"zeroized":false,
"loggedIn":false,
"authenticationMethod":"PASSWORD",
"model":"K6 Base",
"driverTimeout":0,
"firmwareVersion":"6.22.0",
"label":"Admin",
"licenses":"/api/lunasa/hsms/117290/licenses",
"partitions":"/api/lunasa/hsms/117290/partitions",
"roles":"/api/lunasa/hsms/117290/roles",
"policies":"/api/lunasa/hsms/117290/policies"}
```

## Organization of Documentation

The best way to use this documentation is to have the list of pages open on the left and the viewing pane on the right as the following example shows.

The pages in the left pane have the following organization.

- The first page — this one — is an introduction to the REST API.
- The next set up pages describe resources specific to the REST API framework. These pages are in alphabetical order.
- The large set of pages that follow identify the various resources available in the REST API as plug-ins. These pages are in alphabetical order.
- A set of pages thereafter describe each of the REST objects. These pages are in alphabetical order.
- The documentation concludes with cross reference tables for the various LunaSH commands that the REST API replaces.



## Notes

- resources and objects are case-sensitive: use the contents of this documentation as a reference for the proper case.
- the default session timeout is 10 minutes: after this period with no activity, the REST server terminates an authenticated session.
- to keep the REST session alive over an extended period (i.e., more than 10 minutes), periodically query a resource such as GET. /api/lunasa/services/webserver ... or to have a record of the keep-alive action: POST /api/lunasa/logs/lunalog with a suitable log message.
- HSM and partition serial numbers are unique; HSM and partition labels do not have to be: keep this point in mind when constructing logic for REST resources.
- if you encounter the string "NO ERR WITH THIS ID EXISTS", please contact Gemalto technical support and report how you encountered this string.
- LunaSH imposes constraints on names, labels, etc. to prevent characters that could be used to exploit the shell. You should use the same character set with the REST API. See the "Create (Initialize) a Password Authenticated Legacy-style Application Partition" page in the product documentation for more details.
- all discoverable resources (resources with a GET) will be referenced by a href in its parent resource, this documentation may not reflect all resources that follow this rule.

## Other Topics

[Authentication](#)  
[Tasks](#)  
[Indirect Login](#)  
[Protecting Resources](#)  
[Headers](#)  
[Status Codes](#)  
[Formatting](#)  
[File I/O](#)  
[Black List](#)

## 1.1 Authentication

### Authenticating to a SafeNet Network HSM Appliance

#### 1. Sessions

REST API sessions store valuable information, they are required in order to use the service. There are two types of sessions that are available for use, user sessions and private sessions.

##### 1.1 User Session

User sessions are the default session, when using basic authorization a user session will be used. User sessions are automatic and do not require a session header. User sessions are shared with all clients of the same user therefore they have limited access to resources.

## 1.2 Private Session

Private sessions need to be created using a resource (see </auth/session>), this session is private and can only be used by the user that created it.

## 2. Authentication

In order to use the REST API service, you must authenticate to the web server on the SafeNet Network HSM appliance.

### 2.1 Authorization Header

The authorization header must be included in order to authenticate with the REST API. The REST API currently supports Basic Authorization and JWT access tokens.

#### 2.1.1 Basic Authorization

In order to use basic authorization the keyword "Basic" must be included in the "Authorization" header followed by a Base64 blob that contains your colon separated username and password. Basic authorization will use user sessions. The credentials for the admin and monitor users are the same as Luna Shell.

Example:

```
Authorization: Basic Base64(Username:Password)
```

```
Authorization: Basic QWxhZGRpbjPcGVuU2VzYW1l
```

#### 2.1.2 JWT Access Tokens

In order to use JWT access tokens the keyword "Bearer" must be included in the "Authorization" header followed by a JWT in its compact serialization. JWT tokens need to be created using a resource (see [POST /auth/jwt](#)). They will eventually expire, though if necessary can be explicitly revoked (see [DELETE /auth/jwt](#)). JWT access tokens will use user sessions.

Example:

```
Authorization: Bearer token
```

```
Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpbnV2VsbCBhcmVudjQgeW91IGegY2xldmVylG9uZSBmb3lucmVhZGluZyB0aGlzISJ9.HYMI0hEoRrwqLSeSKENIIFidvbxIUxk4T7xLScD-K2o
```

### 2.2 Certificate-Based Authentication

The certificate-based authentication uses the following steps:

- Uploading the user certificate

Step 1: Login to server using username and password

Step 2: Upload public key by posting to '/users/{user you wish to use}/certificates' with the certificate.

Replace everything within {} with the username to use in the login process

- Performing the login handshake

Step 1: Create a challenge by invoking POST to '/auth/login/challenge' with your username and the client public key. The server responds with a cryptographic challenge and nonce parameters.

Step 2: Decode the obtained challenge and nonce using base64.

Step 3: Decrypt the decoded challenge using the client private key in order to continue with the login process.

Step 4: To get the answer of the challenge, XOR the decoded and decrypted challenge with the decoded nonce. The result is the un-encrypted challenge answer.

Step 5: Encrypt the answer with the server public key to obtain the final challenge response as expected by the server.

Step 6: In order to transmit it over REST, encode the encrypted answer using base64.

Step 7: Answer the challenge by invoking POST to '/auth/login/basic' with your encrypted challenge response.

The server responds with 204 return code if successful and 401 in case of authentication failure.

## 1.2 Tasks

### Tasks

#### Introduction

Many administrative actions take noticeable time to complete: they are not instantaneous. For example, the action of updating the firmware on the HSM can take a couple minutes to complete. Rather than block and wait for the action to complete, the REST API creates tasks for time-consuming resources and returns a response immediately for the action. An application can monitor an associated task for state and perform different actions depending upon the state. Returning to firmware update, for example, an application might display: an hour glass to signify that the operation is still in progress; a check mark for a successful completion; or an X for a failed operation. The state obtained for a GET operation on the applicable task identifier provides the information needed to decide what follow on action to take.

#### How to Use Tasks

An application can use a task and the state returned on query in different ways. The description that follows outlines one way. For the purpose of an example, assume that you want to login to the HSM.

Post the login resource on the HSM:

```
POST /api/lunasa/hsms/151256/login
{"ped": "1", "password": "", "role": "so"}
```

You get back:

```
{
  "finishTime": "",
  "instance": "/tasks/3",
  "responseUrl": "/tasks/3/response",
  "sourceUrl": "/api/lunasa/hsms/151256/login",
  "startTime": "",
  "state": "Waiting",
  "details": ""
}
```

To obtain a list of tasks from the appliance, get the tasks:

```
GET /tasks
```

The server response for our example might include:

```
{
  "tasks": [
    {
      "finishTime": "",
      "instance": "/tasks/6",
      "responseUrl": "/tasks/6/response",
      "sourceUrl": "",
      "startTime": "2015-07-05T06:53:36Z",
      "state": "Running",
      "details":""
    }
  ]
}
```

"Running" means that the HSM login action is still in progress. After sufficient time to allow the login to complete, a query of tasks shows:

```
{
  "tasks": [
    {
      "finishTime": "2015-07-05T06:53:49Z",
      "instance": "/tasks/6",
      "responseUrl": "/tasks/6/response",
      "sourceUrl": "/api/lunasa/hsms/151256/login",
      "startTime": "2015-07-05T06:53:36Z",
      "state": "Finished",
      "details":""
    }
  ]
}
```

Starting a login again and using the task instance returned in the server response to do a GET operation shows:

```
GET /tasks/7
...
{
  "finishTime": "",
  "instance": "/tasks/7",
  "responseUrl": "/tasks/7/response",
  "sourceUrl": "/api/lunasa/hsms/151256/login",
  "startTime": "2015-07-05T09:10:30Z",
  "state": "Running",
  "details":""
}
```

Periodically polling with a GET on this resource continues to show a "Running" state. If the action fails (e.g., no PED response), the server response is:

```
GET /tasks/7
...
{
  "finishTime": "2015-07-05T09:15:30Z",
  "instance": "/tasks/7",
  "responseUrl": "/tasks/7/response",
  "sourceUrl": "/api/lunasa/hsms/151256/login",
  "startTime": "2015-07-05T09:10:30Z",
  "state": "Error",
  "details":""
}
```

Other states that you might encounter are:

- "Waiting" - This state means that the REST API is blocked from handing off a request to a plugin to complete. For example, with multi-party authentication, login to the REST API reports this state until authentication is established.

- "Cancelled" - This state is reserved for future use and is TBD until then.
- "Timed Out" - This state is reserved for future use and is TBD until then.
- "Skipped" - This state is reserved for future use and is TBD until then.

NOTE: Applications may choose to cleanup the tasks, this is done with the delete task resources (DELETE /tasks/{taskid} and DELETE /tasks), however this is not required as the maximum amount of stale tasks is 20. Stale tasks refer to tasks that either need to be started or queried for results in order to be removed (Waiting, Finished, Error).

## Tasked Resources

Any resource action can result in a task. The return code for a tasked action on a resource is 202. Some resource actions are more likely to always use tasks to track progress, specifically:

- POST /api/lunasa/hsms/{hsmid}/... (see Note 1)
- POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/actions/backup
- POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/actions/restore
- DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}
- POST /api/lunasa/hsms/{hsmid}/partitions
- POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/actions/initialize
- PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}/password
- PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}
- PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}
- PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}
- POST /api/lunasa/hsms/{hsmid}/peds/{pedid}/actions/connect
- POST /api/lunasa/hsms/{hsmid}/peds/{pedid}/actions/disconnect
- POST /api/lunasa/hsms/{hsmid}/firmware/actions/rollback
- POST /api/lunasa/hsms/{hsmid}/firmware/actions/upgrade
- PUT /api/lunasa/hsms/{hsmid}/policies/{policyid}
- PATCH /api/lunasa/hsms/{hsmid}/policies/{policyid}

Note 1: Any resource that uses the PIN entry device is tasked. For example, /api/lunasa/hsms/{hsmid}/login.

Some reference pages show examples of how tasks might result for certain operations.

## 1.3 Indirect Login

### Indirect Login

The indirect login capability of SafeNet Network HSM is a powerful feature used to provision PED-based HSMs. The following steps describe how to achieve indirect login with the REST API. For the purposes of the instructions, "adminHSMid" is the holder of the private key used for indirect login and "serviceHSMid" is the HSM to be provisioned as a service.

## Setup

1. Log into partition on adminHSMid as the crypto officer ("co").
2. GET /api/lunasa/hsms/{adminHSMid}/partitions/{partitionid}/indirect/key  
 OUTPUT:  
 BODY: "exponent": "AQAB",  
 "modulus": "tGHizBb/Ou+VVutU/I9XzhvF410zw307r+GjxuuTKO2e2g/p23EdiJKlghF2ORGC5qpWBOr0w4V7KarxW/f1ERwI"
3. Log into serviceHSMid as Security Officer ("so")
4. POST /api/lunasa/hsms/{serviceHSMid}/indirect/key {"exponent":"<as above>","modulus":"<as above>"}  
 OUTPUT:  
 HDR: location: /api/lunasa/hsms/{serviceHSMid}/indirect/challenges
5. Log out of serviceHSMid

## Use Indirect Login

1. GET /api/lunasa/hsms/{adminHSMid}/certificate  
 OUTPUT:  
 BODY: "certificate": "AwAAADCCBAswggHzoAMCAQICAQAwdQYJKoZIhvcNAQEMBQAwwJkMCIGA1UEAxMBSGFyZDhcmUgT3JpZ21uI"
2. POST /api/lunasa/hsms/{serviceHSMid}/indirect/challenges {"role":"so", "ped":"1", "certificate":"<as above>"}  
 OUTPUT:  
 HDR: location: /api/lunasa/hsms/{serviceHSMid}/indirect/challenges/{challengeid}  
 BODY:  
 "challenge": "AAEAAHlUqZ5blhyvdl/bW9EqXwY9xw1VA/D700rVrErljxLwQznRV6NxGUN4ry3yvi67vcC6agdelBNQL20NMb9qI59WBe"

## Notes

- This object is persistent for the duration of the session.
- There is no GET indirect/challenges to obtain a list of objects.
- The challenge can be retrieved with GET /api/lunasa/hsms/{serviceHSMid}/indirect/challenges/{challengeid}.

3. POST /api/lunasa/hsms/{adminHSMid}/partitions/{partitionid}/indirect/responses {"challenge":"<as above>"}  
 OUTPUT:  
 HDR: location: /api/lunasa/hsms/{adminHSMid}/indirect/responses/{reponseid}  
 BODY: "response": "GZvvxqRYqk6LD3fRkM6MtikoBLjUOsgfMdclectEvoo="

## Notes

- This object is persistent for the duration of the session.

- There is no GET indirect/responses to obtain a list of objects.
- The response can be retrieved with GET /api/lunasa/hsms/{serviceHSMid}/indirect/responses/{responseid}.

```
4. POST /api/lunasa/hsms/{serviceHSMid}/login {"response":"<as above>"}
    HDR: location: /api/lunasa/hsms/{adminHSMid}/roles/{roleid}
```

At this step, you should now be logged into the serviceHSMid as the Security Officer ("so").

## 1.4 Protecting Resources

### Protecting Resources

Some REST API actions can lead to destructive outcomes. For example:

- HSM zeroization: all partitions and cryptographic material is destroyed
- apply destructive policy setting: all cryptographic material is destroyed
- exceeding last login attempt: all cryptographic material is destroyed
- applying destructive HSM capability update: all cryptographic material is destroyed

To provide an application with a measure of control over actions of this kind, the REST API has a process to protect accessing destructive resources. This two-step process is as follows:

- First, the application requests the destructive resource. This action creates a suspended (WAITING) task.
- Next, the application "kick-starts" the task so that it can run and complete the destructive process.

An application does the kick-start via a task actions resource called "start" as shown by the following prototype:

```
POST /tasks/{taskid}/actions/start
```

Additionally, the REST API has another resource to list all task actions:

```
GET /tasks/{taskid}/actions
```

As an example, the following list show the steps to zeroize an HSM:

- Log into REST
- Log into HSM
- POST /api/lunasa/hsms/{hsmid}/actions/zeroize
- Returned is a task object referenced by /tasks/{taskid}

- GET /tasks/{taskid} and confirm the task is in WAITING (suspended) state
- POST /tasks/{taskid}/actions/start to continue the zeroization
- GET /tasks/{taskid} to confirm the task is in FINISHED or ERROR state
- GET /tasks/{taskid}/response to obtain the output of the zeroization resource

## 1.5 Headers

### Headers

Headers are used by the server to process requests.

#### Content-Type

Content type is used to define the type of content the server should expect for a request so that the server may process it appropriately, it should be specified when using PUT, PATCH and POST requests.

The template for the Content-Type header is defined as:

```
{
  "Content-Type" : "application/vnd.safenetinc.lunasa+{type};version={version}"
}
```

#### Types

Currently the REST API supports following types:

*json*: sending json data to the server.

*octet-stream*: sending a stream of data to the server.

#### Version

Version is a number defining the version of the resource to access.

#### Accept-Type

Accept-Type header entry is defined the same way as the Content-Type except it should be specified when doing a GET and DELETE request.

NOTE: If both the Content-Type and Accept-Type header are given the Content-Type will be used.

## 1.6 Status Codes

### Status Codes

This page summarizes the status codes that the REST API can return. Refer to specific resources for details of what status codes apply and their interpretation.

200

Success



201

Success and a new resource was created

202

Task generated

204

Change successful, no content returned

303

Task finished successfully or with error

400

Request failed due to malformed request. resource, parameters and/or headers may be possible reasons

401

Unauthorized

404

Request failed due to resource being not found

500

REST API framework failed to complete action for resource

501

REST API framework does not support the requested action on the resource

## Reference

For a more detailed discussion of the intent of the status codes, refer to RFC 2616: <http://www.w3.org/Protocols/rfc2616/rfc2616-sec10.html>

## 1.7 Formatting

### Formatting Responses

The REST API framework allows the user to format the response of any request. To format any response the user must include their formatting options in the query, see below for available options.

## Limit

This is a filter that will limit the number of elements in an array. If for example the server would normally return 100 elements(0-99) a limit of 20 would return elements 0-19.

e.g. `api/hsms/1234/partitions?limit=20`

When limit is used with offset it can generate a link header with a link to the "next" page. The link header will not exist if there are no more pages.

## Offset

This filter will offset the results of an array. If for example the server would normally return 100 elements(0-99) a offset of 20 would return elements 20 - 99.

e.g. `api/hsms/1234/partitions?offset=20`

When limit is used with offset it can generate a link header with a link to the "next" page. The link header will not exist if there are no more pages.

## Notes

Any filter that operates on arrays will modify the first array in an object. For example: if a user expands partitions when fetching an HSM the partitions would be formatted not hsm.

Multiple filters can be combined for desired effect. e.g. `api/hsms/1234/partitions?limit=2&offset=2` (will get element 2,3 and skip 0 and 1)

## Formatting Requests

The REST API framework allows the user to format requests, see below for methods available.

### URL encoding

URLs can only be sent using the ASCII character-set.

Since the REST API framework allows the user to use some characters which are outside the ASCII characters-set in URLs. URLs have to be encoded by the REST client and decoded by the server.

Currently, the REST API framework supports the ASCII characters from 32 (space) to 126 (tilde).

e.g. `GET api/lunasa/hsms/1234/partitions/20160901/stc/clients/client%20luna`

The example above encodes the client name "client luna" to "client%20%luna" in URL.

## 1.8 File I/O

### File I/O

#### Introduction

The REST API supports file input and output. This allows you to send and receive files within requests and responses.

## Receiving Files

When receiving a file the response object will contain the contents of the file in a buffer that can then be iterated and saved to a file.

Example:

```
r = requests.get("/api/lunasa/webServer/config/csr",
                stream=True,
                cookies=cookies,
                verify=False,
                allow_redirects=False)

with open("ssl.csr", 'wb') as csr:
    for chunk in r.iter_content(chunk_size=1024):
        if chunk:
            csr.write(chunk)
```

An alternative way of receiving a file is to provide the request 'Accept' header with the value 'application/octet-stream'. This is not always required as the method above may account for most cases. However some resources may return json as well as octet-stream in which case the 'Accept' header is required.

Example:

```
headers["Accept"] = "application/octet-stream"
r = requests.get("/api/lunasa/partitionPolicyTemplates/myTemplate",
                cookies=cookies,
                verify=False,
                headers=headers,
                allow_redirects=False)

with open("template.csv", 'wb') as csr:
    for chunk in r.iter_content(chunk_size=1024):
        if chunk:
            csr.write(chunk)
```

## Sending Files

Sending files requires one minor change to the request. The header Content-Type needs to be set to 'octet-stream' to notify the server that it will be receiving a file. In python passing the file object to the data parameter is all that is required.

Header format:

```
headers = {'Content-Type': "application/vnd.safenetinc.lunasa+octet-stream;version="}
```

Example:

```
with open(filename, 'rb') as payload:
    r = requests.put("/api/lunasa/webServer/config/certificate",
                    stream=True,
                    cookies=cookies,
                    data=payload,
                    header=headers,
                    verify=False,
                    allow_redirects=False)
```

## 1.9 Black List

### Black List Overview

The webserver includes a black list which is a system that will stop malicious users from making requests to the REST API. The system analyses a users request and detects malicious patterns. Once black listed a users IP will be blocked at the TCP socket level and will not be allowed a connection. All black list activity is logged in the lunalog log file.

## Black Listable Offences (Number of Infractions)

- Bad Login Credentials (2)
- Request Timeout (5)
- Certificate Renegotiation (1)
- Bad Request Payload (1)

## Advanced Black List Usage

The black list can be configured in two ways, by using a severity percentage, or by modifying the attributes directly.

### Severity

Severity is the simplest way to configure the black list, it describes how severe the black list is in percentage. Severity can be set to any value between 0 and 100. Setting the severity to 0 turns the black list off and 100 is the most severe. It is recommended to use 50% as it is the most lenient while still being effective at stopping malicious users, note that this is the default value.

### Attributes

The black list is controlled by three attributes; "maxInfractionCount", "timeoutStart" and "timeoutMultiplier".

The maximum infraction count is the number of infractions that must be committed before a user is blacklisted. This is represented as an internal counter per user, when an infraction is committed the counter is incremented by the number of infractions committed. When the maximum number is reached the user is effectively blacklisted.

The timeout start is the amount of seconds before the infraction count is updated. Each user contains an update timer, the timer starts at this value but increments with each infraction (see timeout multiplier). When the timer is up the infraction counter for the current user is decreased, when it returns to zero the timer is reset to this value.

The timeout multiplier is the amount the timer increases with each infraction.

### Example

Lets consider the following case, the web server's black list is configured with the following:

- maxInfractionCount = 5
- timeoutStart = 1
- timeoutMultiplier = 2

Now say a user attempts to login but the credentials were incorrect. Login with bad credentials counts as 2 infractions therefore the infraction count is reduced by that amount bringing it down to 3 from 5. Additionally the timeout is incremented by the multiplier, this makes the timeout now 4 (timeout x multiplier ^ infractions). The user now needs to wait 4 seconds for its infraction count to increase to 4 from 3, however the timeout remains at 4 seconds until the next infraction is committed. If the user waits an additional 4 seconds the infraction count will be back to its default which causes the timeout to be reset to its "timeoutStart" value.

If we consider the case where a user might be more malicious where the amount of requests coming in will be much more aggressive. The user attempts to make 10 bad requests, 5 of those requests come through however the user is immediately black listed. The timeout is now set to 32 seconds. The user waits 32 second and the infraction count is set to 1, the user then performs another bad request and is now black listed for 64 seconds.



## Chapter 2

# Framework

This version of the REST API provides the following framework resources:

- [Authentication](#)
- [Errors](#)
- [Tasks](#)
- [User management](#)

### 2.1 Authentication

Authentication resources provide a facility to obtain access to the REST API.

- [GET /auth/certificate](#)
- [POST /auth/login/challenge](#)
- [POST /auth/login/basic](#)
- [POST /auth/session](#)
- [DELETE /auth/session](#)
- [POST /auth/jwt](#)
- [DELETE /auth/jwt](#)

#### 2.1.1 GET /auth/certificate

##### GET /auth/certificate

Returns server public certificate. NOTE: The certificate is PEM format with no embedded newlines, with string '\n' instead of the newline character.

##### Parameters

None

## Responses

200

Success

400

Unexpected error

## Example Request

```
GET
https://1.2.3.4:8443/auth/certificate
{
}
```

## Example Result

```
{
  "certificate": "-----BEGIN CERTIFICATE-----'...'-----END CERTIFICATE-----\n"
}
```

### 2.1.2 POST /auth/login/challenge

#### POST /auth/login/challenge

Generate a login challenge which is to be responded to by the client.

#### Parameters

**username**

A user defined by the client

Use: Required

JSON Schema:

```
Object
type: string
```

**certificate**

The client's public certificate to register with. NOTE: The certificate must be uploaded to the server before use

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

400

Unexpected error

### Example Request

```
POST
https://1.2.3.4:8443/auth/login/challenge
{
  "username": "admin",
  "certificate": "-----BEGIN CERTIFICATE-----\nMIIBxDCCAS2gAwIBAgIBAJANBgkqhkiG9w0BAQUFADAAMB4XDTE2MDUxNzE0
}
```

### Example Result

```
{
  "nonce": "YjBlNDg0NDUtODE3NS00ZTA4LWJiNjktMDNmMjUyZWMyZDE0"
  "challenge": "nAbCojs0aaezuIFwf1cyjauXESzTS+c0eKneHR4qK3o//dsWs57yzmOQVLiaQuiPOCCj6n6TmAeTVnUq2UA5WHhb17B9K"
  "certificate": "-----BEGIN CERTIFICATE-----\nMIIDdzCCA1+gAwIBAgIJAM36QIHFQ9hRMA0GCSqGSIb3DQEBAUAMFIxCzAJBgQ
}
```

## 2.1.3 POST /auth/login/basic

### POST /auth/login/basic

Perform login using challenge response computed by the client.

#### Parameters

##### challengeResponse

The challenge for PKI authentication

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

204

Success

400

Unexpected error



401

Authentication failed

### Example Request

```
POST
https://1.2.3.4:8443/auth/login/basic
{ "challengeResponse": "cCaDejm0aafzzIGwd2cyjazZEEzTs+c0eKneHR4qK3o//dsWs57yzmOQVLiaQuiPOCCj6n6TmAeTVnUq2UA"
```

### Example Result

```
{
}
```

## 2.1.4 POST /auth/session

### POST /auth/session

Create a private session for the user and return a session cookie.

### Parameters

None

### Responses

204

Success

400

Unexpected error

### Example Request

```
POST
https://1.2.3.4:8443/auth/session
Authorization: Basic YWRtaW46MXFAVzNlJFI=
{
}
```

### Example Result

```
Set-Cookie: SESSION_ID=cc01f1eb-56c0-4624-a3db-e03d3daa83fe; path=/; HttpOnly; Secure
{
}
```

### 2.1.5 DELETE /auth/session

#### DELETE /auth/session

Delete the private session used to access this resource. It also instructs the client browser to remove the session cookie from future requests. NOTE: The user must have a private session to access this resource.

#### Parameters

None

#### Responses

204

Success

400

Unexpected error

#### Example Request

```
DELETE
https://1.2.3.4:8443/auth/session
Cookie: SESSION_ID=cc01f1eb-56c0-4624-a3db-e03d3daa83fe
```

#### Example Result

```
Set-Cookie: SESSION_ID=; Expires=Thu, Jan 01 1970 00:00:00 UTC; path=/; HttpOnly; Secure
{
}
```

### 2.1.6 POST /auth/jwt

#### POST /auth/jwt

Create a JWT access token and yield its compact serialization, which can be used in Authorization headers to access resources.

#### Parameters

`expiresIn`

The expiry time of the JWT, specified in seconds from the current time. If none is specified, the default expiration time of 10 minutes will be used.

Use: Optional

JSON Schema:

```
Object
type: integer
```

## Responses

200

Success

400

Unexpected error

## Example Request

```
POST
https://1.2.3.4:8443/auth/jwt
Authorization: Basic YWRtaW46MXFAVzNlJFI=
{ "expiresIn": 300 }
```

## Example Result

```
{ "accessToken": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJleHAiOjE0ODg1NjI0MzcsImp0aSI6IjMvTEZURnFwRXhrd01p" }
```

## 2.1.7 DELETE /auth/jwt

### DELETE /auth/jwt

Revoke the JWT access token contained inside the Authorization header. This resource cannot be accessed through other authentication means. Once a JWT is revoked, it cannot be used to access resources.

### Parameters

None

## Responses

204

Success

400

Unexpected error

## Example Request

```
DELETE
https://1.2.3.4:8443/auth/jwt
Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJleHAiOjE0ODg1NjI0MzcsImp0aSI6IjMvTEZURnFwRXhrd01p
{ }
```

## Example Result

```
{ }
```

## 2.2 Errors

Errors resources provide a facility to obtain language-specific text and additional details about each error. This version of the REST API supports English only.

- [GET /errors](#)
- [GET /errors/languageid](#)
- [GET /errors/languageid/errorid](#)

### 2.2.1 GET /errors

#### GET /errors

Gets list of all error languages supported by the REST API.

#### Parameters

None

#### Responses

200

A list of all error languages. Specifically, the list is unique language identifiers.

JSON Schema: [Languages](#)

400

Unexpected error

#### Example Request

```
GET
https://1.2.3.4:8443/errors
```

#### Example Result

```
{
  "languages": [
    {
      "url": "/errors/en",
      "id": "en"
    }
  ]
}
```

### 2.2.2 GET /errors/languageid

#### GET /errors/{languageid}

Gets all errors for the specific language.

## Parameters

### languageid

The language of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 200

A list of all errors for the specific language. Specifically, the list is unique error identifiers.

JSON Schema: [Errors](#)

### 400

Unexpected error

## Example Request

```
GET
https://1.2.3.4:8443/errors/en
```

## Example Result

```
{
  "errors":
  [
    {"url": "/errors/en/APICONFIG_CERT_GEN_ERROR", "id": "APICONFIG_CERT_GEN_ERROR"},
    {"url": "/errors/en/APICONFIG_CERT_NOT_FOUND", "id": "APICONFIG_CERT_NOT_FOUND"},
    {"url": "/errors/en/APICONFIG_INVALID_ECC_CURVE", "id": "APICONFIG_INVALID_ECC_CURVE"},
    {"url": "/errors/en/APICONFIG_INVALID_KEY_SIZE", "id": "APICONFIG_INVALID_KEY_SIZE"},
    {"url": "/errors/en/APICONFIG_INVALID_KEY_TYPE", "id": "APICONFIG_INVALID_KEY_TYPE"},
    {"url": "/errors/en/APICONFIG_INVALID_NETDEVICE", "id": "APICONFIG_INVALID_NETDEVICE"},
    {"url": "/errors/en/APICONFIG_INVALID_PORT", "id": "APICONFIG_INVALID_PORT"},
    {"url": "/errors/en/APICONFIG_NETDEVICE_NOT_CONFIGURED", "id": "APICONFIG_NETDEVICE_NOT_CONFIGURED"},
    {"url": "/errors/en/APICONFIG_PORT_CONFIG_FAILED", "id": "APICONFIG_PORT_CONFIG_FAILED"},
    {"url": "/errors/en/Framework_BAD_REQUEST", "id": "Framework_BAD_REQUEST"},
    ...
  ]
}
```

### 2.2.3 GET /errors/languageid/errorid

GET /errors/{languageid}/{errorid}

Gets details of the error.

## Parameters

### languageid

The language of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### errorid

The error of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

200

Details of the error.

JSON Schema: JSON Schema: [Error Description](#)

400

Unexpected error

## Example Request

```
GET
https://1.2.3.4:8443/errors/en/APICONFIG_CERT_GEN_ERROR
```

## Example Result

```
{
  "status": "ERROR",
  "returnCode": 400,
  "details": "Failed to generate certificate, webserver configuration may be off."
  "message": "Certificate failed to generate."
  "type": "API",
  "id": "APICONFIG_CERT_GEN_ERROR"
}
```

## 2.3 Tasks

Tasks resources enable monitoring and administering REST API resources that may require significant time to complete.

- [GET /tasks](#)
- [DELETE /tasks](#)

- [GET /tasks/{taskid}](#)
- [DELETE /tasks/{taskid}](#)
- [GET /tasks/{taskid}/response](#)
- [GET /tasks/{taskid}/actions](#)
- [POST /tasks/{taskid}/actions/{actionid}](#)

### 2.3.1 GET /tasks

#### GET /tasks

Gets all tasks created in current session with REST API.

#### Parameters

None

#### Responses

200

A list of all tasks created on the appliance during the current REST API session. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: [Tasks](#)

400

Unexpected error

#### Example Request

```
GET
https://1.2.3.4:8443/tasks
```

#### Example Result

```
{
  "tasks": [
    {
      "finishTime": "2015-07-11T07:23:54Z",
      "instance": "/tasks/22",
      "sourceUrl": "/api/lunasa/hsms/151256/login",
      "startTime": "2015-07-11T07:23:49Z",
      "state": "Finished",
      "details": ""
    },
    {
      "finishTime": "2015-07-11T07:24:10Z",
      "instance": "/tasks/23",
      "sourceUrl": "/api/lunasa/hsms/700088/login",
      "startTime": "2015-07-11T07:24:05Z",
      "state": "Finished",
      "details": ""
    }
  ]
}
```

## See Also

[GET /tasks/{taskid}](#)

### 2.3.2 DELETE /tasks

#### DELETE /tasks

Remove all records of tasked resources.

#### Parameters

None

#### Responses

204

Success

400

Unexpected error

#### Example Request

```
DELETE
https://1.2.3.4:8443/tasks
```

#### Example Result

```
{
}
```

### 2.3.3 GET /tasks/{taskid}

#### GET /tasks/{taskid}

Gets the information associated with a specific task.

#### Parameters

**taskid**

The identifier of the task of interest

Use: Required

JSON Schema:

```
Object
type: string
```



## Responses

200

Task is not complete

303

Task is complete

410

Task does not exist

400

Unexpected error

## Example Request

```
GET
https://1.2.3.4:8443/tasks/0
```

## Example Result

On return code 200

```
{
  "finishTime": "",
  "instance": "/tasks/22",
  "responseUrl": "/tasks/22/response",
  "sourceUrl": "/api/lunasa/hsms/151256/login",
  "startTime": "2015-07-11T07:23:49Z",
  "state": "Running",
  "details": ""
}
```

On return code 303

```
{
  "finishTime": "2015-07-11T07:23:54Z",
  "instance": "/tasks/22",
  "responseUrl": "/tasks/22/response",
  "sourceUrl": "/api/lunasa/hsms/151256/login",
  "startTime": "2015-07-11T07:23:49Z",
  "state": "Finished",
  "details": ""
}
```

### 2.3.4 DELETE /tasks/{taskid}

#### DELETE /tasks/{taskid}

Removes the record of a tasked resource.

## Parameters

### taskid

The identifier of the task of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 204

The task record removed.

JSON Schema: The corresponding list member of [Tasks](#) associated with taskid

### 400

Unexpected error

### 404

Task does not exist.

## Example Request

```
DELETE
https://1.2.3.4:8443/tasks/22
```

## Example Result

```
{
  "finishTime": "2015-07-11T07:23:54Z",
  "instance": "/tasks/22",
  "sourceUrl": "/api/lunasa/hsms/151256/login",
  "startTime": "2015-07-11T07:23:49Z",
  "state": "Finished",
  "details": ""
}
```

## See Also

[GET /tasks](#)

### 2.3.5 GET /tasks/{taskid}/response

#### GET /tasks/{taskid}/response

Gets the tasked resource response and removes a task record with state "Finished"; errors otherwise.

## Parameters

### taskid

The identifier of the task of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 201

Success plus any output from the tasked resource.

JSON Schema: Response output is specific to the resource tasked.

### 204

Success, no output from the tasked resource.

### 404

The tasked resource is "Running"; not in a "Finished" state.

### 400

Unexpected error

## Example Request

```
GET
https://1.2.3.4:8443/tasks/23/response
```

## Example Results

### Task State is "Finished"

```
201
{ "partitionID": "MyPartition" }

204
{
}
```

### Task State is "Running"

```
404
{
}
```

### 2.3.6 GET /tasks/{taskid}/actions

#### GET /tasks/{taskid}/actions

Gets all actions associated with the task.

#### Parameters

##### taskid

The identifier of the task of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

##### 200

The set of all actions associated with the task.

JSON Schema: [Task Actions](#)

##### 400

Unexpected error

##### 404

Task does not exist.

#### Example Request

```
GET
https://1.2.3.4:8443/tasks/15/actions
```

#### Example Result

```
{
  {
    "id": "start",
    "url": "/api/lunasa/hsms/tasks/15/actions/start"
  }
}
```

### 2.3.7 POST /tasks/{taskid}/actions/{actionid}

#### POST /tasks/{taskid}/actions/{actionid}

Performs the specified task action.

## Parameters

### taskid

The identifier of the task of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### actionid

The identifier of the task action to be performed

Use: Required

JSON Schema:

```
Object
type: string
```

[See Task Actions](#)

## Responses

### 202

Success

### Location

JSON Schema:

```
id: Object
type: string
```

"Location" is the URL to the task.

### 400

Unexpected error

### 404

Task does not exist.

## Example Request

```
POST
https://1.2.3.4:8443/tasks/15/actions/start
```

### Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/15', 'Content-Length': 100}
{
}
```

## 2.4 User management

User management resources provide a facility to manage users used to authenticate to the REST API.

- [GET /users](#)
- [GET /users/{userid}](#)
- [GET /users/{userid}/certificates](#)
- [POST /users/{userid}/certificates](#)
- [DELETE /users/{userid}/certificates](#)
- [GET /users/{userid}/certificates/{certificateId}](#)
- [DELETE /users/{userid}/certificates/{certificateId}](#)

### 2.4.1 GET /users

#### GET /users

Get list of REST API users.

#### Parameters

None

#### Responses

200

Success

400

Unexpected error

#### Example Request

```
GET
https://1.2.3.4:8443/users
{ }
```

#### Example Result

```
{"users": [{"url": "/users/admin", "id": "admin"}, {"url": "/users/monitor", "id": "monitor"}]}
```

## 2.4.2 GET /users/{userid}

### GET /users/{userid}

Get information for a specific REST API user.

#### Parameters

None

#### Responses

200

Success

400

Unexpected error

404

User does not exist.

#### Example Request

```
GET
https://1.2.3.4:8443/users/admin
{ }
```

#### Example Result

```
{"fullName": "Administrator", "userId": "admin", "email": ""}
```

## 2.4.3 GET /users/{userid}/certificates

### GET /users/{userid}/certificates

Get list of certificates for a specific REST API user.

#### Parameters

None

#### Responses

200

Success

400

Unexpected error

404

User does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/users/admin/certificates
{ }
```

### Example Result

```
{"certificates": [{"url": "/users/admin/certificates/87d1c75c6b5d27aa375bafb4405e09ecca25963d", "id": "87d1c75c6b5d27aa375bafb4405e09ecca25963d"}]}
```

## 2.4.4 POST /users/{userid}/certificates

### POST /users/{userid}/certificates

Add a login certificate for a REST API user.

#### Parameters

##### certificate

Certificate body.

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

204

Success

##### Location

JSON Schema:

```
id: Object
type: string
```

"Location" is the URL to the new certificate resource.



400

Unexpected error

404

User does not exist.

### Example Request (password)

```
POST
https://1.2.3.4:8443/users/admin/certificate
{"certificate": "-----BEGIN CERTIFICATE-----\nMIIBxDCCAS2gAwIBAgIBAJANBgkqhkiG9w0BAQUFADAAMB4XDTE2MDExODE3MjYw
```

### Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/users/admin/certificate'}
{ }
```

## 2.4.5 DELETE /users/{userid}/certificates

### DELETE /users/{userid}/certificates

Delete all certificate for a given REST API user.

### Parameters

None

### Responses

204

Success

400

Unexpected error

404

User does not exist.

### Example Request (password)

```
DELETE
https://1.2.3.4:8443/users/admin/certificates
{ }
```

### Example Result

```
{  
}
```

### Example Result

```
{}
```

### Example Result

```
{"url": "/errors/en/SERVERPLUGIN_CERT_NOT_FOUND", "message": "No certificate found.", "id": "SERVERPLUGIN_CERT"
```

## 2.4.6 GET /users/{userid}/certificates/{certificateid}

### GET /users/{userid}/certificates/{certificateid}

Get information for a specific user certificate.

#### Parameters

None

#### Responses

200

Success

400

Unexpected error

404

User does not exist.

### Example Request

```
GET  
https://1.2.3.4:8443/users/admin/certificates/87d1c75c6b5d27aa375bafb4405e09ecca25963  
{}
```

### Example Result

```
{"id": "87d1c75c6b5d27aa375bafb4405e09ecca25963d"}
```

## 2.4.7 DELETE /users/{userid}/certificates/{certificateid}

**DELETE /users/{userid}/certificates/{certificateId}**

Delete a specific certificate for a given REST API user.

**Parameters**

None

**Responses**

204

Success

400

Unexpected error

404

User does not exist.

**Example Request (password)**

```
DELETE
https://1.2.3.4:8443/users/admin/certificates/87d1c75c6b5d27aa375bafb4405e09ecca25963d
{}
```

**Example Result**

```
{
}
```

## Chapter 3

# Plug-ins

This version of the REST API supports the following plug-ins:

- [HSMs Plug-in](#)
- [Appliance Plug-in](#)

The HSMs plug-in supports administration and monitoring of the internal hardware security module(s) inside the appliance.

The appliance plug-in supports administration and monitoring of the services running within the SafeNet Network HSM appliance.

### 3.1 HSMs Plug-in

The HSMs plug-in supports the following resources:

- [HSM](#)
- [Partition](#)
- [Partition Policy Templates](#)

#### 3.1.1 HSM

This section lists the resources that are associated with the HSM.

Note: Refer to Partitions under the HSM Plug-in tab for a list of resources associated with a specific partition.

- [GET /api/lunasa/hsms](#)
- [GET /api/lunasa/hsms/{hsmid}](#)
- [PUT /api/lunasa/hsms/{hsmid}](#)
- [GET /api/lunasa/hsms/{hsmid}/actions](#)
- [POST /api/lunasa/hsms/{hsmid}/actions/{actionid}](#)
- [Authentication](#)
- [Capabilities](#)
- [Counter](#)

- [Firmware](#)
- [Indirect](#)
- [Licenses](#)
- [Partitions](#)
- [Peds](#)
- [Policies](#)
- [Roles](#)
- [Storage Space](#)
- [Tamper](#)
- [Updates](#)

### 3.1.1.1 GET /api/lunasa/hsms

#### GET /api/lunasa/hsms

Gets all HSMs associated with the appliance.

#### Parameters

None

#### Responses

200

A list of all HSMs associated with the appliance. Specifically, the list is unique HSM serial numbers. An empty list means that no HSMs are available and might mean that HSM(s) is/are out-of-service.

JSON Schema: [HSMs](#)

400

Unexpected error

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms
```

#### Example Result

```
{
  "hsms": [
    {
      "id": "154704",
      "label": "label for HSM serial #154704",
      "url": "/api/lunasa/hsms/154704"
    },
    {
      "id": "45906",
```

```
        "label": "label for HSM serial #459060",
        "url": "/api/lunasa/hsms/459060"
    }
  ]
}
```

### 3.1.1.2 GET /api/lunasa/hsms/{hsmid}

#### GET /api/lunasa/hsms/{hsmid}

Gets the information associated with a specific HSM.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

##### 200

HSM details

JSON Schema: [HSM](#)

##### 400

Unexpected error

##### 404

HSM does not exist.

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704
```

#### Example Result

```
{
  "loggedIn": "nobody",
  "ped": "/api/lunasa/hsms/151363/ped",
  "manuallyZeroized": false,
  "actions": "/api/lunasa/hsms/151363/actions",
  "rpvInitialized": false,
  "licenses": "/api/lunasa/hsms/151363/licenses",
  "indirect": "/api/lunasa/hsms/151363/indirect",
  "remoteLoginInitialized": false,
```

```

"firmwareVersion": "6.24.0",
"soLoginsLeft": 3,
"certificate": "/api/lunasa/hsms/151363/certificate",
"tamper": "/api/lunasa/hsms/151363/tamper",
"firmware": "/api/lunasa/hsms/151363/firmware",
"state": "initialized",
"capabilities": "/api/lunasa/hsms/151363/capabilities",
"label": "myhsm",
"partitionsAllowed": 20,
"fipsModeEnabled": False,
"auditInitialized": False,
"storageSpace": {
  "total": 16252928,
  "used": 0,
  "free": 16252928
},
"partitionsCreated": 0,
"updates": "/api/lunasa/hsms/151363/updates",
"pedPresent": True,
"authenticationMethod": "ped",
"partitions": "/api/lunasa/hsms/151363/partitions",
"roles": "/api/lunasa/hsms/151363/roles",
"counter": "/api/lunasa/hsms/151363/counter",
"indirectLoginEnabled": False,
"policies": "/api/lunasa/hsms/151363/policies",
"model": "K6 Base",
"isTransportMode": False,
"partNumber": "808-000048-002"
}

```

## See Also

[GET /api/lunasa/hsms/{hsmid}/counter](#)  
[GET /api/lunasa/hsms/{hsmid}/licenses](#)  
[GET /api/lunasa/hsms/{hsmid}/partitions](#)  
[GET /api/lunasa/hsms/{hsmid}/policies](#)  
[GET /api/lunasa/hsms/{hsmid}/roles](#)  
[GET /api/lunasa/hsms/{hsmid}/updates](#)  
[GET /api/lunasa/hsms/{hsmid}/peds](#)  
[GET /api/lunasa/hsms/{hsmid}/counter](#)  
[GET /api/lunasa/hsms/{hsmid}/certificate](#)  
[GET /api/lunasa/hsms/{hsmid}/actions](#)  
[GET /api/lunasa/hsms/{hsmid}/firmware](#)  
[GET /api/lunasa/hsms/{hsmid}/tamper](#)

### 3.1.1.3 PUT /api/lunasa/hsms/{hsmid}

#### PUT /api/lunasa/hsms/{hsmid}

Initializes a specific HSM.

#### Parameters

**hsmid**

The serial number of the HSM of interest

**Use:** Required

**JSON Schema:**

Object

```
type: string
```

**ped**

Indicator of whether HSM is local PED (0) or remote PED (> 0): not applicable for password-based HSMs

Use: Required

JSON Schema:

```
Object  
type: string
```

**password**

The Security Officer password if password-based HSM: not applicable for PED-based HSMs

Use: Required

JSON Schema:

```
Object  
type: string
```

**domain**

The cloning domain if password-based HSM: not applicable for PED-based HSMs

Use: Required

JSON Schema:

```
Object  
type: string
```

**label**

The user-friendly name to identify the HSM

Use: Required

JSON Schema:

```
Object  
type: string
```

**defaultDomain**

Use a default cloning domain if password-based HSM: not applicable for PED-based HSMs

Use: Required

JSON Schema:

```
Object  
type: boolean
```

**Responses**

204

Success



## Location

"Location" is the URL to the HSM instance and is returned in the server response. You can use "Location" to form a GET resource to query the HSM instance.

see [GET /api/lunasa/hsms/{hsmid}](#)

For PED-based HSMs, "Location" is the URL to the task spawned to initialize the HSM.

400

Unexpected error

404

HSM does not exist.

## Example Requests

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/154704
{
  "ped": "1",
  "label": "myPEDHSM",
  "password": "",
  "defaultDomain": false,
  "domain": ""
}
```

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/151256
{
  "ped": "",
  "label": "myPasswordHSM",
  "password": "1q@W3e$R",
  "defaultDomain": false,
  "domain": "myDomain"
}
```

## Example Result

```
{
  password-based HSM:
  {'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/151256'}
  PED-based HSM
  {'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/2', 'Content-Length': ...}
}
```

### 3.1.1.4 GET /api/lunasa/hsms/{hsmid}/actions

#### GET /api/lunasa/hsms/{hsmid}/actions

Gets all actions that an administrator can perform on the HSM.

## Parameters

## hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 200

A list of all actions associated with the HSM. The list includes unique identifiers that can be used to perform the specific action with a POST.

JSON Schema: [HSM Actions](#)

### 400

Unexpected error

### 404

HSM or action does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/117290/actions
```

## Example Result

```
{
  "actions": [
    {
      "id": "zeroize",
      "url": "/api/lunasa/hsms/117290/actions/zeroize"
    },
    {
      "id": "factoryReset",
      "url": "/api/lunasa/hsms/117290/actions/factoryReset"
    },
    {
      "id": "selfTest",
      "url": "/api/lunasa/hsms/117290/actions/selfTest"
    },
    {
      "id": "stmTransport",
      "url": "/api/lunasa/hsms/117290/actions/stmTransport"
    },
    {
      "id": "stmRecover",
      "url": "/api/lunasa/hsms/117290/actions/stmRecover"
    }
  ]
}
```

## See Also

[POST /api/lunasa/hsms/{hsmid}/actions/{actionid}](#)

### 3.1.1.5 POST /api/lunasa/hsms/{hsmid}/actions/{actionid}

#### POST /api/lunasa/hsms/{hsmid}/actions/{actionid}

Sends the specified action to the HSM.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### actionid

The identifier of the action to be performed

Use: Required

JSON Schema:

```
Object
type: string
```

### randomUserString

The random user string returned when running stmTransport. Applies to the stmRecover action.

Use: Not Required

JSON Schema:

```
Object
type: string
```

See [HSM Actions](#)

## Responses

200

Success

## Location

JSON Schema:

```
id: Object
type: string
```

"Location" is the URL to the task spawned to perform the HSM action.

400

Unexpected error

404

HSM or action does not exist.

## Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/actions/factoryReset
{}
```

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/actions/stmRecover
{
  "randomUserString" : "AX46-s63t-KL7G-tYt6"
}
```

## Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Length': 100}
{
}
```

### stmTransport

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Length': 100}
{
  "randomUserString" : "AX46-s63t-KL7G-tYt6",
  "verification" : "AZ90-s64y-AU0G-tYL9"
}
```

### stmRecover

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Length': 100}
{
  "verification" : "AZ90-s64y-AU0G-tYL9"
}
```

### 3.1.1.6 Authentication

The following resources are used for authenticating to the HSM.

- [GET /api/lunasa/hsms/{hsmid}/certificate](#)
- [POST /api/lunasa/hsms/{hsmid}/login](#)
- [POST /api/lunasa/hsms/{hsmid}/logout](#)

#### 3.1.1.6.1 GET /api/lunasa/hsms/{hsmid}/certificate

### GET /api/lunasa/hsms/{hsmid}/certificate

Gets the token wrapping certificate needed for indirect login.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

##### 200

Token wrapping certificate used for indirect login.

JSON Schema:

```
Object
  certificate: Object
    type: string
    description: certificate is the token wrapping certificate used
                 for indirect login.
```

##### 400

Unexpected error

##### 404

HSM does not exist.

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/certificate
```

#### Example Result

```
{
  "certificate": "AwAADCCBAswggHzo...7ltguqfo="
}
```

### 3.1.1.6.2 POST /api/lunasa/hsms/{hsmid}/login

#### POST /api/lunasa/hsms/{hsmid}/login

Logs in to the HSM.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

##### password

The password for authentication if password-based HSM

Use: Required

JSON Schema:

```
Object
type: string
```

##### ped

The identifier of the PED connected to the HSM. '0' is local PED; 1 or greater is remote PED. For remote PED, ped corresponds to the PED identifier. The parameter has no use for password-based HSMs.

Use: Required

JSON Schema:

```
Object
type: string
```

##### role

The security function to login on the HSM

Use: Required

JSON Schema:

```
Object
type: string
```

##### response

The response to provide to the HSM for indirect login

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

Location

"Location" is the URL to the HSM role logged onto and is returned in the server response. You can use "Location" to form a GET resource to query the HSM role.

[see GET /api/lunasa/hsms/{hsmid}/roles/{roleid}](#)

For PED-based HSMs, "Location" is the URL to the task spawned to log into the HSM.

400

Unexpected error

404

HSM does not exist.

## Example Requests

Direct Login

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/login
{"ped": "0", "password": "1q@W3e$R", "role": "so"}
```

Indirect Login

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/151256/login
{"response": "q1pLRuWfzCpyYkji4YguJS1pkvr9ZTq/NB5ymFPnLxc="}
```

## Example Result

password-based HSM:

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/roles/so'}
```

PED-based HSM

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/2', 'Content-Length': 100}
```

```
{}
```

### 3.1.1.6.3 POST /api/lunasa/hsms/{hsmid}/logout

#### POST /api/lunasa/hsms/{hsmid}/logout

Logs out of the HSM.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 204

Success

### Location

"Location" is the URL to the HSM logged out and is returned in the server response. You can use "Location" to form a GET resource to query the HSM status.

see [GET /api/lunasa/hsms/{hsmid}](#)

For PED-based HSMs, "Location" is the URL to the task spawned to log out the HSM.

### 400

Unexpected error

### 404

HSM does not exist.

## Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/logout
{ }
```

## Example Result

password-based HSM:

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704'}
```

PED-based HSM

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/2', 'Content-Length': 100}
```

```
{ }
```

### 3.1.1.7 Capabilities

Capabilities resources allow the user to retrieve information regarding the capabilities of the HSM.



- [GET /api/lunasa/hsms/{hsmid}/capabilities](#)
- [GET /api/lunasa/hsms/{hsmid}/capabilities/{capabilityid}](#)

### 3.1.1.7.1 GET /api/lunasa/hsms/{hsmid}/capabilities

#### GET /api/lunasa/hsms/{hsmid}/capabilities

Gets all capabilities associated with the HSM.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

##### 200

A list of all capabilities associated with the appliance. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: [HSM Capabilities](#)

##### 400

Unexpected error

##### 404

HSM does not exist.

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/capabilities
```

#### Example Result

```
{
  "capabilities": [
    {
      "id": "0",
      "name": "Enable PIN-based authentication",
      "url": "/api/lunasa/hsms/117290/capabilities/0"
    },
    {
      "id": "1",
      "name": "Enable PED-based authentication",
      "url": "/api/lunasa/hsms/117290/capabilities/1"
    }
  ]
}
```

```
},
{
  "id": "2",
  "name": "Performance level",
  "url": "/api/lunasa/hsms/117290/capabilities/2"
},
{
  "id": "4",
  "name": "Enable domestic mechanisms & key sizes",
  "url": "/api/lunasa/hsms/117290/capabilities/4"
},
{
  "id": "6",
  "name": "Enable masking",
  "url": "/api/lunasa/hsms/117290/capabilities/6"
},
{
  "id": "7",
  "name": "Enable cloning",
  "url": "/api/lunasa/hsms/117290/capabilities/7"
},
{
  "id": "8",
  "name": "Enable special cloning certificate",
  "url": "/api/lunasa/hsms/117290/capabilities/8"
},
{
  "id": "9",
  "name": "Enable full (non-backup) functionality",
  "url": "/api/lunasa/hsms/117290/capabilities/9"
},
{
  "id": "12",
  "name": "Enable non-FIPS algorithms",
  "url": "/api/lunasa/hsms/117290/capabilities/12"
},
{
  "id": "15",
  "name": "Enable SO reset of partition PIN",
  "url": "/api/lunasa/hsms/117290/capabilities/15"
},
{
  "id": "16",
  "name": "Enable network replication",
  "url": "/api/lunasa/hsms/117290/capabilities/16"
},
{
  "id": "17",
  "name": "Enable Korean Algorithms",
  "url": "/api/lunasa/hsms/117290/capabilities/17"
},
{
  "id": "18",
  "name": "FIPS evaluated",
  "url": "/api/lunasa/hsms/117290/capabilities/18"
},
{
  "id": "19",
  "name": "Manufacturing Token",
  "url": "/api/lunasa/hsms/117290/capabilities/19"
},
{
  "id": "20",
  "name": "Enable Remote Authentication",
  "url": "/api/lunasa/hsms/117290/capabilities/20"
},
{
  "id": "21",
  "name": "Enable forcing user PIN change",
  "url": "/api/lunasa/hsms/117290/capabilities/21"
},
{
  "id": "22",
```

```
    "name": "Enable offboard storage",
    "url": "/api/lunasa/hsms/117290/capabilities/22"
  },
  {
    "id": "23",
    "name": "Enable partition groups",
    "url": "/api/lunasa/hsms/117290/capabilities/23"
  },
  {
    "id": "25",
    "name": "Enable remote PED usage",
    "url": "/api/lunasa/hsms/117290/capabilities/25"
  },
  {
    "id": "26",
    "name": "Enable External Storage of MTK Split",
    "url": "/api/lunasa/hsms/117290/capabilities/26"
  },
  {
    "id": "27",
    "name": "HSM non-volatile storage space",
    "url": "/api/lunasa/hsms/117290/capabilities/27"
  },
  {
    "id": "29",
    "name": "Enable Acceleration",
    "url": "/api/lunasa/hsms/117290/capabilities/29"
  },
  {
    "id": "30",
    "name": "Enable unmasking",
    "url": "/api/lunasa/hsms/117290/capabilities/30"
  },
  {
    "id": "31",
    "name": "Enable FW5 compatibility mode",
    "url": "/api/lunasa/hsms/117290/capabilities/31"
  },
  {
    "id": "33",
    "name": "Maximum number of partitions",
    "url": "/api/lunasa/hsms/117290/capabilities/33"
  },
  {
    "id": "34",
    "name": "Enable ECIES support",
    "url": "/api/lunasa/hsms/117290/capabilities/34"
  },
  {
    "id": "35",
    "name": "Enable Single Domain",
    "url": "/api/lunasa/hsms/117290/capabilities/35"
  },
  {
    "id": "36",
    "name": "Enable Unified PED Key",
    "url": "/api/lunasa/hsms/117290/capabilities/36"
  },
  {
    "id": "37",
    "name": "Enable MofN",
    "url": "/api/lunasa/hsms/117290/capabilities/37"
  },
  {
    "id": "38",
    "name": "Enable small form factor backup/restore",
    "url": "/api/lunasa/hsms/117290/capabilities/38"
  },
  {
    "id": "39",
    "name": "Enable Secure Trusted Channel",
    "url": "/api/lunasa/hsms/117290/capabilities/39"
  },
  },
```

```
{
  {
    "id": "40",
    "name": "Enable decommission on tamper",
    "url": "/api/lunasa/hsms/117290/capabilities/40"
  },
  {
    "id": "41",
    "name": "Enable Per-Partition SO",
    "url": "/api/lunasa/hsms/117290/capabilities/41"
  },
  {
    "id": "42",
    "name": "Enable partition re-initialize",
    "url": "/api/lunasa/hsms/117290/capabilities/42"
  }
]
}
```

## See Also

[GET /api/lunasa/hsms/{hsmid}/capabilities/{capabilityid}](#)

### 3.1.1.7.2 GET /api/lunasa/hsms/{hsmid}/capabilities/{capabilityid}

**GET /api/lunasa/hsms/{hsmid}/capabilities/{capabilityid}**

Gets the information associated with a specific capability.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### capabilityid

The identifier of the capability of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

200

capability details

JSON Schema: [HSM Capability description](#)

400

Unexpected error

404

HSM or capability does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/capabilities/12
```

### Example Result

```
{
  "value": "allowed",
  "description": "Enable non-FIPS algorithms",
  "id": "12"
}
```

#### 3.1.1.8 Counter

Counter resources allow the user to query/clear performance information.

- [GET /api/lunasa/hsms/{hsmid}/counter](#)
- [GET /api/lunasa/hsms/{hsmid}/counter/actions](#)
- [POST /api/lunasa/hsms/{hsmid}/counter/actions/{actionid}](#)

##### 3.1.1.8.1 GET /api/lunasa/hsms/{hsmid}/counter

### GET /api/lunasa/hsms/{hsmid}/counter

Gets all counter information associated with the HSM.

### Parameters

**hsmid**

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### Responses

200

The set of all counters associated with the appliance.

JSON Schema: [Counter](#)

400

Unexpected error

404

HSM does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/counter
```

### Example Result

```
{
  "criticalEvents": 0,
  "cryptoOperationErrors": 0,
  "cryptoOperationRequests": 73,
  "actions": "/api/lunasa/hsms/154704/counter/actions",
  "nonCriticalEvents": 1589,
  "operationErrors": 0,
  "operationRequests": 3591,
  "uptime": 36571.3412,
  "idletime": 30457.9871,
  "commands": 24712
}
```

### See Also

[GET /api/lunasa/hsms/{hsmid}/counter/actions](#)

#### 3.1.1.8.2 GET /api/lunasa/hsms/{hsmid}/counter/actions

### GET /api/lunasa/hsms/{hsmid}/counter/actions

Gets all actions that an administrator can perform on the counter of the HSM.

### Parameters

**hsmid**

The serial number of the HSM of interest

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

### Responses

200

A list of all actions associated with the counter of the HSM. The list includes unique identifiers that can be used to perform the specific action with a POST.

JSON Schema: [HSM Counter Actions](#)

400

Unexpected error

404

HSM does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/117290/counter/actions
```

### Example Result

```
{
  "actions": [
    {
      "id": "clear",
      "url": "/api/lunasa/hsms/117290/counter/actions/clear"
    },
  ]
}
```

### See Also

[POST /api/lunasa/hsms/{hsmid}/actions/{actionid}](#)

3.1.1.8.3 [POST /api/lunasa/hsms/{hsmid}/counter/actions/{actionid}](#)

[POST /api/lunasa/hsms/{hsmid}/counter/actions/{actionid}](#)

**clear:** Clears a subset of counter values. See [HSM Counter Actions](#) for a list of counters that are affected by this action.

### Parameters

hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### Responses

204

No Content

400

Unexpected error

404

HSM or action does not exist.

### Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/counter/actions/clear
```

### Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Length': 100}
{
}
```

#### 3.1.1.9 Firmware

Firmware resources allow for modifying the firmware version via the upgrade and rollback actions.

- [GET /api/lunasa/hsms/{hsmid}/firmware](#)
- [GET /api/lunasa/hsms/{hsmid}/firmware/actions](#)
- [POST /api/lunasa/hsms/{hsmid}/firmware/actions/{actionid}](#)

##### 3.1.1.9.1 GET /api/lunasa/hsms/{hsmid}/firmware

### GET /api/lunasa/hsms/{hsmid}/firmware

Gets firmware version genealogy for the HSM.

### Parameters

**hsmid**

The serial number of the HSM of interest

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

### Responses

200

The set of all firmware versions in the genealogy of the HSM.

**JSON Schema:** [Firmware](#)



400

Unexpected error

404

HSM does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/firmware
```

### Example Result

```
{
  "current": "6.10.7",
  "rollback": "6.2.1",
  "upgrade": "6.21.2",
  "actions": "/api/lunasa/hsms/154704/firmware/actions"
}
```

#### 3.1.1.9.2 GET /api/lunasa/hsms/{hsmid}/firmware/actions

### GET /api/lunasa/hsms/{hsmid}/firmware/actions

Gets all firmware-related actions associated with the HSM.

### Parameters

**hsmid**

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### Responses

200

The set of all firmware actions associated with the HSM.

JSON Schema: [Firmware Actions](#)

400

Unexpected error

404

HSM does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/firmware/actions
```

## Example Result

```
{
  "actions": [
    {
      "id": "upgrade",
      "url": "/api/lunasa/hsms/117290/firmware/actions/upgrade"
    },
    {
      "id": "rollback",
      "url": "/api/lunasa/hsms/117290/firmware/actions/rollback"
    }
  ]
}
```

### 3.1.1.9.3 POST /api/lunasa/hsms/{hsmid}/firmware/actions/{actionid}

#### POST /api/lunasa/hsms/{hsmid}/firmware/actions/{actionid}

Sends the specified firmware action to the HSM.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### actionid

The identifier of the firmware action to be performed

Use: Required

JSON Schema:

```
Object
type: string
```

[See Firmware Actions](#)

## Responses

204

Success

## Location

JSON Schema:

```

id: Object
  type: string

```

"Location" is the URL to the task spawned to perform the firmware action.

400

Unexpected error

404

HSM or action does not exist.

## Example Request

```

POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/firmware/actions/upgrade

```

## Example Result

```

{ 'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Length': 100 }

```

### 3.1.1.10 Indirect

The following resources enable an HSM indirect login to be performed.

- [GET /api/lunasa/hsms/{hsmid}/indirect/challenges/{challengeid}](#)
- [POST /api/lunasa/hsms/{hsmid}/indirect/challenges](#)
- [GET /api/lunasa/hsms/{hsmid}/indirect/key](#)
- [POST /api/lunasa/hsms/{hsmid}/indirect/key](#)
- [DELETE /api/lunasa/hsms/{hsmid}/indirect/key](#)
- [GET /api/lunasa/hsms/{hsmid}/indirect/responses/{responseid}](#)
- [POST /api/lunasa/hsms/{hsmid}/indirect/responses](#)

#### 3.1.1.10.1 GET /api/lunasa/hsms/{hsmid}/indirect/challenges/{challengeid}

#### GET /api/lunasa/hsms/{hsmid}/indirect/challenges/{challengeid}

Gets from the administration partition of the admin HSM the challenge necessary for indirect login by a service HSM.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### challengeid

The identifier of the challenge of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 201

A challenge needed to authenticate to the service HSM for indirect login.

JSON Schema:

```
type: string
description: challenge is the authentication data to be provided to obtain the response
needed for indirect login.
```

### 400

Unexpected error

### 404

HSM or challenge does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/indirect/challenges/1
```

## Example Result

```
{
  "challenge": "AAEAAH84Pr7nvSvccf0BXZ0/bcus/ANbeT6jXmY45/yI3GbcOUe5pFC3fGpEYa/129ii7+Xkkz9Gh/fNx6wr2m2uRm0"
}
```

### 3.1.1.10.2 POST /api/lunasa/hsms/{hsmid}/indirect/challenges

#### POST /api/lunasa/hsms/{hsmid}/indirect/challenges

Gets the indirect login challenge from the administration partition of the admin HSM.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

##### ped

The identifier of the PED used to authenticate to the HSM

Use: Required

JSON Schema:

```
Object
type: string
```

##### role

The identifier of the role needed to authenticate to the HSM

Use: Required

JSON Schema:

```
Object
type: string
```

[see HSM Roles](#)

##### certificate

The certificate needed to secure wrap data off and onto HSMs

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

##### 201

A challenge needed by the service HSM to authenticate for indirect login.

JSON Schema:

```
type: string
description: challenge is the authentication data to be provided to obtain the response
needed for indirect login.
```

### Location

"Location" is the URL to the challenge and is returned in the server response. You can use "Location" to form a GET resource to obtain the challenge.

see [GET /api/lunasa/hsms/{hsmid}/indirect/challenges/{challengeid}](#)

400

Unexpected error

404

HSM does not exist.

### Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/indirect/challenges
{"ped": "1",
 "role": "so",
 "certificate": "AwAADCCBA...R7ltguqfo="}
```

### Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/151256/'}
{
  "challenge": "AAEAAOer3y90rahjhG2OybC2srtUfhz4YY/WhVyhbDj6f47mIfgJe90sLR+te4uk8XU3vj/rTWwJSIAEnIo5QycW7sjx"
}
```

#### 3.1.1.10.3 GET /api/lunasa/hsms/{hsmid}/indirect/key

### GET /api/lunasa/hsms/{hsmid}/indirect/key

Gets indirect login public key stored in the administration partition of the admin HSM.

### Parameters

hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

200

The public key used for indirect login.

JSON Schema: [Indirect Key](#)

400

Unexpected error

404

HSM does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/indirect/key
```

## Example Result

```
{
  "exponent": "AQAB",
  "modulus": "1QgJJEQuDhjYFyV5KB7s/19DTPik0y5mcTAXKJ/anP2vCLNhymZ+wQx9pUUtYaTmskWXbIvxR36/CoI2Qd2/AW2BZDxUwE"
}
```

### 3.1.1.10.4 POST /api/lunasa/hsms/{hsmid}/indirect/key

#### POST /api/lunasa/hsms/{hsmid}/indirect/key

Loads the indirect login public key onto the service HSM in the administration partition.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### modulus

The modulus of the public key used for indirect login

Use: Required

JSON Schema:

```
Object
type: string
```

### exponent

The exponent of the public key used for indirect login

Use: Required

JSON Schema:

```
Object
type: string
```

### Responses

204

Success

Location

JSON Schema:

```
id: Object
type: string
```

[see POST /api/lunasa/hsms/{hsmid}/indirect/challenges](#)

400

Unexpected error

404

HSM does not exist.

### Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/indirect/key
{"modulus": "1QgJJEQuDhjYFyV5KB7s/19DTPik0y5mcTAXKJ/anP2vCLNhymZ+wQx9pUUtYaTmskWXbIvxR36/CoI2Qd2/AW2BZDxUwE",
"exponent": "AQAB"}
```

### Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/indirect/key'}
{
}
```

#### 3.1.1.10.5 DELETE /api/lunasa/hsms/{hsmid}/indirect/key

### DELETE /api/lunasa/hsms/{hsmid}/indirect/key

Revokes the indirect login public key from the administration partition of the service HSM.



## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 200

Success

### 400

Unexpected error

### 404

HSM does not exist.

## Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/indirect/key
{}
```

## Example Result

```
{
}
```

**3.1.1.10.6 GET /api/lunasa/hsms/{hsmid}/indirect/responses/{responseid}**

**GET /api/lunasa/hsms/{hsmid}/indirect/responses/{responseid}**

Gets from the administration partition of the admin HSM the response necessary for indirect login.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

**responseid**

The identifier of the response of interest

Use: Required

JSON Schema:

```
Object
type: string
```

**Responses****201**

The response to provide to the service HSM for indirect login.

JSON Schema:

```
type: string
description: response is the authentication data to be provided for indirect login
to the service HSM.
```

**400**

Unexpected error

**Example Request**

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/700088/indirect/responses/1
```

**Example Result**

```
{
  "response": "q1pLRuWfzCpyYkji4YguJS1pkvr9ZTq/NB5ymFPnLxc="
}
```

**3.1.1.10.7 POST /api/lunasa/hsms/{hsmid}/indirect/responses****POST /api/lunasa/hsms/{hsmid}/indirect/responses**

Gets the indirect login response needed for the service HSM from the administration partition on the admin HSM.

**Parameters****hsmid**

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## challenge

The challenge needed to authenticate to the service HSM

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 201

The response to provide to the service HSM for indirect login.

JSON Schema:

```
type: string
description: response is the authentication data to be provided for indirect login
to the service HSM.
```

## Location

"Location" is the URL to the response and is returned in the server response. You can use "Location" to form a GET resource to obtain the response.

[see GET /api/lunasa/hsms/{hsmid}/indirect/responses/{responseid}](#)

### 400

Unexpected error

## Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/700088/indirect/responses
{"challenge": "AAEAAOer3y90rahjhG2OybC2srtUfhz4YY/WhVyhbDj6f47mIfgJe90sLR+te4uk8XU3vj/rTWwJSIAEnIo5QycW7s
```

## Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/700088/indirect/responses/{responseid}'
{
  "response": "qlpLRuWfzCpyYkji4YguJSlpkvr9ZTq/NB5ymFPnLxc="
}
```

### 3.1.1.11 Licenses

Licenses resources allow the user to retrieve information regarding the licenses associated with the HSM.

- [GET /api/lunasa/hsms/{hsmid}/licenses](#)
- [GET /api/lunasa/hsms/{hsmid}/licenses/{licenseid}](#)

#### 3.1.1.11.1 GET /api/lunasa/hsms/{hsmid}/licenses

### GET /api/lunasa/hsms/{hsmid}/licenses

Gets all licenses associated with the HSM.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

##### 200

A list of all licenses associated with the appliance. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: [Licenses](#)

##### 400

Unexpected error

##### 404

HSM does not exist.

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/licenses
```

#### Example Result

```
{
  "licenses": [
    {
      "url": "/api/lunasa/hsms/150607/licenses/621000026-000",
      "id": "621000026-000",
      "name": "K6 base configuration"
    },
    {
      "url": "/api/lunasa/hsms/150607/licenses/620127-000",
      "id": "620127-000",
      "name": "Elliptic curve cryptography"
    },
    {
      "url": "/api/lunasa/hsms/150607/licenses/620114-001",
      "id": "620114-001",

```

```

    "name": "Key backup via cloning protocol"
  },
  {
    "url": "/api/lunasa/hsms/150607/licenses/621000021-001",
    "id": "621000021-001",
    "name": "Performance level 15"
  },
  {
    "url": "/api/lunasa/hsms/150607/licenses/620124-000",
    "id": "620124-000",
    "name": "Maximum 20 partitions"
  },
  {
    "url": "/api/lunasa/hsms/150607/licenses/621010089-001",
    "id": "621010089-001",
    "name": "Enable remote PED capability"
  },
  {
    "url": "/api/lunasa/hsms/150607/licenses/621000099-001",
    "id": "621000099-001",
    "name": "Enable per-partition Security Officer"
  },
  {
    "url": "/api/lunasa/hsms/150607/licenses/621000079-001",
    "id": "621000079-001",
    "name": "Enable Small Form Factor Backup (destructive)"
  }
]
}

```

## See Also

[GET /api/lunasa/hsms/{hsmid}/licenses/{licenseid}](#)

### 3.1.1.11.2 GET /api/lunasa/hsms/{hsmid}/licenses/{licenseid}

**GET /api/lunasa/hsms/{hsmid}/licenses/{licenseid}**

Gets the information associated with a specific license.

## Parameters

### hsmid

The serial number of the HSM of interest

**Use:** Required

**JSON Schema:**

```

Object
type: string

```

### licenseid

The identifier of the license of interest

**Use:** Required

**JSON Schema:**

```

Object
type: string

```

## Responses

200

License details

JSON Schema: [License description](#)

400

Unexpected error

404

HSM or license does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/licenses/4
```

## Example Result

```
{
  "id": "620124-000",
  "description": "Maximum 20 partitions"
}
```

### 3.1.1.12 Partitions

Partitions resources allow for access to all partitions on the HSM.

NOTE: Resources related to a specific HSM partition are listed under [HSMs Plug-in Partition](#).

- [GET /api/lunasa/hsms/{hsmid}/partitions](#)
- [POST /api/lunasa/hsms/{hsmid}/partitions](#)
- [DELETE /api/lunasa/hsms/{hsmid}/partitions](#)

#### 3.1.1.12.1 GET /api/lunasa/hsms/{hsmid}/partitions

### GET /api/lunasa/hsms/{hsmid}/partitions

Gets all partitions associated with the HSM.

## Parameters

hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

200

A list of all partitions associated with the appliance. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: [Partitions](#)

400

Unexpected error

404

HSM does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions
```

## Example Result

```
{
  "partitions": [
    {
      "id": "273087011269",
      "label": "ABC125",
      "url": "/api/lunasa/hsms/117290/partitions/273087011269"
    },
    {
      "id": "273087011268",
      "label": "ABC124",
      "url": "/api/lunasa/hsms/117290/partitions/273087011268"
    },
    {
      "id": "273087011267",
      "label": "ABC123",
      "url": "/api/lunasa/hsms/117290/partitions/273087011267"
    }
  ]
}
```

## See Also

[GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}](#)

3.1.1.12.2 **POST /api/lunasa/hsms/{hsmid}/partitions**

**POST /api/lunasa/hsms/{hsmid}/partitions**

Creates a partition.

## Parameters

**hsmid**

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

**defaultDomain**

Indicates whether to create the partition with a default domain. Note that if you set this flag to true the domain parameter is ignored. Either the defaultDomain parameter or the domain parameter is required when creating a legacy partition.

Use: Not Required

JSON Schema:

```
Object
type: boolean
  false = do not use a default domain
  true = use a default domain
```

**defaultChallenge**

Indicates whether to create the partition with a default challenge.

Use: Not Required

JSON Schema:

```
Object
type: boolean
  false = do not use a default challenge
  true = use a default challenge
```

**name**

A user-friendly text string to reference the partition after it is created

Use: Required

JSON Schema:

```
Object
type: string
```

**allStorageSpace**

Indicates whether to create the partition with all available storage space assigned to it. Note that if you set this flag to true the size parameter is ignored. Either the allStorageSpace parameter or the size parameter is required when creating a legacy partition.

Use: Not Required

JSON Schema:

```
Object
type: boolean
  false = do not use all available storage space
  true = assign all remaining, available storage space to the partition
```



**label**

A user-friendly text string to reference the partition after it is created The label parameter is required when creating a legacy partition.

Use: Not Required

JSON Schema:

```
Object
type: string
```

**domain**

The cloning domain name associated with password-based partitions (not applicable for PED-based partitions). For PED-based partitions, you must provide the "domain" parameter with the POST: use "" in this case. Either the defaultDomain parameter or the domain parameter is required when creating a legacy partition.

Use: Not Required

JSON Schema:

```
Object
type: string
```

**hasPso**

Indicates whether to create the partition with a Security Officer

Use: Required

JSON Schema:

```
Object
type: boolean
  false = do not create the partition with a Security Officer
  true = create the partition with a Security Officer
```

**password**

The password for password-based partitions (not applicable for PED-based partitions) The password parameter is required when creating a legacy partition.

Use: Not Required

JSON Schema:

```
Object
type: string
```

**size**

The number of bytes of storage space to assign to the partition if allStorageSpace is false Either the allStorageSpace parameter or the size parameter is required when creating a legacy partition.

Use: Not Required

JSON Schema:

```
Object
type: integer
```

### policyTemplate

The url to the partition policy template to include upon partition creation. This feature is not supported on SA7.

Use: Not Required

JSON Schema:

```
Object
type: string
```

### Responses

204

Partition details

JSON Schema: [Partition description](#)

### Location

"Location" is the URL to the partition and is returned in the server response. You can use "Location" to form a GET resource to obtain the partition.

[see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}](#)

For PED-based partitions, "Location" is the URL to the task spawned to create the partition.

400

Unexpected error

404

HSM does not exist.

### Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions
{
  "defaultDomain": true,
  "defaultChallenge": true,
  "name": "123",
  "allStorageSpace": false,
  "label": "123",
  "domain": "",
  "hasPso": false,
  "password": "",
  "size": 20480,
  "policyTemplate": "/api/lunasa/partitionPolicyTemplates/myTemplateName"
}
```

### Example Result

Password-based partition:

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/151256/
```

PED-based partition:

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Length': 1000}
{
}
```

[GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}](#)

### 3.1.1.12.3 DELETE /api/lunasa/hsms/{hsmid}/partitions

#### DELETE /api/lunasa/hsms/{hsmid}/partitions

Removes all partitions from the HSM.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

204

Success

400

Unexpected error

404

HSM does not exist.

#### Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions
```

#### Example Result

```
{
}
```

### 3.1.1.13 Peds

The following resources allow the user to handle PIN-entry devices (PEDs) associated with the HSM.

- [GET /api/lunasa/hsms/{hsmid}/ped](#)
- [GET /api/lunasa/hsms/{hsmid}/ped/peds](#)
- [GET /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}](#)
- [PUT /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}](#)
- [PATCH /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}](#)
- [GET /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}/actions](#)
- [POST /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}/actions/{actionid}](#)
- [GET /api/lunasa/hsms/{hsmid}/ped/servers](#)
- [DELETE /api/lunasa/hsms/{hsmid}/ped/servers](#)
- [GET /api/lunasa/hsms/{hsmid}/ped/servers/{serverid}](#)
- [DELETE /api/lunasa/hsms/{hsmid}/ped/servers/{serverid}](#)

#### 3.1.1.13.1 GET /api/lunasa/hsms/{hsmid}/ped

### GET /api/lunasa/hsms/{hsmid}/ped

Gets all HSM PED resources.

#### Parameters

hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object  
type: string
```

#### Responses

200

The HSM PED resources

JSON Schema: [PED](#)

400

Unexpected error

404

HSM does not exist.

#### Example Request

```
GET  
https://1.2.3.4:8443/api/lunasa/hsms/151256/ped
```

## Example Result

```
{
  "peds": "/api/lunasa/hsms/151256/ped/peds"
  "servers": "/api/lunasa/hsms/151256/ped/servers"
}
```

## See Also

[GET /api/lunasa/hsms/{hsmid}/ped/peds](#)

[GET /api/lunasa/hsms/{hsmid}/ped/servers](#)

### 3.1.1.13.2 GET /api/lunasa/hsms/{hsmid}/ped/peds

## GET /api/lunasa/hsms/{hsmid}/ped/peds

Gets all PIN-entry devices associated with the HSM.

## Parameters

**hsmid**

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

200

A list of all PEDs associated with the appliance. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: [PEDs](#)

400

Unexpected error

404

HSM does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/151256/ped/peds
```

## Example Result

```
{
  "peds": [
    {
      "id": "0",
      "url": "/api/lunasa/hsms/151256/ped/peds/0"
    },
    {
      "id": "1",
      "url": "/api/lunasa/hsms/151256/ped/peds/1"
    }
  ]
}
```

## See Also

GET /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}

### 3.1.1.13.3 GET /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}

GET /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}

Gets the information associated with a specific PED.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### pedid

The identifier of the PED of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

200

PED information

JSON Schema: [PED description](#)

400

Unexpected error

404

HSM or PED does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/ped/peds/0
```

### Example Result

Local PED:

```
{
  "pedId": 0,
  "ipAddress": null,
  "port": 0,
  "isConnected": true,
  "server": null,
  "actions": "/api/lunasa/hsms/154704/ped/peds/0/actions"
}
```

Remote PED:

```
{
  "pedId": 3,
  "ipAddress": "1.2.3.8",
  "port": 1503,
  "isConnected": true,
  "server": null,
  "actions": "/api/lunasa/hsms/154704/ped/peds/3/actions"
}
```

Password-based HSM:

```
{}
```

**3.1.1.13.4 PUT /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}**

**PUT /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}**

Selects a registered PED server

### Parameters

**hsmid**

The serial number of the HSM of interest

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

**pedid**

The identifier of the PED of interest

Use: Required

JSON Schema:

```
Object
type: string
```

**server**

The location of the PED server to select

Use: Required

JSON Schema:

```
Object
type: string
```

**Responses**

204

Success

**Location**

JSON Schema:

```
id: Object
type: string
```

"Location" is the URL to the task spawned to perform the action on the HSM PED.

400

Unexpected error

**Example Request**

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/154704/ped/peds/1
{
  "server": "/api/lunasa/hsms/154704/ped/servers/TestPedServer"
}
```

**Example Result**

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/tasks/2'}
{
}
```



3.1.1.13.5 PATCH /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}

**PATCH /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}**

Selects a registered PED server

### Parameters

#### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### pedid

The identifier of the PED of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### server

The location of the PED server to select

Use: Not Required

JSON Schema:

```
Object
type: string
```

### Responses

204

Success

#### Location

JSON Schema:

```
id: Object
type: string
```

"Location" is the URL to the task spawned to perform the action on the HSM PED.

400

Unexpected error

### Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/154704/ped/peds/1
{
  "server": "/api/lunasa/hsms/154704/ped/servers/TestPedServer"
}
```

### Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/tasks/2'}
{
}
```

#### 3.1.1.13.6 GET /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}/actions

#### GET /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}/actions

Gets a list of actions permitted on a PED.

### Parameters

#### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### pedid

The identifier of the PED of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### Responses

#### 200

The set of all actions that can be performed on a PED.

See [PED Actions](#)

#### 400

Unexpected error

404

HSM or PED does not exist.

### Example Requests

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/151256/ped/peds/0/actions
```

### Example Result

```
{
  "actions": [
    {
      "id": "connect",
      "url": "/api/lunasa/hsms/151256/ped/peds/0/actions/connect"
    },
    {
      "id": "disconnect",
      "url": "/api/lunasa/hsms/151256/ped/peds/0/actions/disconnect"
    },
    {
      "id": "vectorInitialize",
      "url": "/api/lunasa/hsms/151256/ped/peds/0/actions/vectorInitialize"
    },
    {
      "id": "vectorErase",
      "url": "/api/lunasa/hsms/151256/ped/peds/0/actions/vectorErase"
    }
  ]
}
```

#### 3.1.1.13.7 POST /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}/actions/{actionid}

#### POST /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}/actions/{actionid}

Performs the action on the PED.

### Parameters

#### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### pedid

The identifier of the PED of interest

Use: Required

JSON Schema:

```
Object
type: string
```

**actionid**

The identifier of the PED action to be performed

Use: Required

JSON Schema:

```
Object
type: string
```

See [PED Actions](#)

**ipAddress**

Applies for the "connect" action. Specifies the location of the PED server.

Use: Required

JSON Schema:

```
Object
type: string
```

**ipPort**

Applies for the "connect" action. Specifies the port for the PED server (80-65535).

Use: Required

JSON Schema:

```
Object
type: integer
```

**Responses**

**204**

Success

**Location**

JSON Schema:

```
id: Object
type: string
```

"Location" is the URL to the task spawned to perform the action on the PED.

**400**

Unexpected error

**404**

HSM, PED or action does not exist.

## Example Requests

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/ped/peds/0/actions/vectorInitialize
{ }
```

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/ped/peds/0/actions/connect
{ "ipAddress" : "1.2.3.70", "ipPort" : 1503 }
```

## Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/tasks/3
{
}
```

### 3.1.1.13.8 GET /api/lunasa/hsms/{hsmid}/ped/servers

#### GET /api/lunasa/hsms/{hsmid}/ped/servers

Gets all PED servers associated with the HSM.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

##### 200

A list of all PED servers associated with the HSM. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: [PED Servers](#)

##### 400

Unexpected error

##### 404

HSM does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/151256/ped/servers
```

## Example Result

```
{
  "servers": [
    {
      "id": "TestPedServer",
      "url": "/api/lunasa/hsms/151256/ped/servers/TestPedServer"
    },
    {
      "id": "TestPedServer2",
      "url": "/api/lunasa/hsms/151256/ped/servers/TestPedServer2"
    }
  ]
}
```

## See Also

[GET /api/lunasa/hsms/{hsmid}/ped/servers/{serverid}](#)

### 3.1.1.13.9 DELETE /api/lunasa/hsms/{hsmid}/ped/servers

#### DELETE /api/lunasa/hsms/{hsmid}/ped/servers

Removes all registered PED servers.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

400

Unexpected error

404

HSM does not exist.

## Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/ped/servers
```

## Example Result

```
{  
}
```

3.1.1.13.10 GET /api/lunasa/hsms/{hsmid}/ped/servers/{serverid}

**GET /api/lunasa/hsms/{hsmid}/ped/servers/{serverid}**

Gets the information associated with a specific registered PED server.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object  
type: string
```

### serverid

The identifier of the PED server of interest

Use: Required

JSON Schema:

```
Object  
type: string
```

## Responses

200

PED server details

JSON Schema: [PED Server](#)

400

Unexpected error

404

HSM or server does not exist.

## Example Request

```
GET  
https://1.2.3.4:8443/api/lunasa/hsms/154704/ped/servers/TestPedServer
```

## Example Result

```
{
  "commonName": "TestPedServer"
}
```

### 3.1.1.13.11 DELETE /api/lunasa/hsms/{hsmid}/ped/servers/{serverid}

#### DELETE /api/lunasa/hsms/{hsmid}/ped/servers/{serverid}

Removes a specific registered PED server.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### serverid

The identifier of the PED server of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

400

Unexpected error

404

HSM or server does not exist.

## Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/ped/server/TestPedServer
```



## Example Result

```
{  
}
```

## See Also

[GET /api/lunasa/hsms/{hsmid}/ped/server/{serverid}](#)

### 3.1.1.14 Policies

Policies resources allow the user to modify the capabilities of the HSM.

- [GET /api/lunasa/hsms/{hsmid}/policies](#)
- [GET /api/lunasa/hsms/{hsmid}/policies/{policyid}](#)
- [PUT /api/lunasa/hsms/{hsmid}/policies/{policyid}](#)
- [PATCH /api/lunasa/hsms/{hsmid}/policies/{policyid}](#)

#### 3.1.1.14.1 GET /api/lunasa/hsms/{hsmid}/policies

### GET /api/lunasa/hsms/{hsmid}/policies

Gets all policies associated with the HSM.

## Parameters

**hsmid**

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object  
type: string
```

## Responses

200

A list of all policies associated with the HSM. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: [HSM Policies](#)

400

Unexpected error

404

HSM does not exist.

## Example Request

```
GET
https://1.2.3.4:8443//api/lunasa/hsms/117290/policies
```

## Example Result

```
{
  "policies": [
    {
      "id": "0",
      "name": "PIN-based authentication",
      "url": "/api/lunasa/hsms/117290/policies/0"
    },
    {
      "id": "1",
      "name": "PED-based authentication",
      "url": "/api/lunasa/hsms/117290/policies/1"
    },
    {
      "id": "6",
      "name": "Allow masking",
      "url": "/api/lunasa/hsms/117290/policies/6"
    },
    {
      "id": "7",
      "name": "Allow cloning",
      "url": "/api/lunasa/hsms/117290/policies/7"
    },
    {
      "id": "12",
      "name": "Allow non-FIPS algorithms",
      "url": "/api/lunasa/hsms/117290/policies/12"
    },
    {
      "id": "15",
      "name": "SO can reset partition PIN",
      "url": "/api/lunasa/hsms/117290/policies/15"
    },
    {
      "id": "16",
      "name": "Allow network replication",
      "url": "/api/lunasa/hsms/117290/policies/16"
    },
    {
      "id": "20",
      "name": "Allow Remote Authentication",
      "url": "/api/lunasa/hsms/117290/policies/20"
    },
    {
      "id": "21",
      "name": "Force user PIN change after set/reset",
      "url": "/api/lunasa/hsms/117290/policies/21"
    },
    {
      "id": "22",
      "name": "Allow offboard storage",
      "url": "/api/lunasa/hsms/117290/policies/22"
    },
    {
      "id": "23",
      "name": "Allow partition groups",
      "url": "/api/lunasa/hsms/117290/policies/23"
    },
    {
      "id": "25",
      "name": "Allow remote PED usage",
      "url": "/api/lunasa/hsms/117290/policies/25"
    },
    {
      "id": "26",
```

```

    "name": "Store MTK Split Externally",
    "url": "/api/lunasa/hsms/117290/policies/26"
  },
  {
    "id": "29",
    "name": "Allow Acceleration",
    "url": "/api/lunasa/hsms/117290/policies/29"
  },
  {
    "id": "30",
    "name": "Allow unmasking",
    "url": "/api/lunasa/hsms/117290/policies/30"
  },
  {
    "id": "31",
    "name": "Allow FW5 compatibility mode",
    "url": "/api/lunasa/hsms/117290/policies/31"
  },
  {
    "id": "33",
    "name": "Current maximum number of partitions",
    "url": "/api/lunasa/hsms/117290/policies/33"
  },
  {
    "id": "34",
    "name": "Allow ECIES support",
    "url": "/api/lunasa/hsms/117290/policies/34"
  },
  {
    "id": "35",
    "name": "Force Single Domain",
    "url": "/api/lunasa/hsms/117290/policies/35"
  },
  {
    "id": "36",
    "name": "Allow Unified PED Key",
    "url": "/api/lunasa/hsms/117290/policies/36"
  },
  {
    "id": "37",
    "name": "Allow MofN",
    "url": "/api/lunasa/hsms/117290/policies/37"
  },
  {
    "id": "38",
    "name": "Allow small form factor backup/restore",
    "url": "/api/lunasa/hsms/117290/policies/38"
  },
  {
    "id": "39",
    "name": "Allow Secure Trusted Channel",
    "url": "/api/lunasa/hsms/117290/policies/39"
  },
  {
    "id": "40",
    "name": "Allow decommission on tamper",
    "url": "/api/lunasa/hsms/117290/policies/40"
  },
  {
    "id": "42",
    "name": "Allow partition re-initialize",
    "url": "/api/lunasa/hsms/117290/policies/42"
  }
]
}

```

## See Also

[GET /api/lunasa/hsms/{hsmid}/policies/{policyid}](#)

3.1.1.14.2 GET /api/lunasa/hsms/{hsmid}/policies/{policyid}

**GET /api/lunasa/hsms/{hsmid}/policies/{policyid}**

Gets the information associated with a specific HSM policy.

### Parameters

#### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### policyid

The identifier of the policy of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### Responses

200

Policy details.

JSON Schema: [HSM Policy description](#)

400

Unexpected error

404

HSM or policy does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/policies/26
```

### Example Result

```
{
  "onToOffDestructive": false,
  "offToOnDestructive": true,
  "changeable": false,
```

```
"description": "Store MTK Split Externally",
"enabled": true,
"id": "26",
"value": 0
}
```

### 3.1.1.14.3 PUT /api/lunasa/hsms/{hsmid}/policies/{policyid}

#### PUT /api/lunasa/hsms/{hsmid}/policies/{policyid}

Sets a specific HSM policy.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

##### policyid

The identifier of the policy to change

Use: Required

JSON Schema:

```
Object
type: string
```

##### value

The new value for the HSM policy

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

##### 204

Success

##### Location

JSON Schema:

```
id: Object
type: string
```

"Location" is the URL to the task spawned to perform the action on the HSM policy.

400

Unexpected error

### Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/154704/policies/33
{"value": 0}
```

### Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/tasks/2'}
{
}
```

#### 3.1.1.14.4 PATCH /api/lunasa/hsms/{hsmid}/policies/{policyid}

### PATCH /api/lunasa/hsms/{hsmid}/policies/{policyid}

Changes a specific HSM policy.

### Parameters

#### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### policyid

The identifier of the policy to change

Use: Required

JSON Schema:

```
Object
type: string
```

#### value

The new value for the HSM policy

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

Location

JSON Schema:

```
id: Object
  type: string
```

"Location" is the URL to the task spawned to perform the action on the HSM policy.

400

Unexpected error

## Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/hsms/154704/policies/33
{"value": 0}
```

## Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/tasks/2
{
}
```

### 3.1.1.15 Roles

The following resources allow the user to manage roles associated with the HSM.

- [GET /api/lunasa/hsms/{hsmid}/roles](#)
- [GET /api/lunasa/hsms/{hsmid}/roles/{roleid}](#)
- [GET /api/lunasa/hsms/{hsmid}/roles/{roleid}/actions](#)
- [POST /api/lunasa/hsms/{hsmid}/roles/{roleid}/actions/{actionid}](#)
- [PUT /api/lunasa/hsms/{hsmid}/roles/{roleid}](#)
- [PATCH /api/lunasa/hsms/{hsmid}/roles/{roleid}](#)

#### 3.1.1.15.1 GET /api/lunasa/hsms/{hsmid}/roles

### GET /api/lunasa/hsms/{hsmid}/roles

Gets all roles associated with the HSM.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 200

A list of all roles associated with the appliance. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: [HSM Roles](#)

### 400

Unexpected error

### 404

HSM does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/roles
```

## Example Result

```
{
  "roles": [
    {
      "id": "audit",
      "name": "Auditor",
      "url": "/api/lunasa/hsms/151256/roles/audit"
    },
    {
      "id": "so",
      "name": "Security Officer",
      "url": "/api/lunasa/hsms/151256/roles/so"
    }
  ]
}
```

## See Also

[GET /api/lunasa/hsms/{hsmid}/roles/{roleid}](#)



### 3.1.1.15.2 GET /api/lunasa/hsms/{hsmid}/roles/{roleid}

#### GET /api/lunasa/hsms/{hsmid}/roles/{roleid}

Gets the information associated with a specific HSM role.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object  
type: string
```

##### roleid

The identifier of the role of interest

Use: Required

JSON Schema:

```
Object  
type: string
```

#### Responses

##### 200

role details

JSON Schema: [HSM Role description](#)

##### 400

Unexpected error

##### 404

HSM and role does not exist.

#### Example Request

```
GET  
https://1.2.3.4:8443/api/lunasa/hsms/roles/audit
```

#### Example Result

```
{  
  "primaryAuthentication": "PIN",  
  "secondaryAuthentication": "None"  
  "loginAttemptsLeft": 10,  
}
```

```
"name": "Auditor",
"lockedOut": False,
"activated": False,
"challengeToBeChanged": False,
"initialized": False,
"pinToBeChanged": False,
"id": "audit"
}
```

#### 3.1.1.15.3 GET /api/lunasa/hsms/{hsmid}/roles/{roleid}/actions

#### GET /api/lunasa/hsms/{hsmid}/roles/{roleid}/actions

Gets all role-related actions associated with the HSM.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

##### roleid

The HSM role of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

##### 200

The set of all role actions associated with the HSM.

JSON Schema: [HSM Role Actions](#)

##### 400

Unexpected error

##### 404

HSM or role does not exist.

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/roles/SO/actions
```

## Example Result

```
{
  "actions":
  [
    {"url": "/api/lunasa/hsms/154704/roles/so/actions/reset", "id": "reset"},
    {"url": "/api/lunasa/hsms/154704/roles/so/actions/createChallenge", "id": "createChallenge"}
  ]
}
```

### 3.1.1.15.4 POST /api/lunasa/hsms/{hsmid}/roles/{roleid}/actions/{actionid}

#### POST /api/lunasa/hsms/{hsmid}/roles/{roleid}/actions/{actionid}

Sends the specified role action to the HSM.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

##### roleid

The identifier of the HSM role of interest

Use: Required

JSON Schema:

```
Object
type: string
```

##### actionid

The identifier of the HSM role action to be performed

Use: Required

JSON Schema:

```
Object
type: string
```

#### [See HSM Role Actions](#)

##### password

Applies for the "reset" action. The new challenge for a password-based HSM. Pass an empty string for a PED-based HSM.

Use: Not required

JSON Schema:

```
Object
type: string
```

### defaultChallenge

Applies for the "createChallenge" action. The new challenge for a PED-based HSM. Pass True to have the challenge set to the default value; pass False to have the challenge set to a random value.

Use: Not required

JSON Schema:

```
Object
type: string
```

### Responses

204

Success

Location

JSON Schema:

```
id: Object
type: string
```

"Location" is the URL to the task spawned to perform the action for the HSM role.

400

Unexpected error

404

HSM, role or action does not exist.

### Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/roles/co/actions/createChallenge
{ "defaultChallenge": true }
```

### Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/7', 'Content-Length': 100}
{
}
```

3.1.1.15.5 PUT /api/lunasa/hsms/{hsmid}/roles/{roleid}

**PUT /api/lunasa/hsms/{hsmid}/roles/{roleid}**

Initializes the HSM role.

**This resource is forbidden on the HSM.**

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### roleid

The identifier of the role of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### password

The password to be used to authenticate for the role

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 204

Success

### Location

"Location" is the URL to the role and is returned in the server response. You can use "Location" to form a PATCH resource to change the role password or to form a GET resource to query the role.

[see PATCH /api/lunasa/hsms/{hsmid}/roles/{roleid}](#)

[see GET /api/lunasa/hsms/{hsmid}/roles/{roleid}](#)

For PED-based partitions, "Location" is the URL to the task spawned to initialize the HSM role.

### 400

Unexpected error

### 404

HSM or role does not exist.

## Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/roles/co
{ "password": "1q@W3e$R" }
```

## Example Result

password-based HSM:

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/'}
{}
```

PED-based partition:

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/3', 'Content-Length': 1000}
{}
```

### 3.1.1.15.6 PATCH /api/lunasa/hsms/{hsmid}/roles/{roleid}

#### PATCH /api/lunasa/hsms/{hsmid}/roles/{roleid}

Changes the password for an HSM role.

**This resource is forbidden on the HSM.**

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### roleid

The identifier of the role of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### oldPassword

The existing password for the role

Use: Required

JSON Schema:

```
Object
type: string
```

### newPassword

The desired password for the role

Use: Required

JSON Schema:

```
Object
type: string
```

### changeSecret

(Optional) Change the secret for a PED-authenticated HSM. This parameter applies for the CO (Admin User) role.

Use: Required

JSON Schema:

```
Object
type: boolean
```

## Responses

204

Success

### Location

"Location" is the URL to the role and is returned in the server response. You can use "Location" to form a GET resource to query the role.

[see GET /api/lunasa/hsms/{hsmid}/roles/{roleid}](#)

For PED-based partitions, "Location" is the URL to the task spawned to change the password for the HSM role.

400

Unexpected error

404

HSM or role does not exist.

## Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/hsms/154704/roles/co
{ "newPassword": "Aaaa1234",
  "oldPassword": "1q@W3e$R" }
```

## Example Result

```
{
password-based HSM:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/'}
PED-based HSM:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/9', 'Content-Length': 1000}
}
```

### 3.1.1.16 Storage Space

Storage space resources allows for querying of the HSM storage information.

- [GET /api/lunasa/hsms/{hsmid}/storageSpace](#)

#### 3.1.1.16.1 GET /api/lunasa/hsms/{hsmid}/storageSpace

### GET /api/lunasa/hsms/{hsmid}/storageSpace

Gets the storage information associated with the HSM.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 200

The storage information associated with the HSM.

JSON Schema: [HSM Storage Space](#)

### 400

Unexpected error

### 404

HSM does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/storageSpace
```



## Example Result

```
{
  "free": 20480,
  "total": 20480,
  "used": 0
}
```

### 3.1.1.17 Tamper

Tamper resources allows for querying and clearing of the HSM tamper information.

- [GET /api/lunasa/hsms/{hsmid}/tamper](#)
- [GET /api/lunasa/hsms/{hsmid}/tamper/actions](#)
- [POST /api/lunasa/hsms/{hsmid}/tamper/actions/{actionid}](#)

#### 3.1.1.17.1 GET /api/lunasa/hsms/{hsmid}/tamper

### GET /api/lunasa/hsms/{hsmid}/tamper

Gets the information regarding detected tampers.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

200

Tamper information

JSON Schema: [Tamper](#)

400

Unexpected error

404

HSM does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/521154/tamper
```

## Example Result

```
{
  "Temperature" : null,
  "VCCIVoltage" : null,
  "VBATVoltage" : null,
  "tamperTime" : "2016-11-18T11:34:41",
  "actions" : "/api/lunasa/hsms/521154/tamper/actions",
  "tamperers" : {
    0 : "Chassis_open"
  },
  "VREFVoltage" : null
}
```

## See Also

[GET /api/lunasa/hsms/{hsmid}/tamper/actions](#)

### 3.1.1.17.2 GET /api/lunasa/hsms/{hsmid}/tamper/actions

## GET /api/lunasa/hsms/{hsmid}/tamper/actions

Gets all actions applicable to tamperers

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

200

The set of all actions applicable to tamperers.

JSON Schema: [Tamper Actions](#)

400

Unexpected error

404

HSM or partition does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/521154/tamper/actions
```

## Example Result

```
{
  {
    "id": "clear",
    "url": "/api/lunasa/hsms/521154/tamper/actions/clear"
  }
}
```

### 3.1.1.17.3 POST /api/lunasa/hsms/{hsmid}/tamper/actions/{actionid}

#### POST /api/lunasa/hsms/{hsmid}/tamper/actions/{actionid}

Performs the action on tampers

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### actionid

The identifier of the tamper action to be performed

Use: Required

JSON Schema:

```
Object
type: string
```

[See Tamper Actions](#)

## Responses

### 204

Success

### Location

JSON Schema:

```
id: Object
type: string
```

"Location" is the URL to the task spawned to perform the tamper action.

400

Unexpected error

404

HSM or action does not exist.

### Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/521154/tamper/actions/clear
```

### Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Length': 0}
{
}
```

#### 3.1.1.18 Updates

The following resources enable updates to the HSM.

- [GET /api/lunasa/hsms/{hsmid}/updates](#)
- [GET /api/lunasa/hsms/{hsmid}/updates/{updateid}](#)
- [POST /api/lunasa/hsms/{hsmid}/updates/{updateid}](#)

##### 3.1.1.18.1 GET /api/lunasa/hsms/{hsmid}/updates

### GET /api/lunasa/hsms/{hsmid}/updates

Gets all updates associated with the HSM.

### Parameters

**hsmid**

The serial number of the HSM of interest

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

### Responses

200

A list of all updates associated with the appliance. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: [Updates](#)

400

Unexpected error

404

HSM does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/462283/updates
```

### Example Result

```
{
  "updates":
  [
    { "url": "/api/lunasa/hsms/462283/updates/FIPS3", "id": "FIPS3", "name": "FIPS3" },
    { "url": "/api/lunasa/hsms/462283/updates/50Partition", "id": "50Partition", "name": "50Partition" },
    { "url": "/api/lunasa/hsms/462283/updates/20Partition", "id": "20Partition", "name": "20Partition" },
    { "url": "/api/lunasa/hsms/462283/updates/ppso", "id": "ppso", "name": "ppso" },
    { "url": "/api/lunasa/hsms/462283/updates/RPED", "id": "RPED", "name": "RPED" },
    { "url": "/api/lunasa/hsms/462283/updates/SFF", "id": "SFF", "name": "SFF" },
    { "url": "/api/lunasa/hsms/462283/updates/partitions100", "id": "partitions100", "name": "partitions100" },
    { "url": "/api/lunasa/hsms/462283/updates/HSM_Storage_15.5M", "id": "HSM_Storage_15.5M", "name": "HSM_Storage_15.5M" },
    { "url": "/api/lunasa/hsms/462283/updates/15Partition", "id": "15Partition", "name": "15Partition" },
    { "url": "/api/lunasa/hsms/462283/updates/10Partition", "id": "10Partition", "name": "10Partition" }
  ]
}
```

### See Also

[GET /api/lunasa/hsms/{hsmid}/updates/{updateid}](#)

3.1.1.18.2 [GET /api/lunasa/hsms/{hsmid}/updates/{updateid}](#)

**GET /api/lunasa/hsms/{hsmid}/updates/{updateid}**

Gets the information associated with a specific update.

NOTE: This version of the REST API does not support this resource. It is for a future release.

### Parameters

**hsmid**

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

**updateid**

The identifier of the update of interest

Use: Required

JSON Schema:

```
Object
type: string
```

**Responses**

200

License details

JSON Schema: [Update description](#)

400

Unexpected error

404

HSM or update does not exist.

**Example Request**

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/updates/ppso
```

**Example Result**

The following example is a place holder: this version of the REST API does not support this object. It is for a future release.

```
{
  "description": "Security Officer role available on partitions"
}
```

**3.1.1.18.3** POST /api/lunasa/hsms/{hsmid}/updates/{updateid}

**POST /api/lunasa/hsms/{hsmid}/updates/{updateid}**

Applies a specific HSM update.

**Parameters**

**hsmid**

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### updateid

The identifier of the update to apply

Use: Required

JSON Schema:

```
Object
type: string
```

### Responses

#### 204

Success.

#### Location

JSON Schema:

```
id: Object
type: string
```

"Location" is the URL to the task spawned to perform the HSM update.

#### 400

Unexpected error

#### 404

HSM or update does not exist.

### Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/updates/ppso
```

### Example Result

```
{ 'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/8', 'Content-Length': 100 }
{
}
```

### 3.1.2 Partition

This section lists the resources associated with partitions created on the HSM.

- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}](#)
- [PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}](#)
- [DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}](#)
- [Authentication](#)
- [Capabilities](#)
- [Indirect](#)
- [Objects](#)
- [Policies](#)
- [Roles](#)
- [SFF](#)
- [STC](#)
- [Storage Space](#)

#### 3.1.2.1 [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}](#)

### [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}](#)

Gets the information associated with a specific partition.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

##### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

200

Partition details

JSON Schema: [Partition description](#)



400

Unexpected error

404

HSM or partition does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011389
```

### Example Result

```
{
  "loggedIn": "nobody",
  "capabilities": "/api/lunasa/hsms/117290/partitions/273087011389/capabilities",
  "label": "ABC123",
  "name": "ABC123",
  "objectCount": 0,
  "objects": "/api/lunasa/hsms/117290/partitions/273087011389/objects",
  "policies": "/api/lunasa/hsms/117290/partitions/273087011389/policies",
  "roles": "/api/lunasa/hsms/117290/partitions/273087011389/roles",
  "state": "initialized",
  "stc": "/api/lunasa/hsms/117290/partitions/273087011389/stc",
  "storageSpace": {
    "free": 20480,
    "total": 20480,
    "used": 0
  }
}
```

#### 3.1.2.2 PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}

#### PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}

Initializes the partition.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

##### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

**label**

A user-friendly text string to reference the partition after it is created

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

**domain**

The cloning domain name associated with password-based partitions (not applicable for PED-based partitions)

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

**password**

The password for password-based partitions (not applicable for PED-based partitions)

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

**defaultDomain**

Use a default cloning domain if password-based partition (not applicable for PED-based partitions)

**Use:** Required

**JSON Schema:**

```
Object
type: boolean
  false = do not use a default cloning domain
  true = use a default cloning domain
```

**ped**

The identifier of the PED connected to the HSM. '0' is local PED; 1 or greater is remote PED. For remote PED, ped corresponds to the PED identifier. The parameter has no use for password-based HSMs.

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

## Responses

204

Success

### Location

"Location" is the URL to the initialized partition and is returned in the server response. You can use "Location" to form a GET resource to query the partition.

see [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}](#)

For PED-based partitions, "Location" is the URL to the task spawned to initialize the partition.

400

Unexpected error

404

HSM or partition does not exist.

## Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011507
{
  "password": "password",
  "label": "ABC123",
  "domain": "domain",
  "defaultDomain": true,
  "ped": "0"
}
```

## Example Result

```
{
  password-based partition:
  {'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/...'}
  PED-based partition:
  {'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/5', 'Content-Leng...'}
}
```

### 3.1.2.3 DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}

#### DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}

Removes a specific partition from the HSM.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 204

Success

### 400

Unexpected error

### 404

HSM or partition does not exist.

## Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011389
```

## Example Result

```
{
}
```

## See Also

[GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}](#)

### 3.1.2.4 Authentication

The following resources are used for authenticating to an HSM partition.

- [POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/login](#)
- [POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/logout](#)

#### 3.1.2.4.1 POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/login

### POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/login

Logs in to the partition.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

##### partitionid

The partition identifier of interest

Use: Required

JSON Schema:

```
Object
type: string
```

##### password

The password for authentication if password-based partition

Use: Required

JSON Schema:

```
Object
type: string
```

##### ped

Indicator of whether the HSM uses PED-based ("1") or password-based ("0") authentication

Use: Required

JSON Schema:

```
Object
type: string
```

## role

The security function to login on the partition

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

Location

"Location" is the URL to the partition role logged onto and is returned in the server response. You can use "Location" to form a GET resource to query the partition role.

see [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}](#)

For PED-based partitions, "Location" is the URL to the task spawned to log into the partition.

400

Unexpected error

404

HSM or partition does not exist.

## Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/352170252337/login
{"ped": "1", "role": "so"}
```

## Example Result

password-based HSM:

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/
```

PED-based HSM

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/2', 'Content-Leng
```

```
{}
```

### 3.1.2.4.2 POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/logout

#### POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/logout

Logs out of the partition.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### partitionid

The partition identifier of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 204

Success

### Location

"Location" is the URL to the partition logged out and is returned in the server response. You can use "Location" to form a GET resource to query the partition status.

[see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}](#)

For PED-based partitions, "Location" is the URL to the task spawned to log out the partition.

### 400

Unexpected error

## Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/352170252337/logout
{ }
```

## Example Result

password-based HSM:

```
{ 'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/' }
```

PED-based HSM

```
{ 'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/2', 'Content-Length': '1000' }
```

```
{ }
```

### 3.1.2.5 Capabilities

Capabilities resources allow the user to retrieve information regarding the capabilities of the HSM partition.

- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/capabilities](#)
- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/capabilities/{capabilityid}](#)

#### 3.1.2.5.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/capabilities

### GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/capabilities

Gets all capabilities associated with the partition.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object  
type: string
```

##### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object  
type: string
```

#### Responses

##### 200

A list of all capabilities associated with the partition. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: [Partition Capabilities](#)

##### 400

Unexpected error

##### 404

HSM or partition does not exist.



## Example Request

```
GET
https://1.2.3.4:8443//api/lunasa/hsms/117290/partitions/273087011507/capabilities
```

## Example Result

```
{
  "capabilities": [
    {
      "id": "0",
      "name": "Enable private key cloning",
      "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/0"
    },
    {
      "id": "1",
      "name": "Enable private key wrapping",
      "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/1"
    },
    {
      "id": "2",
      "name": "Enable private key unwrapping",
      "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/2"
    },
    {
      "id": "3",
      "name": "Enable private key masking",
      "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/3"
    },
    {
      "id": "4",
      "name": "Enable secret key cloning",
      "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/4"
    },
    {
      "id": "5",
      "name": "Enable secret key wrapping",
      "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/5"
    },
    {
      "id": "6",
      "name": "Enable secret key unwrapping",
      "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/6"
    },
    {
      "id": "7",
      "name": "Enable secret key masking",
      "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/7"
    },
    {
      "id": "10",
      "name": "Enable multipurpose keys",
      "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/10"
    },
    {
      "id": "11",
      "name": "Enable changing key attributes",
      "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/11"
    },
    {
      "id": "15",
      "name": "Allow failed challenge responses",
      "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/15"
    },
    {
      "id": "16",
      "name": "Enable operation without RSA blinding",
      "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/16"
    },
    {
      "id": "17",
```

```
    "name": "Enable signing with non-local keys",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/17"
  },
  {
    "id": "18",
    "name": "Enable raw RSA operations",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/18"
  },
  {
    "id": "20",
    "name": "Max failed user logins allowed",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/20"
  },
  {
    "id": "21",
    "name": "Enable high availability recovery",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/21"
  },
  {
    "id": "22",
    "name": "Enable activation",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/22"
  },
  {
    "id": "23",
    "name": "Enable auto-activation",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/23"
  },
  {
    "id": "25",
    "name": "Minimum pin length (inverted: 255 - min)",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/25"
  },
  {
    "id": "26",
    "name": "Maximum pin length",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/26"
  },
  {
    "id": "28",
    "name": "Enable Key Management Functions",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/28"
  },
  {
    "id": "29",
    "name": "Enable RSA signing without confirmation",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/29"
  },
  {
    "id": "30",
    "name": "Enable Remote Authentication",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/30"
  },
  {
    "id": "31",
    "name": "Enable private key unmasking",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/31"
  },
  {
    "id": "32",
    "name": "Enable secret key unmasking",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/32"
  },
  {
    "id": "33",
    "name": "Enable RSA PKCS mechanism",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/33"
  },
  {
    "id": "34",
    "name": "Enable CBC-PAD (un)wrap keys of any size",
    "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/34"
  },
  },
```

```

    {
      "id": "35",
      "name": "Enable private key SFF backup/restore",
      "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/35"
    },
    {
      "id": "36",
      "name": "Enable secret key SFF backup/restore",
      "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/36"
    },
    {
      "id": "37",
      "name": "Enable Secure Trusted Channel",
      "url": "/api/lunasa/hsms/117290/partitions/273087011784/capabilities/37"
    }
  ]
}

```

## See Also

[GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/capabilities/{capabilityid}](#)

**3.1.2.5.2 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/capabilities/{capabilityid}**

**GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/capabilities/{capabilityid}**

Gets the information associated with a specific partition capability.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```

Object
type: string

```

### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```

Object
type: string

```

### capabilityid

The identifier of the capability of interest

Use: Required

JSON Schema:

```

Object
type: string

```

## Responses

200

Capability details.

JSON Schema: [Partition Capability description](#)

400

Unexpected error

404

HSM, partition or capability does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/capabilities/22
```

## Example Result

```
{
  "value": "disallowed",
  "description": "Enable activation",
  "id": "22"
}
```

### 3.1.2.6 Indirect

The following resources enable an HSM partition indirect login to be performed.

- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/key](#)
- [POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/key](#)
- [DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/key](#)
- [POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/challenges](#)
- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/challenges/{challengeid}](#)
- [POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/responses](#)
- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/responses/{responseid}](#)

#### 3.1.2.6.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/key

### GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/key

Gets indirect login public key stored in a user partition of the admin HSM.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 200

The public key used for indirect login.

JSON Schema: [Indirect Key](#)

### 400

Unexpected error

### 404

HSM or partition does not exist.

## Example Request

```
GET
https://1.2.3.4:8443//api/lunasa/hsms/700088/partitions/700088016/indirect/key
```

## Example Result

```
{
  "exponent": "AQAB",
  "modulus": "1QgJJEQuDhjYFyV5KB7s/19DTPik0y5mcTAXKJ/anP2vCLNhymZ+wQx9pUUtyaTmskWXbIvxR36/CoI2Qd2/AW2BZDxUwE"
}
```

### 3.1.2.6.2 POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/key

#### POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/key

Loads the indirect login public key onto the service HSM in a specified user partition.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### partitionid

The identifier for the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### modulus

The modulus of the public key used for indirect login

Use: Required

JSON Schema:

```
Object
type: string
```

### exponent

The exponent of the public key used for indirect login

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

200

Success

### Location

JSON Schema:

```
id: Object
type: string
```

[see POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/challenges](#)

400

Unexpected error

404

HSM or partition does not exist.

### Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/700088/indirect/key
{"modulus": "1QgJJEQuDhjYFyV5KB7s/19DTPik0y5mcTAXKJ/anP2vCLNhymZ+wQx9pUUtyaTmskWXbIvxR36/CoI2Qd2/AW2BZDxUwE"
"exponent": "AQAB"}
```

### Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/'}
{
}
```

#### 3.1.2.6.3 DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/key

#### DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/key

Revokes the indirect login public key from a specified user partition on the service HSM.

### Parameters

#### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### partitionid

The identifier for the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### Responses

200

Success

400

Unexpected error

404

HSM or partition does not exist.

### Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/700088/indirect/key
{}
```

### Example Result

```
{
}
```

#### 3.1.2.6.4 POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/challenges

#### POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/challenges

Gets the indirect login challenge from a user partition of the admin HSM.

### Parameters

#### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### hsmid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### ped

The identifier of the PED used to authenticate to the HSM

Use: Required

JSON Schema:

```
Object
type: string
```



### role

The identifier of the role needed to authenticate to the HSM

Use: Required

JSON Schema:

```
Object
type: string
```

[see HSM Roles](#)

### certificate

The certificate needed to secure wrap data off and onto HSMs

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 200

A challenge needed by the service HSM to authenticate for indirect login.

JSON Schema:

```
type: string
description: challenge is the authentication data to be provided to obtain the response
needed for indirect login.
```

### Location

"Location" is the URL to the challenge and is returned in the server response. You can use "Location" to form a GET resource to obtain the challenge.

[see GET /api/lunasa/hsms/{hsmid}/indirect/challenges/{challengeid}](#)

### 400

Unexpected error

### 404

HSM or partition does not exist.

## Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/challenges
{"ped": "1",
 "role": "so",
 "certificate": "AwAADCCBA...R7ltguqfo="}
```

## Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/'}
{
  "challenge": "AAEAAOer3y90rahjhG2OybC2srtUfhz4YY/WhVyhbBdj6f47mIfgJe90sLR+te4uk8XU3vj/rTWwJSIAEnIo5QycW7s}
}
```

### 3.1.2.6.5 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/challenges/{challengeid}

#### GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/challenges/{challengeid}

Gets from a user partition of the admin HSM the challenge necessary for indirect login by a service HSM.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### challengeid

The identifier of the challenge of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 201

A challenge needed to authenticate to the service HSM for indirect login.

JSON Schema:

```
type: string
description: challenge is the authentication data to be provided to obtain the response
needed for indirect login.
```

400

Unexpected error

404

HSM, partition or challenge does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/challenges/1
```

### Example Result

```
{
  "challenge": "AAEAAH84Pr7nvSvccf0BXZ0/bcus/ANbeT6jXmY45/yI3GbcOUe5pFC3fGpEYa/129ii7+Xkkz9Gh/fNx6wr2m2uRmON"
}
```

#### 3.1.2.6.6 POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/responses

#### POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/responses

Gets the indirect login response needed for the service HSM from a user partition on the admin HSM.

### Parameters

#### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### challenge

The challenge needed to authenticate to the service HSM

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 201

The response to provide to the service HSM for indirect login.

JSON Schema:

```
type: string
description: response is the authentication data to be provided for indirect login
to the service HSM.
```

### Location

"Location" is the URL to the response and is returned in the server response. You can use "Location" to form a GET resource to obtain the response.

see [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/responses/{responseid}](#)

### 400

Unexpected error

## Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/700088/partitions/700088016/indirect/responses
{"challenge": "AAEAAOer3y90rahjhG2Oybc2srtUfhz4YY/WhVyhbDj6f47mIfgJe90sLR+te4uk8XU3vj/rTWwJSIAEnIo5QycW7sJ
```

## Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/700088/
{
  "response": "q1pLRuWfzCpyYkji4YguJS1pkvr9ZTq/NB5ymFPnLxc="
}
```

**3.1.2.6.7 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/responses/{responseid}**

**GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/indirect/responses/{responseid}**

Gets from a user partition of the admin HSM the response necessary for indirect login.

## Parameters

### hsmid

The serial number of the HSM of interest

**Use:** Required

JSON Schema:

```
Object
type: string
```

**partitionid**

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

**responseid**

The identifier of the response of interest

Use: Required

JSON Schema:

```
Object
type: string
```

**Responses****201**

The response to provide to the service HSM for indirect login.

JSON Schema:

```
type: string
description: response is the authentication data to be provided for indirect login
to the service HSM.
```

**400**

Unexpected error

**404**

HSM, partition or response does not exist.

**Example Request**

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/700088/partitions/700088016/indirect/responses/1
```

**Example Result**

```
{
  "response": "q1pLRuWfzCpyYkji4YguJS1pkvr9ZTq/NB5ymFPnLxc="
}
```

**3.1.2.7 Objects**

The following resources enable object handling.

- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects](#)

- DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects
- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/{objectid}
- GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions
- POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions/{actionid}

#### 3.1.2.7.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects

### GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects

Gets all objects in the partition.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

##### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

##### 200

A list of all objects and the url to the list of actions in the partition. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: [Partition Objects](#)

##### 400

Unexpected error

##### 404

HSM or partition does not exist.

#### Example Request

```
GET
https://1.2.3.4:8443//api/lunasa/hsms/117290/partitions/273087011507/objects
```

## Example Result

```
{
  "objects": [
    {
      "id": "19",
      "label": "RecoveryInit RSA Public Key",
      "url": "/api/lunasa/hsms/151256/partitions/352170252337/objects/19"
    },
    {
      "id": "30",
      "label": "RecoveryInit RSA Private Key",
      "url": "/api/lunasa/hsms/151256/partitions/352170252337/objects/30"
    }
  ],
  "actions": "/api/lunasa/hsms/151256/partitions/352170252337/objects/actions"
}
```

## See Also

[GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/{objectid}](#)

[GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions](#)

### 3.1.2.7.2 DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects

#### DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects

Removes all objects from a partition on the HSM.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

400

Unexpected error

### Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011389/objects
```

### Example Result

```
{
}
```

**3.1.2.7.3 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/{objectid}**

**GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/{objectid}**

Gets the information associated with a specific partition object.

### Parameters

**hsmid**

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

**partitionid**

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### Responses

200

Object details.

JSON Schema: [Partition Object Description](#)

400

Unexpected error



404

HSM, partition, or object does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/objects/19
```

### Example Result

```
{
  "id": "19",
  "label": "RecoveryInit RSA Public Key",
  "type": "Public Key",
  "uid": "7600000184010000b8ae0a00"
}
```

#### 3.1.2.7.4 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions

#### GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions

Gets all actions applicable to an object.

### Parameters

#### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### objectid

The identifier of the object of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

200

The set of all actions applicable to objects.

JSON Schema: [Partition Objects Actions](#)

400

Unexpected error

404

HSM or partition does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011507/objects/actions
```

## Example Result

```
{
  {
    "id": "backup",
    "url": "/api/lunasa/hsms/154704/partitions/273087011507/objects/actions/backup"
  },
  {
    "id": "restore",
    "url": "/api/lunasa/hsms/154704/partitions/273087011507/objects/actions/restore"
  }
}
```

### 3.1.2.7.5 POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions/{actionid}

#### POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions/{actionid}

Performs the action on the object.

## Parameters

**hsmid**

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

**partitionid**

The identifier of the partition of interest

Use: Required

**JSON Schema:**

```
Object
type: string
```

**objectid**

The identifier of the object of interest

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

**actionid**

The identifier of the object action to be performed

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

See [Partition Objects Actions](#)

**name**

The reference to be assigned to a backup device

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

**ids**

A list of identifier to objects to be backed up or objects restored

**Use:** Required

**JSON Schema:**

```
Array
  id: Object
    type: string
    description: id is a reference to an object.
                 A null list ([]) means backup or restore all objects.
```

**Responses****200**

Success, response returned

**JSON Schema:**

```
Response returned is specific to the object action performed.
```

204

Success, no response returned

#### Location

"Location" is the URL to the task spawned to perform the requested action on the partition object.

400

Unexpected error

404

HSM, partition, or action does not exist.

### Example Requests

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011507/objects/actions/backup
{"ids":["31","22","35","36"], "name":"targetBackupName"}
```

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011507/objects/actions/restore
{"ids":["0","1","2"]}
```

### Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/13', 'Content-Length': 100}
{}
```

In this example, do GET on '/tasks/13/response' to get the results of the task, assuming the action was 'restore':

```
{
  "ids": [
    "19",
    "23",
    "24"
  ]
}
```

### Notes

The 'restore' action returns the new object handles.

#### 3.1.2.8 Policies

Policies resources allow the user to modify the capabilities associated with an HSM partition.

- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies](#)
- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}](#)
- [PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}](#)
- [PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}](#)

### 3.1.2.8.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies

#### GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies

Gets all policies associated with the partition.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

##### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

##### 200

A list of all policies associated with the partition. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: [Partition Policies](#)

##### 400

Unexpected error

##### 404

HSM or partition does not exist.

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/117290/partitions/273087011507/policies
```

#### Example Result

```
{
  "policies": [
    {
```

```
    "id": "0",
    "name": "Allow private key cloning",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/0"
  },
  {
    "id": "1",
    "name": "Allow private key wrapping",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/1"
  },
  {
    "id": "2",
    "name": "Allow private key unwrapping",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/2"
  },
  {
    "id": "3",
    "name": "Allow private key masking",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/3"
  },
  {
    "id": "4",
    "name": "Allow secret key cloning",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/4"
  },
  {
    "id": "5",
    "name": "Allow secret key wrapping",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/5"
  },
  {
    "id": "6",
    "name": "Allow secret key unwrapping",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/6"
  },
  {
    "id": "7",
    "name": "Allow secret key masking",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/7"
  },
  {
    "id": "10",
    "name": "Allow multipurpose keys",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/10"
  },
  {
    "id": "11",
    "name": "Allow changing key attributes",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/11"
  },
  {
    "id": "15",
    "name": "Ignore failed challenge responses",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/15"
  },
  {
    "id": "16",
    "name": "Operate without RSA blinding",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/16"
  },
  {
    "id": "17",
    "name": "Allow signing with non-local keys",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/17"
  },
  {
    "id": "18",
    "name": "Allow raw RSA operations",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/18"
  },
  {
    "id": "20",
    "name": "Max failed user logins allowed",
    "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/20"
```

```
    },
    {
      "id": "21",
      "name": "Allow high availability recovery",
      "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/21"
    },
    {
      "id": "22",
      "name": "Allow activation",
      "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/22"
    },
    {
      "id": "23",
      "name": "Allow auto-activation",
      "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/23"
    },
    {
      "id": "25",
      "name": "Minimum pin length (inverted: 255 - min)",
      "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/25"
    },
    {
      "id": "26",
      "name": "Maximum pin length",
      "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/26"
    },
    {
      "id": "28",
      "name": "Allow Key Management Functions",
      "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/28"
    },
    {
      "id": "29",
      "name": "Perform RSA signing without confirmation",
      "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/29"
    },
    {
      "id": "30",
      "name": "Allow Remote Authentication",
      "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/30"
    },
    {
      "id": "31",
      "name": "Allow private key unmasking",
      "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/31"
    },
    {
      "id": "32",
      "name": "Allow secret key unmasking",
      "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/32"
    },
    {
      "id": "33",
      "name": "Allow RSA PKCS mechanism",
      "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/33"
    },
    {
      "id": "34",
      "name": "Allow CBC-PAD (un)wrap keys of any size",
      "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/34"
    },
    {
      "id": "35",
      "name": "Allow private key SFF backup/restore",
      "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/35"
    },
    {
      "id": "36",
      "name": "Allow secret key SFF backup/restore",
      "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/36"
    },
    {
      "id": "37",
```

```
        "name": "Force Secure Trusted Channel",
        "url": "/api/lunasa/hsms/117290/partitions/273087011794/policies/37"
    }
  ]
}
```

## See Also

[GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}](#)

**3.1.2.8.2** [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}](#)

**GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}**

Gets the information associated with a specific partition policy.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### policyid

The identifier of the policy of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

200

Policy details.

JSON Schema: [Partition Policy description](#)



400

Unexpected error

404

HSM, partition or policy does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/policies/33
```

### Example Result

```
{
  "onToOffDestructive": false,
  "offToOnDestructive": true,
  "changable": true,
  "description": "Allow RSA PKCS mechanism",
  "enabled": true,
  "id": "33",
  "value": 1
}
```

#### 3.1.2.8.3 PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}

#### PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}

Sets a specific partition policy.

### Parameters

#### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### policyid

The identifier of the policy to change

Use: Required

JSON Schema:

```
Object
type: string
```

**value**

The new value for the partition policy

Use: Required

JSON Schema:

```
Object
type: integer
```

## Responses

204

Success

**Location**

JSON Schema:

```
id: Object
type: string
```

"Location" is the URL to the task spawned to perform the action on the partition policy.

400

Unexpected error

404

HSM, partition or policy does not exist.

## Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/policies/33
{"value": 0}
```

## Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/tasks/33'}
{
}
```

3.1.2.8.4 PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}

**PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}**

Changes a specific partition policy.

### Parameters

#### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### policyid

The identifier of the policy to change

Use: Required

JSON Schema:

```
Object
type: string
```

#### value

The new value for the partition policy

Use: Required

JSON Schema:

```
Object
type: integer
```

### Responses

204

Success

## Location

JSON Schema:

```
id: Object
  type: string
```

"Location" is the URL to the task spawned to perform the action on the partition policy.

400

Unexpected error

404

HSM, partition or policy does not exist.

## Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/policies/33
{"value": 0}
```

## Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/tasks/33'}
{
}
```

### 3.1.2.9 Roles

The following resources allow the user to manage roles associated with the HSM partition.

- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles](#)
- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}](#)
- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}/actions](#)
- [POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}/actions/{actionid}](#)
- [PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}](#)
- [PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}](#)

#### 3.1.2.9.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles

### GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles

Gets all roles associated with the partition.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 200

A list of all roles associated with the partition. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: [Partition Roles](#)

### 400

Unexpected error

### 404

HSM or partition does not exist.

## Example Request

```
GET
https://1.2.3.4:8443//api/lunasa/hsms/117290/partitions/273087011507/roles
```

## Example Result

```
{
  "roles": [
    {
      "id": "co",
      "name": "Crypto Officer",
      "url": "api/lunasa/hsms/117290/partitions/273087011507/roles/co"
    },
    {
      "id": "cu",
      "name": "Crypto User",
      "url": "api/lunasa/hsms/117290/partitions/273087011507/roles/cu"
    }
  ]
}
```

```
    },
    {
      "id": "so",
      "name": "Security Officer",
      "url": "api/lunasa/hsms/117290/partitions/273087011507/roles/so"
    }
  ]
}
```

## See Also

[GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}](#)

3.1.2.9.2 [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}](#)

**GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}**

Gets the information associated with a specific partition role.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### roleid

The identifier of the role of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

200

Role details.

JSON Schema: [Partition Role description](#)

400

Unexpected error

404

HSM, partition or role does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/roles/co
```

### Example Result

```
{
  "loginAttemptsLeft": 0,
  "secondaryAuthentication": "None",
  "pinToBeChanged": false,
  "activated": false,
  "challengeToBeChanged": false,
  "primaryAuthentication": "PED",
  "lockedOut": false,
  "initialized": false,
  "id": "co",
  "name": "Crypto Officer"
}
```

#### 3.1.2.9.3 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}/actions

#### GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}/actions

Gets all role-related actions associated with the partition.

### Parameters

#### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### partitionid

The partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

roleid

The HSM role of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

200

The set of all role actions associated with the partition.

JSON Schema: [Partition Role Actions](#)

400

Unexpected error

404

HSM, partition or role does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/462283/partitions/1076336284686/roles/co/actions
```

## Example Result

```
{
  "actions": [
    {
      "id": "createChallenge",
      "url": "/api/lunasa/hsms/462283/partitions/1076336284686/roles/co/actions/createChallenge"
    },
    {
      "id": "reset",
      "url": "/api/lunasa/hsms/462283/partitions/1076336284686/roles/co/actions/reset"
    },
    {
      "id": "deactivate",
      "url": "/api/lunasa/hsms/462283/partitions/1076336284686/roles/co/actions/deactivate"
    }
  ]
}
```

3.1.2.9.4 POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}/actions/{actionid}

POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}/actions/{actionid}

Sends the specified partition role action to the HSM.



## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### roleid

The identifier of the HSM role of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### actionid

The identifier of the partition role action to be performed

Use: Required

JSON Schema:

```
Object
type: string
```

[See Partition Role Actions](#)

### password

Applies for the "reset" action. The new challenge for a password-based partition. Pass an empty string for a PED-based partition.

Use: Not Required

JSON Schema:

```
Object
type: string
```

### defaultChallenge

Applies for the "createChallenge" action. The new challenge for a PED-based partition. Pass True to have the challenge set to the default value; pass False to have the challenge set to a random value.

Use: Not Required

JSON Schema:

```
Object
type: boolean
```

### Responses

204

Success

Location

JSON Schema:

```
id: Object
type: string
```

"Location" is the URL to the task spawned to perform the action for the partition role.

400

Unexpected error

404

HSM, partition, role or action does not exist.

### Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/352170252337/roles/co/actions/reset
{ "password": "newpassword" }
```

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/352170252337/roles/co/actions/createChallenge
{ "defaultChallenge": true }
```

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/352170252337/roles/co/actions/createChallenge
{ "password" : "newpassword" }
```

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/352170252337/roles/co/actions/deactivate
{ }
```

## Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/6', 'Content-Length': 100}
{
}
```

### 3.1.2.9.5 PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}

#### PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}

Initializes the partition role.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### roleid

The identifier of the role of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### defaultChallenge

Indicates whether to create the partition role with a default challenge. If you create a password-based partition, set "defaultChallenge" to false. defaultChallenge is ignored when used on CO and CU roles if the partition type is PPSO. You must use another REST resource to set a secondary authentication default challenge on a PPSO partition role. See [POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}/actions/{actionid}](#)

Use: Required

JSON Schema:

```
Object
type: boolean
false = do not use a default challenge
true = use a default challenge
```

### password

The password to be used to authenticate for the role. password is unused and should be blank ("") if using a PED-based partition.

Use: Required

JSON Schema:

```
Object
type: string
```

### ped

The identifier of the PED of interest. '0' is local PED; 1 or greater is remote PED.

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

### Location

"Location" is the URL to the role and is returned in the server response. You can use "Location" to form a PATCH resource to change the role password or to form a GET resource to query the role.

see [PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}](#)

see [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}](#)

For PED-based partitions, "Location" is the URL to the task spawned to initialize the partition role.

400

Unexpected error

404

HSM, partition or role does not exist.

## Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/roles/cuco
{ "ped": "0", "defaultChallenge": true, "password": "" }
```

## Example Result

```
{
password-based partition:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/'}
PED-based partition:
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Length': 1000}
}
```

### 3.1.2.9.6 PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}

#### PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}

Changes the password for a partition role.

## Parameters

### hsmid

The serial number of the HSM of interest

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

### partitionid

The identifier of the partition of interest

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

### roleid

The identifier of the role of interest

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

### oldPassword

The current password for the role

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

**newPassword**

The desired password for the role

Use: Required

JSON Schema:

```
Object
  type: string
```

**changeSecret**

(Optional) Change the secret for a PED-authenticated partition. This parameter applies for CO (Crypto Officer) and CU (Crypto User) roles.

Use: Required

JSON Schema:

```
Object
  type: boolean
```

**changeChallenge**

(Optional) Change the challenge for a PED-authenticated partition. This parameter applies for CO (Crypto Officer) and CU (Crypto User) roles.

Use: Required

JSON Schema:

```
Object
  type: boolean
```

**Responses**

204

Success

202

Task generated for resource

**Location**

"Location" is the URL to the role and is returned in the server response. You can use "Location" to form a GET resource to query the role.

[see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}](#)

For PED-based partitions, "Location" is the URL to the task spawned to change the password for the partition role.

400

Unexpected error

404

HSM, partition or role does not exist.

### Example Request

```

PATCH
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/roles/cu
{
  "oldPassword": "myoldpassword",
  "newPassword": "mynewpassword"
}

```

### Example Result

```

{
  password-based partition:
  {'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/'}
  PED-based partition:
  {'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Length': '1000'}
}

```

#### 3.1.2.10 SFF

SFF resources enable small form factor (SFF) backup devices to be used.

- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff](#)
- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects](#)
- [DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects](#)
- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects/{objectid}](#)

##### 3.1.2.10.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff

### GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff

Gets the small form factor backup device information.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```

Object
type: string

```

##### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

200

The small form factor backup device information.

JSON Schema: [SFF description](#)

Location

JSON Schema:

```
id: Object
type: string
```

"Location" is the URL to the task spawned to get the small form factor backup device information.

400

Unexpected error

404

HSM or partition does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/117290/partitions/273087011507/sff
```

## Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Length': 100}
{}
```

In this example, do GET on '/tasks/0/response' to get the results of the task:

```
{
  "name": "SomeBackupName",
  "objectCount": 4,
  "uid": "fb0200004600000c4f4c0200"
}
```

### 3.1.2.10.2 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects

#### GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects

Gets a list of objects on the small form factor backup device.



## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 200

The objects on the small form factor backup device.

JSON Schema: [SFF Objects](#)

### Location

JSON Schema:

```
id: Object
type: string
```

"Location" is the URL to the task spawned to get the list of objects on the SFF backup device.

### 400

Unexpected error

### 404

HSM or partition does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/117290/partitions/273087011507/sff/objects
```

## Example Result

```
<code>
\verbatim
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/8', 'Content-Length': 100}
{}

```

In this example, do GET on '/tasks/8/response' to get the results of the task:

```
{
  {
    "id": "1",
    "label": "Created data object",
    "url": "/api/lunasa/hsms/117290/partitions/273087011507/sff/objects/1"
  },
  {
    "id": "2",
    "label": "Created data object",
    "url": "/api/lunasa/hsms/117290/partitions/273087011507/sff/objects/2"
  },
  {
    "id": "3",
    "label": "Created data object",
    "url": "/api/lunasa/hsms/117290/partitions/273087011507/sff/objects/3"
  }
}
```

### 3.1.2.10.3 DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects

#### DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects

Removes all objects from a small form factor backup device.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

## Location

JSON Schema:

```
id: Object
  type: string
```

"Location" is the URL to the task spawned to get the delete all objects on the SFF backup device.

400

Unexpected error

404

HSM or partition does not exist.

## Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011389/sff/objects
```

## Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/6', 'Content-Length': 0}
{}
```

In this example, do GET on '/tasks/6/response' to get the results of the task:

```
{
}
```

**3.1.2.10.4 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects/{objectid}**

**GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects/{objectid}**

Gets the information associated with a specific SFF backup object.

## Parameters

**hsmid**

The serial number of the HSM of interest

**Use:** Required

JSON Schema:

```
Object
  type: string
```

**partitionid**

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

**objectid**

The identifier of the SFF object of interest

Use: Required

JSON Schema:

```
Object
type: string
```

**Responses**

200

Object details.

JSON Schema: [SFF Object Description](#)

400

Unexpected error

404

HSM, partition or object does not exist.

**Example Request**

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/SFF/objects/1
```

**Example Result**

```
{
  "fingerprint": "9d9d8be7873ddf135f952ea43d581685d7dad2919b49f006d7fad71ad0935cac",
  "id": "1",
  "label": "Created data object",
  "type": "Data",
  "uid": "0c0300004600000c4f4c0200"
}
```

**3.1.2.11 STC**

STC resources enable security during HSM/client communications through the use of a secure trusted channel (STC) configuration.

- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc](#)
- [PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc](#)
- [PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc](#)
- [Ciphers](#)
- [Clients](#)
- [HMACs](#)

#### 3.1.2.11.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc

### GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc

Gets the secure trusted channel configuration and partition identity.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object  
type: string
```

##### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object  
type: string
```

#### Responses

##### 200

The secure trusted channel configuration and partition identity.

JSON Schema: [STC Configuration and Partition Identity description](#)

##### 400

Unexpected error

##### 404

HSM or partition does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/150607/partitions/350659181804/stc
```

## Example Result

```
{
  "activationTimeout": 120,
  "ciphers": "/api/lunasa/hsms/150607/partitions/350659181804/stc/ciphers",
  "clients": "/api/lunasa/hsms/150607/partitions/350659181804/stc/clients",
  "fingerprint": "9c68d686097269caf87c87a78c6fbffa031c284d",
  "hmacs": "/api/lunasa/hsms/150607/partitions/350659181804/stc/hmacs",
  "publicKey": "U2FmZU5ldFN0Y1BhcnRpdGlvbk1kZW50aXR5AAAAAABHjIAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAC0tLSOt",
  "rekeyThreshold": 400,
  "replayWindow": 120
}
```

### 3.1.2.11.2 PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc

#### PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc

Sets the secure trusted channel link configuration.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

##### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

##### activationTimeout, rekeyThreshold and replayThreshold

The secure trusted channel link configuration.

JSON Schema: See [STC Configuration and Partition Identity description](#)

#### Responses

204

Success.

400

Unexpected error

404

HSM or partition does not exist.

### Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/150607/partitions/350659181804/stc
{
  "activationTimeout": 60,
  "rekeyThreshold": 500,
  "replayWindow": 100
}
```

### Example Result

```
{
}
```

#### 3.1.2.11.3 PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc

#### PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc

Changes the secure trusted channel link configuration.

### Parameters

#### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### activationTimeout, rekeyThreshold and/or replayThreshold

One or more of the objects that specify the secure trusted channel link configuration.

JSON Schema: See [STC Configuration and Partition Identity description](#)

## Responses

204

Success.

400

Unexpected error

404

HSM or partition does not exist.

## Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/hsms/150607/partitions/350659181804/stc
{
  "activationTimeout": 180
}
```

## Example Result

```
{
}
```

### 3.1.2.11.4 Ciphers

STC ciphers resources enable the encryption of data on an STC link.

- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers](#)
- [PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers](#)
- [PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers](#)

#### 3.1.2.11.4.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers

### GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers

Gets the ciphers allowed for the secure trusted channel.

## Parameters

hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```



### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Query Parameters

### display

Specifies which ciphers to query. Defined as "enabled", "disabled" or "all".

Use: Not required.

## Responses

### 200

The secure trusted channel cipher suite.

JSON Schema: [STC Ciphers](#)

### 400

Unexpected error

### 404

HSM or partition does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/150607/partitions/350659181804/stc/ciphers
```

## Example Result

```
{
  "ids": [
    "AES128_CBC",
    "AES192_CBC",
    "AES256_CBC"
  ]
}
```

**3.1.2.11.4.2 PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers**

**PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers**

Enables ciphers accepted for the secure trusted channel.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### ciphers

The ciphers to enable for the STC channel

JSON Schema: [STC Ciphers](#)

## Responses

204

Success

400

Unexpected error

404

HSM or partition does not exist.

## Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/150607/partitions/350659181804/stc/ciphers
{
  "ids": ["AES128_CBC", "AES256_CBC"]
}
```

## Example Result

```
{
}
```

#### 3.1.2.11.4.3 PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers

### PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers

Enables ciphers accepted for the secure trusted channel. PATCH operates the same as PUT. We provide both because some clients may not support PATCH. See [PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers](#) and substitute PATCH for PUT in the text.

#### 3.1.2.11.5 Clients

STC clients resources allow the user to register and deregister an STC client.

- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients](#)
- [POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients](#)
- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients/{clientid}](#)
- [DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients/{clientid}](#)
- [DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients](#)

#### 3.1.2.11.5.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients

### GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients

Gets all client identities associated with the secure trusted channel for the partition.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

##### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

##### 200

A list of all client identities associated with the secure trusted channel for partition. The list includes unique identifiers that can be used to get more specific information.

JSON Schema: [STC Client Identities](#)

400

Unexpected error

404

HSM or partition does not exist.

### Example Request

```
GET
https://1.2.3.4:8443//api/lunasa/hsms/117290/partitions/273087011507/stc/clients
```

### Example Result

```
{
  "clients": [
    {
      "clientID": "0",
      "url": "/api/lunasa/hsms/151256/partitions/352170252337/stc/clients/0"
    },
    {
      "clientID": "1",
      "url": "/api/lunasa/hsms/151256/partitions/352170252337/stc/clients/1"
    }
  ]
}
```

### See Also

[GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients/{clientid}](#)

**3.1.2.11.5.2 POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients**

**POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients**

Registers a client identity for secure trusted communication with a partition.

### Parameters

**hsmid**

The serial number of the HSM of interest

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

**partitionid**

The identifier of the partition of interest

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

### identity

The client identity, a base64-encoded version of the client identity file created by lunacm

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

### label

The user-friendly name to refer to the client identity

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

## Responses

### 204

The client identity registered.

**JSON Schema:**

```
type: string
description: client is the identifier for identity now registered with the partition.
```

### Location

**JSON Schema:**

```
id: Object
type: string
```

"Location" is the URL to the client identity and is returned in the server response. You can use "Location" to form a GET resource to obtain the client identity.

see [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients/{clientid}](#)

### 400

Unexpected error

### 404

HSM or partition does not exist.

## Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011507/stc/clients
{
  "identity": "U2FmZU5ldFN0Y0NsaWVudElkZW50aXR5UHViAAAAAABL50tLS1CRUdJTlBQVUJMSUMgS0VZLS0tLS0KTU1JQklqQU5CZ2Z0
  "label": "client3"
}
```

## Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/hsms/154704/partitions/273087011507/stc/clients/3'}
{
  "client": "3"
}
```

**3.1.2.11.5.3 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients/{clientid}**

**GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients/{clientid}**

Gets a description of the client identity used to secure the trusted channel for the partition.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### clientid

The identifier of the client of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

200

The description of the client identity that secures the trusted channel.

JSON Schema: [STC Client Identity description](#)

400

Unexpected error

404

Partition or client does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011507/stc/clients/1
```

### Example Result

```
{
  "fingerprint": "91ee10ff31325b74fcc2c630332be4618a28442d",
  "label": "client2"
}
```

**3.1.2.11.5.4 DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients/{clientid}**

**DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients/{clientid}**

Deletes the client identity that secures the trusted channel for the partition.

### Parameters

#### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

clientid

The identifier of the client of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

400

Unexpected error

404

HSM, partition or client does not exist.

## Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/stc/clients/1
```

## Example Result

```
{
}
```

**3.1.2.11.5.5 DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients**

**DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients**

Deletes all client identities that secure the trusted channel for the partition.

## Parameters

hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```



### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

400

Unexpected error

404

HSM or partition does not exist.

## Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011784/stc/clients
```

## Example Result

```
{
}
```

### 3.1.2.11.6 HMACs

STC HMAC resources enable message integrity verification.

- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs](#)
- [PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs](#)
- [PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs](#)

#### 3.1.2.11.6.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs

### GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs

Gets the message digest algorithms allowed for the secure trusted channel.

## Parameters

hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### Query Parameters

#### display

Specifies which hmacs to query. Defined as "enabled", "disabled" or "all".

Use: Not required.

### Responses

200

The secure trusted channel HMAC suite.

JSON Schema: [HMAC Ciphers](#)

400

Unexpected error

404

HSM or partition does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/150607/partitions/350659181804/stc/hmacs
```

### Example Result

```
{
  "ids": ["HMAC_SHA256", "HMAC_SHA512"]
}
```

**3.1.2.11.6.2 PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs**

**PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs**

Enables message digest algorithms accepted for the secure trusted channel.

## Parameters

### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### hmacs

The message digest algorithms to enable for the STC channel

JSON Schema: [STC HMACs](#)

## Responses

204

Success

400

Unexpected error

404

HSM or partition does not exist.

## Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/150607/partitions/350659181804/stc/hmacs
{
  "ids": ["AES128_CBC"]
}
```

## Example Result

```
{
}
```

### 3.1.2.11.6.3 PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs

#### PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs

Enables message digest algorithms accepted for the secure trusted channel. PATCH operates the same as PUT. We provide both because some clients may not support PATCH. See [PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs](#) and substitute PATCH for PUT in the text.

### 3.1.2.12 Storage Space

The following resources retrieve information and resize the storage space associated with an HSM partition.

- [GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/storageSpace](#)
- [PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/storageSpace](#)

#### 3.1.2.12.1 GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/storageSpace

#### GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/storageSpace

Gets the storage information associated with the partition.

#### Parameters

##### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

##### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

##### 200

The storage information associated with the partition.

JSON Schema: [Partition Storage Space](#)

##### 400

Unexpected error

404

HSM or partition does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/hsms/154704/partitions/273087011507/storageSpace
```

### Example Result

```
{
  "free": 20480,
  "total": 20480,
  "used": 0
}
```

#### 3.1.2.12.2 PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/storageSpace

#### PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/storageSpace

Resizes the storage space of a partition.

### Parameters

#### hsmid

The serial number of the HSM of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### partitionid

The identifier of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### allStorageSpace

Indicates whether to resize the partition with all available storage space assigned to it.

Use: Required

JSON Schema:

```
Object
type: boolean
false = do not use all available storage space
true = assign all remaining, available storage space to the partition
```

**size**

The number of bytes of storage space to assign to the partition if allStorageSpace is false

Use: Required

JSON Schema:

```
Object
type: integer
```

**Responses**

204

Success

400

Unexpected error

404

HSM or partition does not exist.

**Example Request**

```
PUT
https://1.2.3.4:8443/api/lunasa/hsms/150607/partitions/350659181804/storageSpace
{"allStorageSpace": false, "size": 30000}
```

**Example Result**

```
{
  "total": 30000, "used": 0, "free": 30000
}
```

**3.1.3 Partition Policy Templates**

Partition policy template resources allow for managing of partition policy templates which can be applied on creation of a partition.

- [GET /api/lunasa/partitionPolicyTemplates](#)
- [POST /api/lunasa/partitionPolicyTemplates](#)
- [DELETE /api/lunasa/partitionPolicyTemplates](#)
- [GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}](#)
- [DELETE /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}](#)
- [GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies](#)
- [GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies/{policyid}](#)
- [PUT /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies/{policyid}](#)
- [PATCH /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies/{policyid}](#)

### 3.1.3.1 GET /api/lunasa/partitionPolicyTemplates

#### GET /api/lunasa/partitionPolicyTemplates

Gets the list of partition policy templates.

#### Parameters

None

#### Responses

200

List of partition policy templates

JSON Schema: [Partition Policy Templates](#)

400

Unexpected error

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/partitionPolicyTemplates
```

#### Example Result

```
{
  "partitionPolicyTemplates":
  [
    {
      "id": "myTemplateName",
      "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName"
    }
  ]
}
```

#### See Also

[GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}](#)

### 3.1.3.2 POST /api/lunasa/partitionPolicyTemplates

#### POST /api/lunasa/partitionPolicyTemplates

Create a partition policy template. This resource supports sending a comma separated value list [see File I/O](#).

#### Parameters

**name**

This parameter specifies the name of the template, the name is used as the unique identifier therefore this parameter must be unique.

Use: Required

JSON Schema:

```
Object
type:string
```

**description**

This parameter specifies the description of the template.

Use: Not Required

JSON Schema:

```
Object
type:string
```

**template**

This parameter specifies the location of a template. The template can be created from an existing partition policy template location [see GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}](#). Alternatively a partition location can be given to create a template from a partition policy template in which case the location to the partition may be given [see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}](#)

Use: Not Required

JSON Schema:

```
Object
type:string
```

**Responses**

204

No Content, Success.

400

Unexpected error

**Example Request**

```
POST
https://1.2.3.4:8443/api/lunasa/partitionPolicyTemplates
{
  "name": "myTemplateTest",
  "description": "myTemplateDescription",
  "template": "/api/lunasa/partitionPolicyTemplates/myTemplateName"
}
```

OR

```
{
  "name": "myTemplateTest",
```



```
"description": "myTemplateDescription",
"template": "/api/lunasa/hsms/150607/partitions/1234567890"
}
```

### Example Result

```
{
}
```

### See Also

[GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}](#)

#### 3.1.3.3 DELETE /api/lunasa/partitionPolicyTemplates

### DELETE /api/lunasa/partitionPolicyTemplates

Deletes all partition policy templates.

### Parameters

None

### Responses

204

No Content

400

Unexpected error

### Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/partitionPolicyTemplates
{}
```

### Example Result

```
{}
```

#### 3.1.3.4 GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}

### GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}

Gets information about a specific partition policy template. This resource supports receiving the template as a file (csv format [see File I/O](#)).

## Parameters

### partitionpolicytemplateid

Specifies the partition policy template to access.

Use: Required

JSON Schema:

```
Object
type:string
```

## Responses

### 200

Partition policy template information.

JSON Schema: [Partition Policy Template](#)

### 400

Unexpected error

### 404

Partition policy template doesn't exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/partitionPolicyTemplates/myTemplateName
```

## Example Result (JSON)

```
{
  "name": "myTemplateTest",
  "description": "myTemplateDescription",
  "policies": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies"
}
```

## Example Result (STREAM)

```
1,,,
1,,,
myTemplateName,,,
myTemplateDescription,,,
0,1,0,1
1,0,0,1
2,1,0,0
3,0,0,1
4,1,0,1
5,1,0,1
6,1,0,0
7,0,0,1
8,0,1,1
9,0,1,1
10,1,0,1
11,1,0,1
```

```
12,0,1,1
13,0,1,1
14,1,0,0
15,1,0,1
16,1,0,1
17,1,0,0
18,1,0,1
19,3,0,0
20,10,0,0
21,1,0,0
22,0,0,0
23,0,0,0
24,0,0,0
25,248,0,0
26,255,0,0
27,0,1,1
28,1,0,1
29,1,0,1
30,1,0,0
31,1,0,0
32,1,0,0
33,1,0,1
34,1,0,1
35,0,0,0
36,0,0,0
37,0,1,0
```

## See Also

[DELETE /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}](#)  
[GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies](#)

### 3.1.3.5 DELETE /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}

#### DELETE /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}

Deletes a specific partition policy template.

## Parameters

**partitionpolicytemplateid**

Specifies the partition policy template to delete.

Use: Required

JSON Schema:

```
Object
type:string
```

## Responses

204

No Content, Success.

400

Unexpected error

404

Partition policy template doesn't exist.

### Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/partitionPolicyTemplates/myTemplateName
{ }
```

### Example Result

```
{
}
```

### See Also

[GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}](#)

#### 3.1.3.6 GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies

### GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies

Gets all policies associated with the partition policy template.

### Parameters

**partitionpolicytemplateid**

Specifies the partition policy template to access.

Use: Required

JSON Schema:

```
Object
type: string
```

### Responses

200

A list of all policies associated with the partition policy template.

JSON Schema: [Partition Policy Template Policies](#)

400

Unexpected error

404

Partition policy template doesn't exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/partitionPolicyTemplates/myTemplateName/policies
```

## Example Result

```
{
  "policies":
  [
    {
      "id": "0",
      "name": "Allow private key cloning",
      "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/0"
    },
    {
      "id": "1",
      "name": "Allow private key wrapping",
      "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/1"
    },
    {
      "id": "15",
      "name": "Ignore failed challenge responses",
      "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/15"
    },
    {
      "id": "16",
      "name": "Operate without RSA blinding",
      "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/16"
    },
    {
      "id": "17",
      "name": "Allow signing with non-local keys",
      "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/17"
    },
    {
      "id": "18",
      "name": "Allow raw RSA operations",
      "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/18"
    },
    {
      "id": "20",
      "name": "Max failed user logins allowed",
      "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/20"
    },
    {
      "id": "21",
      "name": "Allow high availability recovery",
      "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/21"
    },
    {
      "id": "22",
      "name": "Allow activation",
      "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/22"
    },
    {
      "id": "23",
      "name": "Allow auto-activation",
      "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/23"
    },
    {
      "id": "25",
      "name": "Minimum pin length (inverted: 255 - min)",
      "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/25"
    },
    {
      "id": "26",
      "name": "Maximum pin length",
      "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/26"
    },
    {

```

```
    "id": "2",
    "name": "Allow private key unwrapping",
    "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/2"
  },
  {
    "id": "28",
    "name": "Allow Key Management Functions",
    "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/28"
  },
  {
    "id": "29",
    "name": "Perform RSA signing without confirmation",
    "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/29"
  },
  {
    "id": "30",
    "name": "Allow Remote Authentication",
    "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/30"
  },
  {
    "id": "31",
    "name": "Allow private key unmasking",
    "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/31"
  },
  {
    "id": "32",
    "name": "Allow secret key unmasking",
    "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/32"
  },
  {
    "id": "33",
    "name": "Allow RSA PKCS mechanism",
    "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/33"
  },
  {
    "id": "34",
    "name": "Allow CBC-PAD (un)wrap keys of any size",
    "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/34"
  },
  {
    "id": "35",
    "name": "Allow private key SFF backup/restore",
    "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/35"
  },
  {
    "id": "36",
    "name": "Allow secret key SFF backup/restore",
    "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/36"
  },
  {
    "id": "37",
    "name": "Force Secure Trusted Channel",
    "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/37"
  },
  {
    "id": "3",
    "name": "Allow private key masking",
    "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/3"
  },
  {
    "id": "4",
    "name": "Allow secret key cloning",
    "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/4"
  },
  {
    "id": "5",
    "name": "Allow secret key wrapping",
    "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/5"
  },
  {
    "id": "6",
    "name": "Allow secret key unwrapping",
    "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/6"
  }
```

```

    },
    {
      "id": "7",
      "name": "Allow secret key masking",
      "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/7"
    },
    {
      "id": "10",
      "name": "Allow multipurpose keys",
      "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/10"
    },
    {
      "id": "11",
      "name": "Allow changing key attributes",
      "url": "/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/11"
    }
  ]
}

```

## See Also

[GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies/{policyid}](#)

### 3.1.3.7 GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies/{policyid}

**GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies/{policyid}**

Get information about a specific policy.

## Parameters

**partitionpolicytemplateid**

Specifies the partition policy template to access.

Use: Required

JSON Schema:

```

Object
type: string

```

**policyid**

Specifies the policy id to access within the partition policy template.

Use: Required

JSON Schema:

```

Object
type: string

```

## Responses

200

Information about the specific policy.

JSON Schema: [Partition Policy Template Policy](#)

400

Unexpected error

404

Partition policy template or policy doesn't exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/0
```

### Example Result

```
{
  "description": "Allow private key cloning",
  "offToOnDestructive": true,
  "onToOffDestructive": false,
  "value": 1
}
```

### See Also

[PUT /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies/{policyid}](#)

[PATCH /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies/{policyid}](#)

#### 3.1.3.8 PUT /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies/{policyid}

### PUT /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies/{policyid}

Changes all configurable values for a given partition policy template policy.

### Parameters

#### partitionpolicytemplateid

Specifies the partition policy template to access.

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

#### policyid

Specifies the policy id to access within the partition policy template.

**Use:** Required

**JSON Schema:**

```
Object
type: string
```



### offToOnDestructive

Specifies whether the specific policy should be destructive when changed from off-to-on.

Use: Required

JSON Schema:

```
Object
type: bool
```

### onToOffDestructive

Specifies whether the specific policy should be destructive when changed from on-to-off.

Use: Required

JSON Schema:

```
Object
type: bool
```

### value

Specifies whether the specific policy should be on or off by default.

Use: Required

JSON Schema:

```
Object
type: bool
```

## Responses

204

400

Unexpected error

404

Partition policy template or policy doesn't exist.

## Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/0
{
  "offToOnDestructive": true,
  "onToOffDestructive": true,
  "value": 0
}
```

## Example Result

```
{
}
```

### 3.1.3.9 PATCH /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies/{policyid}

#### PATCH /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies/{policyid}

Changes the specified configurable values for a given partition policy template policy.

#### Parameters

##### partitionpolicytemplateid

Specifies the partition policy template to access.

Use: Required

JSON Schema:

```
Object
type: string
```

##### policyid

Specifies the policy id to access within the partition policy template.

Use: Required

JSON Schema:

```
Object
type: string
```

##### offToOnDestructive

Specifies whether the specific policy should be destructive when changed from off-to-on.

Use: Not Required

JSON Schema:

```
Object
type: bool
```

##### onToOffDestructive

Specifies whether the specific policy should be destructive when changed from on-to-off.

Use: Not Required

JSON Schema:

```
Object
type: bool
```

##### value

Specifies whether the specific policy should be on or off by default.

Use: Not Required

JSON Schema:

```
Object
type: bool
```

## Responses

207

No Content, Success

400

Unexpected error

404

Partition policy template or policy doesn't exist.

## Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/partitionPolicyTemplates/myTemplateName/policies/0
{
  "offToOnDestructive": false
}
```

## Example Result

```
{
}
```

## 3.2 Appliance Plug-in

The appliance plug-in supports the following resources:

- [Appliance](#)
- [Logs](#)
- [NTLS](#)
- [Services](#)
- [WebServer](#)
- [Network](#)
- [Syslog](#)
- [NTP](#)
- [SNMP](#)
- [SSH](#)
- [Sensor](#)
- [CPU](#)
- [Disk](#)

### 3.2.1 Appliance

Appliance resources allow you to get and configure appliance specific parameters.

- [GET /api/lunasa](#)
- [PUT /api/lunasa](#)
- [PATCH /api/lunasa](#)
- [GET /api/lunasa/actions](#)
- [POST /api/lunasa/actions/{actionid}](#)
- [GET /api/lunasa/time](#)
- [PUT /api/lunasa/time](#)
- [PATCH /api/lunasa/time](#)

#### 3.2.1.1 GET /api/lunasa

##### GET /api/lunasa

Gets information associated with the appliance.

##### Parameters

None

##### Responses

200

Appliance details

JSON Schema: [Lunasa](#)

400

Unexpected error

##### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa
```

##### Example Result

```
{
  "hsms": "/api/lunasa/hsms",
  "syslog": "/api/lunasa/syslog",
  "ssh": "/api/lunasa/ssh",
  "network": "/api/lunasa/network",
  "services": "/api/lunasa/services",
  "actions": "/api/lunasa/actions",
  "ntp": "/api/lunasa/ntp",
  "forceSoLogin": false,
```

```
"version": "6.2.0-6",
"time": "/api/lunasa/time",
"snmp": "/api/lunasa/snmp",
"webServer": "/api/lunasa/webServer",
"ntls": "/api/lunasa/ntls",
"ssh": "/api/lunasa/ssh",
"sensors": "/api/lunasa/sensors",
"cpu": "/api/lunasa/cpu",
"disk": "/api/lunasa/disk",
"partitionPolicyTemplates": "/api/lunasa/partitionPolicyTemplates"
}
```

## See Also

[GET /api/lunasa/hsms](#)

[GET /api/lunasa/syslog](#)

[GET /api/lunasa/network](#)

[GET /api/lunasa/ntp](#)

[GET /api/lunasa/actions](#)

[GET /api/lunasa/services](#)

[GET /api/lunasa/time](#)

[GET /api/lunasa/snmp](#)

[GET /api/lunasa/ntls](#)

[GET /api/lunasa/ssh](#)

[GET /api/lunasa/sensors](#)

[GET /api/lunasa/cpu](#)

[GET /api/lunasa/disk](#)

[GET /api/lunasa/webServer/config](#)

### 3.2.1.2 PUT /api/lunasa

#### PUT /api/lunasa

Changes the state of forceSoLogin flag.

#### Parameters

##### forceSoLogin

Indicates whether to force security officer authentication credentials on specific resources.

**Use:** Required

**JSON Schema:**

```
Object
type: boolean
  false = do not use forceSoLogin
  true = use forceSoLogin
```

#### Responses

204

Success

400

Unexpected error

### Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa
{
  "forceSoLogin": true
}
```

### Example Result

Headers:

```
{'access-control-allow-origin': '*', 'content-type': 'application/json', 'content-length': '0', 'access-control-allow-headers': ''}
```

#### 3.2.1.3 PATCH /api/lunasa

### PATCH /api/lunasa

Changes the state of forceSoLogin flag.

### Parameters

#### forceSoLogin

Indicates whether to force security officer authentication credentials on specific resources.

Use: Required

JSON Schema:

```
Object
type: boolean
  false = do not use forceSoLogin
  true = use forceSoLogin
```

### Responses

204

Success

400

Unexpected error

### Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa
{
  "forceSoLogin": true
}
```

## Example Result

Headers:

```
{'access-control-allow-origin': '*', 'content-type': 'application/json', 'content-length': '0', 'access-control-allow-methods': 'GET'}
"
```

### 3.2.1.4 GET /api/lunasa/actions

## GET /api/lunasa/actions

Gets all lunasa actions.

## Parameters

None

## Responses

200

A list of all actions that can be performed under lunasa.

JSON Schema: [Lunasa Actions](#)

400

Unexpected error

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/actions
```

## Example Result

```
{
  "actions": [
    {
      "id": "reboot",
      "url": "/api/lunasa/actions/reboot"
    }
  ]
}
```

## See Also

[GET /api/lunasa/actions/{actionid}](#)

### 3.2.1.5 POST /api/lunasa/actions/{actionid}

#### POST /api/lunasa/actions/{actionid}

Performs the specified action.

*Reboot*: Reboot will restart the appliance, this will cause downtime in the server and the loss of all sessions. If the webServer service is not set to run on boot, the server will not run when the appliance starts back up.

*RegenerateCertificate*: RegenerateCertificate will generate a new appliance certificate with default arguments unless otherwise specified.

#### Parameters

##### actionid

The identifier of the action to be performed

Use: Required

JSON Schema:

```
Object
type: string
```

##### address

The address to be assigned to the CN of the certificate. The default of the attribute is the hostname of the appliance. This is used only for RegenerateCertificate.

Use: Optional

JSON Schema:

```
Object
type: string
```

##### days

The number of days for the certificate to be valid. The default value of the attribute is 365. This is used only for RegenerateCertificate.

Use: Optional

JSON Schema:

```
Object
type: int
```

##### startDate

The date on which this certificate will be valid. The default of the attribute is now. This is used only for RegenerateCertificate.

Use: Optional

JSON Schema:

```
Object
type: date
```



## Responses

204

Success

400

Unexpected error

404

Invalid action.

## Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/actions/reboot
{}
```

```
POST
https://1.2.3.4:8443/api/lunasa/actions/regenerateCertificate
{
  "startDate" : "2018-2-30",
  "days" : 300,
  "address" : "123.43.23.1"
}
```

## Example Result

```
{}
```

## Notes

Reboot action will create a waiting task.

RegenerateCertificate will require SO authentication when the forceSoLogin flag is enabled. ([See GET /api/lunasa](#))

### 3.2.1.6 GET /api/lunasa/time

#### GET /api/lunasa/time

This resource returns the values of the appliance time, date and time zone information.

## Parameters

None

## Responses

200

Success

JSON Schema: [Time](#)

400

Unexpected failure

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/time
{
}
```

## Example Response

```
{
  "time": "18:56:24",
  "date": "2016-05-27",
  "timeZone": "JST"
}
```

### 3.2.1.7 PUT /api/lunasa/time

#### PUT /api/lunasa/time

This resource configures time, date and time zone on the appliance.

## Parameters

### time

This parameter specifies the hour, minute, and second values. The format must be HH:MM:SS.

**Use:** Required

**JSON Schema:**

```
Object
type:string
```

### date

This parameter specifies the date. The format must be YYYY-MM-DD.

**Use:** Required

**JSON Schema:**

```
Object
type:string
```

## timeZone

This parameter specifies the time zone. Please refer to SafeNet Network HSM documentation for details.

Use: Required

JSON Schema:

```
Object
type:string
```

## Responses

204

Success

400

Unexpected error

## Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/time
{
  "time": "15:00:00",
  "date": "2016-05-27",
  "timeZone": "EST"
}
```

## Example Result

```
{
}
```

## Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See [GET /api/lunasa](#))

### 3.2.1.8 PATCH /api/lunasa/time

#### PATCH /api/lunasa/time

This resource sets time, date or time zone information of the appliance.

## Parameters

### time

This parameter specifies the hour, minute, and second values. The format must be HH:MM:SS.

Use: Not Required

JSON Schema:

```
Object
type:string
```

#### date

This parameter specifies the date. The format must be YYYY-MM-DD.

Use: Not Required

JSON Schema:

```
Object
type:string
```

#### timeZone

This parameter specifies the time zone. Please refer to SafeNet Network HSM documentation for details.

Use: Not Required

JSON Schema:

```
Object
type:string
```

## Responses

204

Success

400

Unexpected error

## Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/time
{
  "time": "15:00:00",
  "date": "2016-05-27",
  "timeZone": "EST"
}
```

## Example Result

```
{
}
```

## Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See [GET /api/lunasa](#))

## 3.2.2 Logs

Logs resources enable collecting and adding log records from/to the SafeNet Network HSM appliance.

- [GET /api/lunasa/logs](#)
- [POST /api/lunasa/logs](#)

### 3.2.2.1 GET /api/lunasa/logs

#### GET /api/lunasa/logs

Gets the logs accumulated on the appliance.

Note: Version 3 of REST API does not support this resource.

#### Parameters

None

#### Responses

200

A binary stream that represents an archive of the appliance logs. This archive is in compressed tar format (tgz). Write the return of GET:/api/lunasa/logs to a file with a .tgz extension.

JSON Schema:

```
<binary stream>
```

400

Unexpected error

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/logs
```

#### Example Result

```
{
  <binary stream>
}
```

### 3.2.2.2 POST /api/lunasa/logs

#### POST /api/lunasa/logs

Creates a log record on the appliance. The log record goes into lunalogs.

Note: Version 3 of REST API does not support this resource.

## Parameters

### title

A designator to categorize log messages by a user-defined scheme. For example, a client application might have a sub-system "Dispatcher" and a sub-system "Monitor" logging messages via the REST API. The title parameter enables differentiation of log messages with similar content.

Use: Required

JSON Schema:

```
Object
type: string
```

### content

Principally the description field of the log record as described in "SafeNet Network HSM Monitoring: Syslog and SNMP" product documentation.

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 204

Success

### Location

JSON Schema:

```
id: Object
type: string
```

### 400

Unexpected error

## Example Request

```
POST
https://1.2.3.4:8443//api/lunasa/logs
{"title": "DOCSigner", "content": "HSM zeroized on client initiation"}
```

## Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': 'api/lunasa/logs', 'Content-Type': 'application/json'}
```

### 3.2.3 NTLS

NTLS resources enable administration and configuration of the Network Trust Link Service.

- [GET /api/lunasa/ntls](#)
- [GET /api/lunasa/ntls/certificate](#)
- [GET /api/lunasa/ntls/clients](#)
- [POST /api/lunasa/ntls/clients](#)
- [GET /api/lunasa/ntls/clients/{clientid}](#)
- [DELETE /api/lunasa/ntls/clients/{clientid}](#)
- [GET /api/lunasa/ntls/clients/{clientid}/links](#)
- [POST /api/lunasa/ntls/clients/{clientid}/links](#)
- [DELETE /api/lunasa/ntls/clients/{clientid}/links/{linkid}](#)
- [GET /api/lunasa/ntls/clients/{clientid}/links/{linkid}](#)
- [DELETE /api/lunasa/ntls/clients](#)

#### 3.2.3.1 GET /api/lunasa/ntls

##### GET /api/lunasa/ntls

Gets information about NTLS.

##### Parameters

None

##### Responses

200

State information related to the NTLS service.

JSON Schema: [NTLS](#)

400

Unexpected error

##### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ntls
```

## Example Result

```
{
  "successfulClientConnections": 8,
  "clients": "/api/lunasa/ntls/clients",
  "certificate": "/api/lunasa/ntls/certificate",
  "links": 0,
  "connectedClients": 0,
  "operationalStatus": "up",
  "failedClientConnections": 19
}
```

### 3.2.3.2 GET /api/lunasa/ntls/certificate

#### GET /api/lunasa/ntls/certificate

Gets the server-side certificate used by NTLS to establish connections with clients.

#### Parameters

None

#### Responses

200

NTLS server certificate.

JSON Schema:

```
Object
certificate: Object
  type: string
  description: certificate is a privacy enhanced mail-format string.
               Save this string to a file named "server.pem" to recreate
               the server certificate as represented on the appliance.
```

400

Unexpected error

#### Example Request

```
GET
https://1.2.3.4:8443///api/lunasa/ntls/certificate
```

#### Example Result

```
{
  "certificate": "-----BEGIN CERTIFICATE-----
... <certificate> ...
-----END CERTIFICATE-----\n"
}
```

### 3.2.3.3 GET /api/lunasa/ntls/clients



## GET /api/lunasa/ntls/clients

Gets the list of all clients registered with the appliance.

### Parameters

None

### Responses

200

List of registered clients

JSON Schema: [Clients](#)

400

Unexpected error

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ntls/clients
```

### Example Result

```
{
  "clients": [
    {
      "clientID": "jseDev",
      "url": "/api/lunasa/ntls/clients/jseDev"
    },
    {
      "clientID": "testClient",
      "url": "/api/lunasa/ntls/clients/testClient"
    },
    {
      "clientID": "testClient2",
      "url": "/api/lunasa/ntls/clients/testClient2"
    },
    {
      "clientID": "testClient3",
      "url": "/api/lunasa/ntls/clients/testClient3"
    }
  ]
}
```

#### 3.2.3.4 POST /api/lunasa/ntls/clients

### POST /api/lunasa/ntls/clients

Registers a client with the appliance.

### Parameters

**ip**

The IP address of the client

Use: Required

JSON Schema:

```
Object
type: string
```

**clientName**

The human-friendly name used to reference the client

Use: Required

JSON Schema:

```
Object
type: string
```

**certificate**

The PEM-encoded certificate for the client

Use: Required

JSON Schema:

```
Object
type: string
```

**Responses****200**

The client identifier registered with the appliance. Response includes the URL to the client identifier to obtain additional information.

JSON Schema:

```
Object
client: Object
  type: string
  description: client is the name of the client registered with the appliance.
```

**Location**

JSON Schema:

```
id: Object
type: string
```

see [GET /api/lunasa/ntls/clients/{clientid}](#)

**400**

Unexpected error

## Example Request

```
POST
https://1.2.3.4:8443//api/lunasa/ntls/clients
{"ip": "1.2.3.4", "certificate": "-----BEGIN CERTIFICATE-----\n...<certificate>...\n-----END CERTIFICATE-----"
```

## Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': 'api/lunasa/ntls/clients/'}
{
  "client": "testClient3"
}
```

## Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See [GET /api/lunasa](#))

To form the "certificate" parameter, use "\n" to delimit end of lines. The following diagram highlights where the delimiter is needed.

Here is a partial "certificate" parameter to show the use of the delimiter.

```
"-----BEGIN CERTIFICATE-----\nMIIDJzCCAq+gAwIBAgIBADANBgkqhkiG9w0BAQsFADEBMBQswCQYDVQQGEwJDQTEQ\nMA4GA1UECAwHT2
^                                     ^
```

### 3.2.3.5 GET /api/lunasa/ntls/clients/{clientid}

#### GET /api/lunasa/ntls/clients/{clientid}

Gets the information associated with a specific client.

## Parameters

### clientid

The identifier of the client of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

200

client details

JSON Schema: [Client description](#)

400

Unexpected error

404

Client does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ntls/clients/testClient
```

### Example Result

```
{
  "htlRequired": false,
  "clientID": "testClient",
  "links": "/api/lunasa/ntls/clients/testClient/links",
  "hostname": "1.2.3.4"
}
```

#### 3.2.3.6 DELETE /api/lunasa/ntls/clients/{clientid}

### DELETE /api/lunasa/ntls/clients/{clientid}

Removes a client from the list of those registered on the appliance.

### Parameters

clientid

The identifier of the client of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### Responses

204

Success

400

Unexpected error

404

Client does not exist.

### Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/ntls/clients/testClient
```

## Example Result

```
{
}
```

## Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See [GET /api/lunasa](#))

### 3.2.3.7 GET /api/lunasa/ntls/clients/{clientid}/links

#### GET /api/lunasa/ntls/clients/{clientid}/links

Gets a list of all partition links assigned to a client.

## Parameters

### clientid

The identifier of the client of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 200

A list of all links registered to the client.

JSON Schema: [Links](#)

### 400

Unexpected error

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ntls/clients/testClient3/links
```

## Example Result

```
{
  "links": [
    {
      "id": "362126088892",
      "url": "/api/lunasa/ntls/clients/testClient/links/362126088892"
    }
  ]
}
```

## See Also

[GET /api/lunasa/ntls/clients/{clientid}/links/{linkid}](#)

### 3.2.3.8 POST /api/lunasa/ntls/clients/{clientid}/links

#### POST /api/lunasa/ntls/clients/{clientid}/links

Registers a link to a partition with a client.

## Parameters

### clientid

The identifier of the client of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### url

The url of the partition of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 204

Link created.

### Location

JSON Schema:

```
id: Object
type: string
```

"Location" is the URL to the link registered to the client and is returned in the server response. You can use "Location" to form a DELETE resource to remove the link from the client.

see [DELETE /api/lunasa/ntls/clients/{clientid}/links/{linkid}](#)

### 400

Unexpected error

## Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/ntls/clients/testClient3/links
{
  "url": "/api/lunasa/hsms/155532/partitions/362126088893"
}
```

## Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/ntls/clients/testClient3/links'}
{
}
```

## Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See [GET /api/lunasa](#))

### 3.2.3.9 DELETE /api/lunasa/ntls/clients/{clientid}/links/{linkid}

#### DELETE /api/lunasa/ntls/clients/{clientid}/links/{linkid}

Deletes a link from a client.

## Parameters

### clientid

The identifier of the client of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### linkid

The identifier of the link of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

400

Unexpected error

404

Specified client or link does not exist.

### Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/ntls/clients/testClient3/links/273087011269
```

### Example Result

```
{
}
```

### Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See [GET /api/lunasa](#))

#### 3.2.3.10 GET /api/lunasa/ntls/clients/{clientid}/links/{linkid}

### GET /api/lunasa/ntls/clients/{clientid}/links/{linkid}

Gets a specified link

### Parameters

#### clientid

The identifier of the client of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### linkid

The identifier of the link of interest

Use: Required

JSON Schema:

```
Object
type: string
```



## Responses

200

A list of all links registered to the client.

JSON Schema: [Links](#)

400

Unexpected error

404

Specified link does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ntls/clients/testClient/links/362126088892
```

## Example Result

```
{
  "url": "/api/lunasa/hsms/155532/partitions/362126088892",
  "type": "hsm/partition"
}
```

## See Also

[GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}](#)

### 3.2.3.11 DELETE /api/lunasa/ntls/clients

#### DELETE /api/lunasa/ntls/clients

Removes all clients registered on the appliance.

## Parameters

None

## Responses

204

Success

400

Unexpected error

### Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/ntls/clients
```

### Example Result

```
{
}
```

### Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See [GET /api/lunasa](#))

## 3.2.4 Services

Services resources enable starting, stopping and checking the status appliance services.

- [GET /api/lunasa/services](#)
- [GET /api/lunasa/services/{serviceid}](#)
- [PUT /api/lunasa/services/{serviceid}](#)
- [PATCH /api/lunasa/services/{serviceid}](#)
- [GET /api/lunasa/services/{serviceid}/actions](#)
- [POST /api/lunasa/services/{serviceid}/actions/{actionid}](#)

### 3.2.4.1 GET /api/lunasa/services

#### GET /api/lunasa/services

Gets all services associated with the appliance.

#### Parameters

None

#### Responses

200

A list of all services associated with the appliance. Specifically, the list is unique identifiers.

JSON Schema: [services](#)

400

Unexpected error

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/services
```

## Example Result

```
{
  "services": [
    {
      "id": "cbs",
      "url": "/api/lunasa/services/cbs"
    },
    {
      "id": "htl",
      "url": "/api/lunasa/services/htl"
    },
    {
      "id": "lsta",
      "url": "/api/lunasa/services/lsta"
    },
    {
      "id": "network",
      "url": "/api/lunasa/services/network"
    },
    {
      "id": "ntls",
      "url": "/api/lunasa/services/ntls"
    },
    {
      "id": "ntp",
      "url": "/api/lunasa/services/ntp"
    },
    {
      "id": "snmp",
      "url": "/api/lunasa/services/snmp"
    },
    {
      "id": "ssh",
      "url": "/api/lunasa/services/ssh"
    },
    {
      "id": "stc",
      "url": "/api/lunasa/services/stc"
    },
    {
      "id": "syslog",
      "url": "/api/lunasa/services/syslog"
    },
    {
      "id": "sysstat",
      "url": "/api/lunasa/services/sysstat",
    }
  ],
  "id": "webserver",
  "url": "/api/lunasa/services/webserver"
}
]
```

### 3.2.4.2 GET /api/lunasa/services/{serviceid}

#### GET /api/lunasa/services/{serviceid}

Gets specific information about the service.

#### Parameters

##### serviceid

The identifier of the service of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

200

The information about the service.

JSON Schema: [Service](#)

400

Unexpected error

404

Service does not exist

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/services/stc
```

## Example Result

```
{
  "status" : "running"
  "onBoot" : true
}
```

### 3.2.4.3 PUT /api/lunasa/services/{serviceid}

#### PUT /api/lunasa/services/{serviceid}

Modifies the service attributes.

## Parameters

### serviceid

The identifier of the service of interest

Use: Required

JSON Schema:

```
Object
type: string
```

### onBoot

This parameter specifies the onBoot option for the service.

Use: Required

JSON Schema:

```
Object
type:boolean
```

## Responses

200

Success

400

Unexpected error

404

Service does not exist

## Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/services/stc
{
  "onBoot" : true
}
```

## Example Result

```
{
}
```

### 3.2.4.4 PATCH /api/lunasa/services/{serviceid}

#### PATCH /api/lunasa/services/{serviceid}

Modifies the service attributes.

## Parameters

**serviceid**

The identifier of the service of interest

Use: Required

JSON Schema:

```
Object
type:string
```

### onBoot

This parameter specifies the onBoot option for the service.

Use: Required

JSON Schema:

```
Object
type:boolean
```

### Responses

200

Success

400

Unexpected error

404

Service does not exist

### Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/services/stc
{
  "onBoot" : true
}
```

### Example Result

```
{
}
```

#### 3.2.4.5 GET /api/lunasa/services/{serviceid}/actions

#### GET /api/lunasa/services/{serviceid}/actions

Gets all actions associated with the service.

### Parameters

serviceid

The identifier of the service of interest

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

200

The set of all actions associated with the service.

JSON Schema: [Service Actions](#)

400

Unexpected error

404

Service does not exist

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/services/stc/actions
```

## Example Result

```
{
  "actions": [
    {
      "id": "start",
      "url": "/api/lunasa/lunasa/services/stc/actions/start"
    },
    {
      "id": "stop",
      "url": "/api/lunasa/lunasa/services/stc/actions/stop"
    },
    {
      "id": "restart",
      "url": "/api/lunasa/lunasa/services/stc/actions/restart"
    }
  ]
}
```

### 3.2.4.6 POST /api/lunasa/services/{serviceid}/actions/{actionid}

#### POST /api/lunasa/services/{serviceid}/actions/{actionid}

Performs the specified action on the service.

## Parameters

**serviceid**

The identifier of the service of interest

Use: Required

JSON Schema:

```
Object
type: string
```

#### **actionid**

The identifier of the action of interest

**Use:** Required

JSON Schema:

```
Object
type: string
```

### **Responses**

**204**

Success.

#### **Location**

JSON Schema:

```
id: Object
type: string
```

"Location" is the URL to the task spawned to perform the action on the service.

#### **id**

The identifier for the service actioned.

JSON Schema:

```
id: Object
type: string
```

**400**

Unexpected error

**404**

Service or action does not exist.

### **Example Request**

```
POST
https://1.2.3.4:8443/api/lunasa/services/stc/actions/restart
```



## Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/3', 'Content-Length': 100}
{ }
```

### 3.2.5 WebServer

Web Server resources enable monitoring and administering the service responsible for the REST API.

- [GET /api/lunasa/webServer](#)
- [PUT /api/lunasa/webServer](#)
- [PATCH /api/lunasa/webServer](#)
- [GET /api/lunasa/webServer/actions](#)
- [POST /api/lunasa/webServer/actions/{actionid}](#)
- [GET /api/lunasa/webServer/certificate](#)
- [PUT /api/lunasa/webServer/certificate](#)
- [PUT /api/lunasa/webServer/certificate](#)
- [PATCH /api/lunasa/webServer/certificate](#)
- [GET /api/lunasa/webServer/csr](#)
- [GET /api/lunasa/webServer/certificate/actions](#)
- [POST /api/lunasa/webServer/certificate/actions/{actionid}](#)
- [GET /api/lunasa/webServer/blacklist](#)
- [PUT /api/lunasa/webServer/blacklist](#)
- [PATCH /api/lunasa/webServer/blacklist](#)
- [GET /api/lunasa/webServer/blacklist/actions](#)
- [POST /api/lunasa/webServer/blacklist/actions/{actionid}](#)

#### 3.2.5.1 GET /api/lunasa/webServer

### GET /api/lunasa/webServer

Gets the configuration of the web server providing the REST API.

#### Parameters

None

#### Responses

200

The configuration of the web server.

JSON Schema: [Web Server Configuration Description](#)

400

Unexpected error

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/webServer
```

### Example Result

```
{
  "apiVersion": 5,
  "cipherList": "ECDHE-RSA-AES256-GCM-SHA384,ECDHE-ECDSA-AES256-GCM-SHA384,ECDHE-RSA-AES256-SHA384,ECDHE-ECDSA-AES256-SHA384",
  "ipAddress": "0.0.0.0",
  "netDevice": "eth1",
  "port": 8443,
  "threads": 5,
  "certificate": "/api/lunasa/webServer/certificate",
  "actions": "/api/lunasa/webServer/actions",
  "csr": "/api/lunasa/webServer/csr",
  "corsOrigins": ["*"],
  "blacklist": "/api/lunasa/webServer/blacklist"
}
```

### See Also

[GET /api/lunasa/webServer/certificate](#)[GET /api/lunasa/webServer/actions](#)[GET /api/lunasa/webServer/csr](#)[GET /api/lunasa/webServer/blacklist](#)

#### 3.2.5.2 PUT /api/lunasa/webServer

### PUT /api/lunasa/webServer

Sets the configuration of the web server providing the REST API.

### Parameters

#### cipherList

cipherList is the cipher suite the REST API service is to accept for applications requesting connection to the web server. cipherList is a sub-set of the ciphers known to the REST API service.

Use: Required

JSON Schema:

```
Object
type: string
```

#### netDevice

netDevice is the interface to which the REST API service is bound. Valid interfaces for SA7 are: eth0, eth1, eth2, eth3, all, all\_ipv4, bond0 and bond1. ("all" includes all ipv6 and ipv4 addresses.) Valid interfaces for SA6 are: eth0, eth1, all, bond0. ("all" includes all ipv4 addresses.)

Use: Required

JSON Schema:

```
Object
type: string
```

### port

port is the logical end-point number reserved for the REST API service. The port must be within the range: 80 to 65535.

Use: Required

JSON Schema:

```
Object
type: integer
```

### threads

threads is the number of simultaneous connections the REST API service supports. A small number of threads implies restricted administrative access to the appliance.

Use: Required

JSON Schema:

```
Object
type: integer
```

### corsOrigins

corsOrigins is the list that determines the Access-Control-Allow-Origin header of responses.

Use: Required

JSON Schema:

```
Object
type: array
  corsOrigins: Object
    type: string
```

## Responses

204

Success

400

Unexpected error

## Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/webServer
{
  "cipherList" : "ECDHE-RSA-AES256-GCM-SHA384,ECDHE-ECDSA-AES256-GCM-SHA384,ECDHE-RSA-AES256-SHA384,ECDHE-
```

```
"netDevice" : "eth1",
"port" : 8443,
"threads" : 5,
"corsOrigins" : ["*"]
}
```

### Example Result

```
{
}
```

#### 3.2.5.3 PATCH /api/lunasa/webServer

### PATCH /api/lunasa/webServer

Changes the configuration of the web server providing the REST API.

### Parameters

#### cipherList

cipherList is the cipher suite the REST API service is to accept for applications requesting connection to the web server. cipherList is a sub-set of the ciphers known to the REST API service.

Use: Not Required

JSON Schema:

```
Object
type: string
```

#### netDevice

netDevice is the interface to which the REST API service is bound. Valid interfaces for SA7 are: eth0, eth1, eth2, eth3, all, all\_ipv4, bond0 and bond1. ("all" includes all ipv6 and ipv4 addresses.) Valid interfaces for SA6 are: eth0, eth1, all, bond0. ("all" includes all ipv4 addresses.)

Use: Not Required

JSON Schema:

```
Object
type: string
```

#### port

port is the logical end-point number reserved for the REST API service. The port must be within the range: 80 to 65535.

Use: Not Required

JSON Schema:

```
Object
type: integer
```

#### threads

threads is the number of simultaneous connections the REST API service supports. A small number of threads implies restricted administrative access to the appliance.

Use: Not Required

JSON Schema:

```
Object
type: integer
```

### **corsOrigins**

corsOrigins is the list that determines the Access-Control-Allow-Origin header of responses.

Use: Not Required

JSON Schema:

```
Object
type: array
  corsOrigins: Object
    type: string
```

## **Responses**

204

Success

400

Unexpected error

## **Example Request**

```
PATCH
https://1.2.3.4:8443/api/lunasa/webServer
{
  "netDevice" : "eth1",
  "port" : 8443,
  "corsOrigins" : ["*"]
}
```

## **Example Result**

```
{
}
```

### **3.2.5.4 GET /api/lunasa/webServer/actions**

#### **GET /api/lunasa/webServer/actions**

Gets all actions that an administrator can perform on the web server.

#### **Parameters**

None

## Responses

200

A list of all actions associated with the web server. The list includes unique identifiers that can be used to perform the specific action with a POST.

JSON Schema: [Web Server Configuration Actions](#)

400

Unexpected error

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/webServer/actions
```

## Example Result

```
{
  "actions": [
    {
      "id": "setDefaultCipherList",
      "url": "/api/lunasa/webServer/actions/setDefaultCipherList"
    }
  ]
}
```

## See Also

[POST /api/lunasa/webServer/actions/{actionid}](#)

**3.2.5.5** [POST /api/lunasa/webServer/actions/{actionid}](#)

**POST /api/lunasa/webServer/actions/{actionid}**

Sends the specified configuration action to the web server.

## Parameters

**actionid**

The identifier of the action to be performed

**Use:** Required

JSON Schema:

```
Object
type: string
```

See [Web Server Configuration Actions](#)

## Responses

200

Success

location

JSON Schema:

```
id: Object
  type: string
```

"location" is the URL to the task spawned to perform the web server configuration action.

400

Unexpected error

404

Action does not exist.

## Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/webServer/actions/setDefaultCipherList
```

## Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Content-Length': '712', 'Access-Cont
{
}
```

### 3.2.5.6 GET /api/lunasa/webServer/certificate

#### GET /api/lunasa/webServer/certificate

Gets the attributes of the certificate

## Parameters

None

## Responses

200

The attributes of the certificate.

JSON Schema: [Web Server Configuration Description](#)

400

Unexpected error

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/webServer/certificate
```

### Example Result

```
{
  "actions": "/api/lunasa/webServer/certificate/actions"
  "hash" : "SHA1",
  "curveName" : "secp521r1",
  "keyType" : "rsa",
  "keySize" : 2048,
  "fingerprint" : "D9:08:77:4E:EC:8F:29:EF:4B:DA:2C:6E:C9:29:2E:EC:68:7D:AF:95",
  "subjectAltNames" : ["example.com", "www.example.com"]
}
```

#### 3.2.5.7 PUT /api/lunasa/webServer/certificate

### PUT /api/lunasa/webServer/certificate

Regenerates the certificate

### Parameters

#### curveName

curveName is the name of the elliptic curve used for an ECDSA-based certificate.

Use: Required

JSON Schema:

```
Object
type: string
```

#### keyType

keyType is the type of key used by the web server to secure access to the REST API service.

Use: Required

JSON Schema:

```
Object
type: string
```

#### keySize

keySize is the number of bits for the key used to secure access to the REST API service.

Use: Required

JSON Schema:

```
Object
type: integer
```



**subjectAltNames**

subjectAltName is an extension to X.509 that allows various values to be associated with a security certificate.

Use: Required

JSON Schema:

```
Object
type: array
  subjectAltName: Object
                  type: string
```

**Responses****204**

Success

**Location**

JSON Schema:

```
id: Object
type: string
```

"Location" is the URL to the task spawned to regenerate the certificate. The task is a waiting task.

**400**

Bad Request

**Example Request**

```
PUT
https://1.2.3.4:8443/api/lunasa/webServer/certificate
{
  "curveName" : "secp521r1",
  "keyType" : "rsa",
  "keySize" : 2048,
  "subjectAltNames" : ["example.com", "www.example.com"]
}
```

**Example Result**

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Length': 0}
{
}
```

**3.2.5.8 PUT /api/lunasa/webServer/certificate****PUT /api/lunasa/webServer/certificate**

Replaces the current certificate with a given file.

## Parameters

The request takes in a file.

[See File I/O](#)

## Responses

204

Success

### Location

JSON Schema:

```
id: Object
  type: string
```

"Location" is the URL to the task spawned to regenerate the certificate. The task is a waiting task.

400

Bad Request

## Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/tasks/0', 'Content-Length': 100}
{
}
```

### 3.2.5.9 PATCH /api/lunasa/webServer/certificate

#### PATCH /api/lunasa/webServer/certificate

Regenerates the certificate with the given amount of fields.

## Parameters

### curveName

curveName is the name of the elliptic curve used for an ECDSA-based certificate.

Use: Not Required

JSON Schema:

```
Object
  type: string
```

### keyType

keyType is the type of key used by the web server to secure access to the REST API service.

Use: Not Required

JSON Schema:

```
Object
  type: string
```

### keySize

keySize is the number of bits for the key used to secure access to the REST API service.

Use: Not Required

JSON Schema:

```
Object
  type: integer
```

### subjectAltNames

SubjectAltName is an extension to X.509 that allows various values to be associated with a security certificate.

Use: Not Required

JSON Schema:

```
Object
  type: array
    subjectAltName: Object
      type: string
```

## Responses

204

Success

400

Bad Request

### Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/webServer/certificate
{
  "subjectAltNames" : ["example.com", "www.example.com"]
}
```

### Example Result

```
{
}
```

### 3.2.5.10 GET /api/lunasa/webServer/csr

#### GET /api/lunasa/webServer/csr

Gets a certificate signing request.

#### Parameters

None

#### Responses

200

Data buffer containing the file contents.

400

Unexpected error

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/webServer/csr
```

#### Example Result

```
{
}
```

#### Notes

This resource returns the contents of a file in a buffer.

Below is an example of getting the contents in python. We iterate through the contents and save them to a file.

```
r = requests.get("/api/lunasa/webServer/csr",
                 stream=True,
                 cookies=cookies,
                 verify=False,
                 allow_redirects=False)

with open("ssl.csr", 'wb') as csr:
    for chunk in r.iter_content(chunk_size=1024):
        if chunk:
            csr.write(chunk)
    csr.close()
```

### 3.2.5.11 GET /api/lunasa/webServer/certificate/actions

#### GET /api/lunasa/webServer/certificate/actions

Gets the actions that can be applied to the certificate of the web server providing the REST API.

## Parameters

None

## Responses

200

A list of all actions associated with the web server certificate. The list includes unique identifiers that can be used to perform the specific action with a POST.

JSON Schema: [Web Server Certificate Actions](#)

400

Unexpected error

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/webServer/certificate/actions
```

## Example Result

```
{
  "actions": {
    "id": "regenerate",
    "url": "/api/lunasa/webServer/certificate/actions/regenerate"
  }
}
```

### 3.2.5.12 POST /api/lunasa/webServer/certificate/actions/{actionid}

#### POST /api/lunasa/webServer/certificate/actions/{actionid}

Performs an action on the certificate used to secure access to the web server that provides the REST API.

## Parameters

actionid

The action to be performed on the certificate

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

### Location

"Location" is the URL to the certificate changed by the action and is returned in the server response. You can use "Location" to form a GET resource to query the certificate.

see [GET api/lunasa/webServer/certificate](#)

400

Unexpected error

404

Action does not exist.

### Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/webServer/certificate/actions/regenerate
{}
```

### Example Result

```
{'Access-Control-Allow-Origin': '*', 'Content-Type': 'application/json', 'Location': '/api/lunasa/webServer/certificate'}
{}
```

#### 3.2.5.13 GET /api/lunasa/webServer/blacklist

### GET /api/lunasa/webServer/blacklist

Gets the web server blacklist configuration. For more details on the blacklist configuration see [Black List](#)

### Parameters

None

### Responses

200

The configuration of the blacklist.

JSON Schema: [Web Server Blacklist](#)

400

Unexpected error

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/webServer/blacklist
```

## Example Result

```
{
  "maxInfractionCount": 10,
  "timeoutStart": 5,
  "timeoutMultiplier": 1.5,
  "actions": "/api/lunasa/webServer/blacklist/actions"
}
```

## See Also

[GET /api/lunasa/webServer/blacklist/actions](#)

### 3.2.5.14 PUT /api/lunasa/webServer/blacklist

#### PUT /api/lunasa/webServer/blacklist

Modifies the web server blacklist configuration.

#### Parameters

##### maxInfractionCount

The maximum amount of infractions that can be made before a user is blacklisted.

Use: Not Required

JSON Schema:

```
Object
  type:integer
```

##### timeoutStart

The starting timeout of a blacklist entry.

Use: Not Required

JSON Schema:

```
Object
  type:integer
```

##### timeoutMultiplier

The timeout multiplier that defines how much to increment the timeout upon an infraction.

Use: Not Required

JSON Schema:

```
Object
  type:integer
```

##### severity

The severity of the blacklist as a percentage (0-100). 0 being more tolerant while 100 being more strict, the default value is 50 percent. This parameter replaces the use of the above three parameters.

Use: Not Required

JSON Schema:

```
Object
type:integer
```

## Responses

204

Success

400

Unexpected error

## Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/webServer/blacklist
{
  "maxInfractionCount": 10,
  "timeoutStart": 5,
  "timeoutMultiplier": 1.5
}
```

## Example Request (Severity)

```
PUT
https://1.2.3.4:8443/api/lunasa/webServer/blacklist
{
  "severity": 50
}
```

## Example Result

```
{
}
```

### 3.2.5.15 PATCH /api/lunasa/webServer/blacklist

#### PATCH /api/lunasa/webServer/blacklist

Modifies the given web server blacklist configuration entries.

#### Parameters

##### maxInfractionCount

The maximum amount of infractions that can be made before a user is blacklisted.

Use: Not Required

JSON Schema:

```
Object
type:integer
```



**timeoutStart**

The starting timeout of a blacklist entry.

Use: Not Required

JSON Schema:

```
Object
  type:integer
```

**timeoutMultiplier**

The timeout multiplier that defines how much to increment the timeout upon an infraction.

Use: Not Required

JSON Schema:

```
Object
  type:integer
```

**severity**

The severity of the blacklist as a percentage (0-100). 0 being more tolerant while 100 being more strict, the default value is 50 percent. This parameter replaces the use of the above three parameters.

Use: Not Required

JSON Schema:

```
Object
  type:integer
```

**Responses**

204

Success

400

Unexpected error

**Example Request**

```
PATCH
https://1.2.3.4:8443/api/lunasa/webServer/blacklist
{
  "maxInfractionCount": 100
}
```

**Example Result**

```
{
}
```

### 3.2.5.16 GET /api/lunasa/webServer/blacklist/actions

#### GET /api/lunasa/webServer/blacklist/actions

Gets the list of web server blacklist actions.

#### Parameters

None

#### Responses

200

The blacklist actions.

JSON Schema: [Web Server Blacklist Actions](#)

400

Unexpected error

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/webServer/blacklist/actions
```

#### Example Result

```
{
  "actions":
  [
    {
      "id": "reset",
      "url": "/api/lunasa/webServer/blacklist/actions/reset"
    }
  ]
}
```

#### See Also

[POST /api/lunasa/webServer/blacklist/actions/{actionid}](#)

### 3.2.5.17 POST /api/lunasa/webServer/blacklist/actions/{actionid}

#### POST /api/lunasa/webServer/blacklist/actions/{actionid}

Performs the specified web server blacklist action.

#### Parameters

**actionid**

The url parameter specifying the action to perform.

Use: Required

JSON Schema:

```
Object
type:string
```

**Responses**

204

Success.

400

Unexpected error.

404

Invalid blacklist action.

**Example Request**

```
POST
https://1.2.3.4:8443/api/lunasa/webServer/blacklist/actions/reset
{}
```

**Example Result**

```
{}
```

**3.2.6 Network**

Network resources allow you to get and configure network specific parameters.

- [GET /api/lunasa/network](#)
- [GET /api/lunasa/network/actions](#)
- [POST /api/lunasa/network/actions/{actionid}](#)
- [PUT /api/lunasa/network](#)
- [PATCH /api/lunasa/network](#)
- [GET /api/lunasa/network/devices](#)
- [POST /api/lunasa/network/devices](#)
- [GET /api/lunasa/network/devices/{deviceid}](#)
- [DELETE /api/lunasa/network/devices/{deviceid}](#)
- [GET /api/lunasa/network/devices/{deviceid}/stats](#)

- GET /api/lunasa/network/devices/{deviceid}/ip4
- PUT /api/lunasa/network/devices/{deviceid}/ip4
- PATCH /api/lunasa/network/devices/{deviceid}/ip4
- GET /api/lunasa/network/devices/{deviceid}/ip6
- PUT /api/lunasa/network/devices/{deviceid}/ip6
- PATCH /api/lunasa/network/devices/{deviceid}/ip6
- GET /api/lunasa/network/devices/{deviceid}/routes
- POST /api/lunasa/network/devices/{deviceid}/routes
- DELETE /api/lunasa/network/devices/{deviceid}/routes
- GET /api/lunasa/network/devices/{deviceid}/routes/{routeid}
- DELETE /api/lunasa/network/devices/{deviceid}/routes/{routeid}
- GET /api/lunasa/network/dns
- GET /api/lunasa/network/dns/nameServers
- POST /api/lunasa/network/dns/nameServers
- GET /api/lunasa/network/dns/nameServers/{nameServerid}
- DELETE /api/lunasa/network/dns/nameServers/{nameServerid}
- GET /api/lunasa/network/dns/searchDomains
- POST /api/lunasa/network/dns/searchDomains
- GET /api/lunasa/network/dns/searchDomains/{searchDomainid}
- DELETE /api/lunasa/network/dns/searchDomains/{searchDomainid}
- GET /api/lunasa/network/netstat
- GET /api/lunasa/network/netstat/{socketid}

### 3.2.6.1 GET /api/lunasa/network

#### GET /api/lunasa/network

Gets the network information associated with the appliance.

#### Parameters

None

#### Responses

200

Network Info

JSON Schema: [Network](#)

400

Unexpected error

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network
```

### Example Result

```
{
  "hostname" : "MyHostname",
  "domain" : "MyDomain",
  "actions" : "/api/lunasa/network/actions",
  "devices": "/api/lunasa/network/devices"
  "dns": "/api/lunasa/network/dns"
}
```

### See Also

[GET /api/lunasa/network/actions](#)

[GET /api/lunasa/network/devices](#)

[GET /api/lunasa/network/dns](#)

#### 3.2.6.2 GET /api/lunasa/network/actions

### GET /api/lunasa/network/actions

Gets all network actions.

### Parameters

None

### Responses

200

A list of all actions that can be performed under the network.

JSON Schema: [Network Actions](#)

400

Unexpected error

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/actions
```

## Example Result

```
{
  "actions": [
    {
      "id": "ping",
      "url": "/api/lunasa/network/actions/ping"
    }
  ]
}
```

### 3.2.6.3 POST /api/lunasa/network/actions/{actionid}

#### POST /api/lunasa/network/actions/{actionid}

Performs the specified action.

## Parameters

### actionid

The identifier of the action to be performed

Use: Required

JSON Schema:

```
Object
type: string
```

### address

Specifies the address to ping, accepts a valid ip or hostname

Use: Required

JSON Schema:

```
Object
type:string
```

## Responses

### 200

The time it took to ping in seconds.

### 400

Unexpected error

### 404

Invalid action.

## Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/network/actions/ping

{
  "address" : "1.2.3.5"
}
```

## Example Result

Returns the transfer time of one packet in milliseconds. A time of 0 indicates the ping failed.

```
{'access-control-allow-origin': '*', 'content-type': 'application/json', 'content-length': '712', 'access-cont
{
  "time" : 0.000607
}
```

### 3.2.6.4 PUT /api/lunasa/network

#### PUT /api/lunasa/network

Sets all base network configurations associated with the appliance.

#### Parameters

##### hostname

The hostname to give the appliance.

Use: Required

JSON Schema:

```
Object
type: string
```

##### domain

The domain name for the appliance.

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

204

Success

400

Unexpected error

### Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/network
{
  "hostname" : "My-Host.name",
  "domain" : "My-Domain.com"
}
```

### Example Result

```
{
}
```

#### 3.2.6.5 PATCH /api/lunasa/network

### PATCH /api/lunasa/network

Sets the network information associated with the appliance.

#### Parameters

##### hostname

The hostname to give the appliance.

Use: Not Required

JSON Schema:

```
Object
type: string
```

##### domain

The domain name to the appliance.

Use: Not Required

JSON Schema:

```
Object
type: string
```

#### Responses

204

Success

400

Unexpected error



### Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/network
{
  "hostname" : "MyHostname"
}
```

### Example Result

```
{
}
```

#### 3.2.6.6 GET /api/lunasa/network/devices

### GET /api/lunasa/network/devices

Gets all network devices.

### Parameters

None

### Responses

200

A list of all network devices on the appliance.

JSON Schema: [Network Devices](#)

400

Unexpected error

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/devices
```

### Example Result

```
{
  "devices": [
    {
      "id": "lo",
      "type": "ethernet",
      "url": "/api/lunasa/network/devices/lo"
    },
    {
      "id": "eth0",
      "type": "ethernet",
      "url": "/api/lunasa/network/devices/eth0"
    },
    {
      "id": "eth1",
      "type": "ethernet",
      "url": "/api/lunasa/network/devices/eth1"
    }
  ]
}
```

```
    "url": "/api/lunasa/network/devices/eth1"
  },
  {
    "id": "bond0",
    "type" : "ethernet",
    "url": "/api/lunasa/network/devices/bond0"
  }
]
}
```

## See Also

[GET /api/lunasa/network/devices/{deviceid}](#)

### 3.2.6.7 POST /api/lunasa/network/devices

#### POST /api/lunasa/network/devices

Creates an unconfigured bond device.

#### Parameters

##### devices

A list of network devices used to create a bond device.

Use: Required

JSON Schema:

```
Object
  type: array
    device: Object
      type: string
```

#### Responses

204

Success

##### Location

"Location" is the URL to the newly created bond device.

see [GET /api/lunasa/network/devices/{deviceid}](#)

400

Unexpected error

### Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/network/devices
{
  "devices" : ["eth0", "eth1"]
}
```

### Example Response

```
{ }
```

#### 3.2.6.8 GET /api/lunasa/network/devices/{deviceid}

#### GET /api/lunasa/network/devices/{deviceid}

Gets information about a network device.

### Parameters

#### deviceid

The identifier of a network device.

Use: Required

JSON Schema:

```
Object
type: string
```

### Responses

#### 200

Basic information about the network device.

JSON Schema: [Network Device](#)

#### 400

Unexpected error

#### 404

Device does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/devices/eth0
```

## Example Result

```
{
  "stats": "/api/lunasa/network/devices/eth0/stats",
  "routes": "/api/lunasa/network/devices/eth0/routes",
  "ip4": "/api/lunasa/network/devices/eth0/ip4",
  "ip6": "/api/lunasa/network/devices/eth0/ip6",
  "mac": "00:15:b2:a1:ac:28",
  "type": "ethernet",
  "name": "eth0"
}
```

## See Also

[GET /api/lunasa/network/devices/{deviceid}/ip4](#)  
[GET /api/lunasa/network/devices/{deviceid}/ip6](#)  
[GET /api/lunasa/network/devices/{deviceid}/routes](#)  
[GET /api/lunasa/network/devices/{deviceid}/stats](#)

### 3.2.6.9 DELETE /api/lunasa/network/devices/{deviceid}

#### DELETE /api/lunasa/network/devices/{deviceid}

Removes or disables a device.

## Parameters

### deviceid

Specifies the id of the device.

Use: Required

JSON Schema:

```
Object
type:string
```

## Responses

204

Success

400

Unexpected error

404

Device does not exist.

### Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/network/devices/{deviceid}
{}
```

### Example Response

```
{}
```

### Notes

This resource will disable ethernet devices such as eth0 and eth1, querying a device that has been disabled will display values such as ip, mask and gateway as null. If the device is a bond device the device will be removed.

#### 3.2.6.10 GET /api/lunasa/network/devices/{deviceid}/stats

#### GET /api/lunasa/network/devices/{deviceid}/stats

Gets packet information about a network device.

### Parameters

#### deviceid

The identifier of a network device.

Use: Required

JSON Schema:

```
Object
type: string
```

### Responses

#### 200

Packet information about the network device.

JSON Schema: [Device Stats](#)

#### 400

Unexpected error

#### 404

Device does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/stats
```

## Example Result

```
{
  "receivedPackets": 29731344,
  "receivedBytes": 12013874077,
  "receivedErrors": 0,
  "receivedDropped": 0,
  "transmittedPackets": 3786773,
  "transmittedBytes": 3793924674,
  "transmittedErrors": 0,
  "transmittedDropped": 0,
  "transmittedCollisions": 0
}
```

### 3.2.6.11 GET /api/lunasa/network/devices/{deviceid}/ip4

#### GET /api/lunasa/network/devices/{deviceid}/ip4

Gets ip4 information from a network device.

#### Parameters

##### deviceid

The identifier of a network device.

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

##### 200

Ip4 information about the network device.

JSON Schema: [Network Device Ip4](#)

##### 400

Unexpected error

##### 404

Device does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/ip4
{
}
```

## Example Result

```
{
  "ip": "172.20.11.98",
  "mask": 24,
  "gateway": "172.20.11.10"
}
```

### 3.2.6.12 PUT /api/lunasa/network/devices/{deviceid}/ip4

#### PUT /api/lunasa/network/devices/{deviceid}/ip4

Sets all ip4 configurations for a specific device.

## Parameters

### deviceid

The identifier of a network device.

Use: Required

JSON Schema:

```
Object
type: string
```

### ip

The ip address to set for the device.

Use: Required

JSON Schema:

```
Object
type: string
```

### mask

The subnet mask to set for the device.

Use: Required

JSON Schema:

```
Object
type: integer
```

### gateway

The default gateway to set for the device.

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

400

Unexpected error

404

Device does not exist.

## Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/ip4
{
  "ip" : "1.2.3.5",
  "mask" : 24,
  "gateway" : "1.2.3.7"
}
```

## Example Result

```
{
}
```

## Notes

This resource will return a waiting task if you are modifying the device that the web server is currently running on.

### 3.2.6.13 PATCH /api/lunasa/network/devices/{deviceid}/ip4

#### PATCH /api/lunasa/network/devices/{deviceid}/ip4

Sets ip4 configurations for a specific device.

## Parameters

### deviceid

The identifier of a network device.

Use: Required

JSON Schema:

```
Object
type: string
```



## ip

The ip address to set for the device.

Use: Not Required

JSON Schema:

```
Object
type: string
```

## mask

The subnet mask to set for the device.

Use: Not Required

JSON Schema:

```
Object
type: integer
```

## gateway

The default gateway to set for the device.

Use: Not Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

400

Unexpected error

404

Device does not exist.

## Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/ip4
{
  "ip" : "1.2.3.5",
  "mask" : 24
}
```

## Example Result

```
{  
}
```

## Notes

This resource will return a waiting task if you are modifying the device that the web server is currently running on.

### 3.2.6.14 GET /api/lunasa/network/devices/{deviceid}/ip6

#### GET /api/lunasa/network/devices/{deviceid}/ip6

Gets ip6 information from a network device.

## Parameters

### deviceid

The identifier of a network device.

Use: Required

JSON Schema:

```
Object  
type: string
```

## Responses

### 200

Ip6 information about the network device.

JSON Schema: [Network Device Ip6](#)

### 400

Unexpected error

### 404

Device does not exist.

## Example Request

```
GET  
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/ip6  
{  
}
```

## Example Result

```
{
  "ip": "2000::2",
  "prefix": 3,
  "gateway": "2000::1"
}
```

### 3.2.6.15 PUT /api/lunasa/network/devices/{deviceid}/ip6

#### PUT /api/lunasa/network/devices/{deviceid}/ip6

Sets all ip6 configurations for a specific device.

## Parameters

### deviceid

The identifier of a network device.

Use: Required

JSON Schema:

```
Object
type: string
```

### ip

The global ipv6 address to set for the device.

Use: Required

JSON Schema:

```
Object
type: string
```

### prefix

The prefix to set for the device.

Use: Required

JSON Schema:

```
Object
type: integer
```

### gateway

The default gateway to set for the device.

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

400

Unexpected error

404

Device does not exist.

## Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/ip6
{
  "ip" : "2000::2",
  "prefix" : 3,
  "gateway" : "2000::1"
}
```

## Example Result

```
{
}
```

## Notes

This resource will return a waiting task if you are modifying the device that the web server is currently running on.

### 3.2.6.16 PATCH /api/lunasa/network/devices/{deviceid}/ip6

#### PATCH /api/lunasa/network/devices/{deviceid}/ip6

Sets ip6 configurations for a specific device.

## Parameters

### deviceid

The identifier of a network device.

Use: Required

JSON Schema:

```
Object
type: string
```

### ip

The global ipv6 address to set for the device.

Use: Not Required

JSON Schema:

```
Object
type: string
```

### prefix

The prefix to set for the device.

Use: Not Required

JSON Schema:

```
Object
type: integer
```

### gateway

The default gateway to set for the device.

Use: Not Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

400

Unexpected error

404

Device does not exist.

## Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/ip6
{
  "ip" : "2000::2",
  "prefix" : 3
}
```

### Example Result

```
{  
}
```

### Notes

This resource will return a waiting task if you are modifying the device that the web server is currently running on.

#### 3.2.6.17 GET /api/lunasa/network/devices/{deviceid}/routes

### GET /api/lunasa/network/devices/{deviceid}/routes

Gets all routes for a specific network device.

### Parameters

#### deviceid

Specifies the id of the device.

Use: Required

JSON Schema:

```
Object  
type:string
```

### Responses

200

A list of all network routes.

JSON Schema: [Network Routes](#)

400

Unexpected error

404

Device does not exist.

### Example Request

```
GET  
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/routes
```

### Example Result

```
{  
  "routes": [  

```

```
{
  {
    "id": "default",
    "url": "/api/lunasa/network/devices/eth0/default"
  },
  {
    "id": "172.20.11.0_24_k_100",
    "url": "/api/lunasa/network/devices/eth0/172.20.11.0_24_k_100"
  },
  {
    "id": "2000::10_128_s_1",
    "url": "/api/lunasa/network/devices/eth3/routes/2000%3a%3a10_128_s_1"
  }
]
}
```

## See Also

[GET /api/lunasa/network/devices/{deviceid}/routes/{routeid}](#)

[DELETE /api/lunasa/network/devices/{deviceid}/routes/{routeid}](#)

### 3.2.6.18 POST /api/lunasa/network/devices/{deviceid}/routes

#### POST /api/lunasa/network/devices/{deviceid}/routes

Creates a route.

#### Parameters

##### destination

The IP address or the hostname to route to.

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

##### mask

The subnet mask to set for the device.

**Use:** Required

**JSON Schema:**

```
Object
type: integer
```

##### gateway

The default gateway to set for the device.

**Use:** Required

**JSON Schema:**

```
Object
type: string
```

### metric

Specifies the path the router should take.

Use: Required

JSON Schema:

```
Object
type: int
```

## Responses

204

Success

Location

"Location" is the URL to the newly created route.

[see GET /api/lunasa/network/devices/{deviceid}/routes/{routeid}](#)

400

Unexpected error

404

Device does not exist.

## Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/routes
{
  "destination" : "1.2.3.6",
  "mask" : 24,
  "gateway" : "1.2.3.7",
  "metric" : 1
}
```

## Example on ipv6

```
POST
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/routes
{
  "destination" : "2000::10",
  "mask" : 128,
  "gateway" : "2000::1",
  "metric" : 1
}
```

## Example Response

```
{}
```



## Notes

This resource will restart the server.

### 3.2.6.19 DELETE /api/lunasa/network/devices/{deviceid}/routes

#### DELETE /api/lunasa/network/devices/{deviceid}/routes

Removes all routes that have been set.

## Parameters

### deviceid

Specifies the id of the device.

Use: Required

JSON Schema:

```
Object
type:string
```

## Responses

204

Success

400

Unexpected error

404

Device does not exist.

## Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/routes
{ }
```

## Example Response

```
{ }
```

### 3.2.6.20 GET /api/lunasa/network/devices/{deviceid}/routes/{routeid}

#### GET /api/lunasa/network/devices/{deviceid}/routes/{routeid}

Gets information about a network device route.

## Parameters

### deviceid

The identifier of a network device.

Use: Required

JSON Schema:

```
Object
type: string
```

### routeid

The identifier of a device route.

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 200

Basic information about the network device route.

JSON Schema: [Network Route](#)

### 400

Unexpected error

### 404

Device or route does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/routes/1.2.3.6_24_s_50
```

### Example on ipv6

```
GET
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/routes/2000%3a%3a18_128_s_1
```

## Example Result

```
{
  "destination": "1.2.3.6",
  "mask": 24,
  "gateway": "1.2.3.7",
  "metric": 50
}
```

Example on ipv6

```
{
  "destination": "2000::18",
  "mask": 128,
  "gateway": "2000::1",
  "metric": 1
}
```

### 3.2.6.21 DELETE /api/lunasa/network/devices/{deviceid}/routes/{routeid}

#### DELETE /api/lunasa/network/devices/{deviceid}/routes/{routeid}

Removes a specific route.

#### Parameters

##### deviceid

Specifies the id of the device.

Use: Required

JSON Schema:

```
Object
type:string
```

##### routeid

Specifies the id of the route.

Use: Required

JSON Schema:

```
Object
type:string
```

#### Responses

204

Success

400

Unexpected error

404

Device or route does not exist.

#### Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/network/devices/eth0/routes/1.2.3.6_24_s_50
{ }
```

### Example Response

```
{ }
```

#### 3.2.6.22 GET /api/lunasa/network/dns

### GET /api/lunasa/network/dns

Returns the location of the different DNS resources.

### Parameters

None

### Responses

200

Dns Info

JSON Schema: [Dns](#)

400

Unexpected error

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/dns
```

### Example Response

```
{
  "nameServers" : "/api/lunasa/network/dns/nameServers",
  "searchDomain" : "/api/lunasa/network/dns/searchDomains"
}
```

### See Also

[GET /api/lunasa/network/dns/nameServers](#)

[GET /api/lunasa/network/dns/searchDomains](#)

#### 3.2.6.23 GET /api/lunasa/network/dns/nameServers

### GET /api/lunasa/network/dns/nameServers

Returns a list of name servers currently registered.

## Parameters

None

## Responses

200

A list of all name servers on the appliance.

JSON Schema: [Name Servers](#)

400

Unexpected error

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/dns/nameServers
```

## Example Response

```
{
  "nameServers": [
    {
      "id": "172.20.10.20",
      "url": "/api/lunasa/network/dns/nameServers/172.20.10.20"
    },
    {
      "id": "172.16.2.14",
      "url": "/api/lunasa/network/dns/nameServers/172.16.2.14"
    },
    {
      "id": "2001:4860:4860::8888",
      "url": "/api/lunasa/network/dns/nameServers/2001:4860:4860::8888"
    }
  ]
}
```

## See Also

[GET /api/lunasa/network/dns/nameServers/{nameServerid}](#)

**3.2.6.24** [POST /api/lunasa/network/dns/nameServers](#)

## POST /api/lunasa/network/dns/nameServers

Creates a new name server.

## Parameters

**address**

The address of the name server to be added.

Use: Required

JSON Schema:

```
Object
type:string
```

**Responses**

204

Success

**Location**

"Location" is the URL to the newly created nameServer.

[see GET /api/lunasa/network/dns/nameServers/{nameServerid}](#)

400

Unexpected error

**Example Request**

IPV4

```
POST
https://1.2.3.4:8443/api/lunasa/network/dns/nameServers
{
  "address" : "172.20.10.20"
}
```

OR

IPV6

```
POST
https://1.2.3.4:8443/api/lunasa/network/dns/nameServers
{
  "address" : "2001:4860:4860::8888"
}
```

**Example Response**

```
{}
```

**3.2.6.25 GET /api/lunasa/network/dns/nameServers/{nameServerid}**

**GET /api/lunasa/network/dns/nameServers/{nameServerid}**

This resource returns information about a particular name server.

## Parameters

### nameServerid

Specifies the id of the name server

Use: Required

JSON Schema:

```
Object
type:string
```

## Responses

### 200

Basic information about the name server.

JSON Schema: [Name Server](#)

### 400

Unexpected error

### 404

Name server does not exist.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/dns/nameServers/172.20.10.22
```

## Example Response

```
{
  "address" : "172.20.10.20"
}
```

### 3.2.6.26 DELETE /api/lunasa/network/dns/nameServers/{nameServerid}

### DELETE /api/lunasa/network/dns/nameServers/{nameServerid}

Deletes a name server entry.

## Parameters

### nameServerid

Specifies the id of the name server

Use: Required

JSON Schema:

```
Object
type:string
```

## Responses

204

Success

400

Unexpected error

404

Name server does not exist.

## Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/network/dns/nameServers/{nameServerid}
{ }
```

## Example Response

```
{ }
```

### 3.2.6.27 GET /api/lunasa/network/dns/searchDomains

#### GET /api/lunasa/network/dns/searchDomains

Returns a list of search domains currently registered.

## Parameters

None

## Responses

200

A list of all search domains on the appliance.

JSON Schema: [Search Domains](#)

400

Unexpected error



## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/dns/searchDomain
```

## Example Response

```
{
  "searchDomain": [
    {
      "id": "example.com",
      "url": "/api/lunasa/network/dns/searchDomains/example.com"
    },
    {
      "id": "com",
      "url": "/api/lunasa/network/dns/searchDomains/example.com"
    }
  ]
}
```

## See Also

[GET /api/lunasa/network/dns/searchDomains/{searchDomainid}](#)

### 3.2.6.28 POST /api/lunasa/network/dns/searchDomains

#### POST /api/lunasa/network/dns/searchDomains

Creates a new search domain.

#### Parameters

##### domain

The address of the search domain to be added.

Use: Required

JSON Schema:

```
Object
type:string
```

#### Responses

204

Success

##### Location

"Location" is the URL to the newly created searchDomain.

see [GET /api/lunasa/network/dns/searchDomains/{searchDomainid}](#)

400

Unexpected error

### Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/network/dns/searchDomains
{
  "domain" : "172.20.10.20"
}
```

### Example Response

```
{}
```

**3.2.6.29 GET /api/lunasa/network/dns/searchDomains/{searchDomainid}**

**GET /api/lunasa/network/dns/searchDomains/{searchDomainid}**

Returns information about a particular search domain.

### Parameters

**searchDomainid**

Specifies the id of the search domain.

Use: Required

JSON Schema:

```
Object
type:string
```

### Responses

200

Basic information about the search domain.

JSON Schema: [Name Server](#)

400

Unexpected error

404

Search domain does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/dns/searchDomains/172.20.10.22
```

### Example Response

```
{
  "domain" : "172.20.10.20"
}
```

#### 3.2.6.30 DELETE /api/lunasa/network/dns/searchDomains/{searchDomainid}

### DELETE /api/lunasa/network/dns/searchDomains/{searchDomainid}

Deletes a search domain entry.

### Parameters

#### searchDomainid

Specifies the id of the search domain.

Use: Required

JSON Schema:

```
Object
type:string
```

### Responses

204

Success

400

Unexpected error

404

Search domain does not exist.

### Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/network/dns/searchDomains/{searchDomainid}
{}
```

### Example Response

```
{}
```

#### 3.2.6.31 GET /api/lunasa/network/netstat

### GET /api/lunasa/network/netstat

Gets the network netstat information associated with the appliance.

## Parameters

None

## Responses

200

Netstat Info

JSON Schema: [Netstat](#)

400

Unexpected error

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/netstat
```

## Example Result

```
{
  "sockets" : [
    {
      "id" : "111",
      "url" : "/api/lunasa/network/netstat/111"
    },
    {
      "id" : "37586",
      "url" : "/api/lunasa/network/netstat/37586"
    },
    {
      "id" : "22_::",
      "url" : "/api/lunasa/network/netstat/22_::"
    },
    {
      "id" : "42248_::",
      "url" : "/api/lunasa/network/netstat/42248_::"
    },
    {
      "id" : "1501_3205978714029525958",
      "url" : "/api/lunasa/network/netstat/1501_3205978714029525958"
    },
    {
      "id" : "22_17637882655787860703",
      "url" : "/api/lunasa/network/netstat/22_17637882655787860703"
    }
  ]
}
```

## See Also

[GET /api/lunasa/network/netstat/{socketid}](#)

3.2.6.32 [GET /api/lunasa/network/netstat/{socketid}](#)

## GET /api/lunasa/network/netstat/{socketid}

Gets the network netstat information associated with the socket.

### Parameters

#### socketid

The identifier of a netstat socket.

Use: Required

JSON Schema:

```
Object
type: string
```

### Responses

#### 200

Netstat Socket Info

JSON Schema: [Netstat Socket](#)

#### 400

Unexpected error

#### 404

Socket ID does not exist

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/network/netstat/22
```

### Example Result

```
{
  "protocol" : "tcp",
  "localAddress" : "0.0.0.0:22",
  "foreignAddress" : "0.0.0.0:*",
  "state" : "LISTEN",
  "sendQueue" : 0,
  "receiveQueue" : 0
}
```

## 3.2.7 Syslog

Syslog resources allow the user to download, manage and configure logs.

- [GET /api/lunasa/syslog](#)
- [PUT /api/lunasa/syslog](#)

- [PATCH /api/lunasa/syslog](#)
- [GET /api/lunasa/syslog/actions](#)
- [POST /api/lunasa/syslog/actions/{actionid}](#)
- [GET /api/lunasa/syslog/logs](#)
- [GET /api/lunasa/syslog/logs/{logid}](#)
- [PUT /api/lunasa/syslog/logs/{logid}](#)
- [PATCH /api/lunasa/syslog/logs/{logid}](#)
- [GET /api/lunasa/syslog/backups](#)
- [POST /api/lunasa/syslog/backups](#)
- [GET /api/lunasa/syslog/backups/{backupid}](#)
- [DELETE /api/lunasa/syslog/backups/{backupid}](#)
- [GET /api/lunasa/syslog/remoteHosts](#)
- [POST /api/lunasa/syslog/remoteHosts](#)
- [DELETE /api/lunasa/syslog/remoteHosts](#)
- [GET /api/lunasa/syslog/remoteHosts/{remoteHostid}](#)
- [DELETE /api/lunasa/syslog/remoteHosts/{remoteHostid}](#)

### 3.2.7.1 GET /api/lunasa/syslog

#### GET /api/lunasa/syslog

This resource contains config and link urls for the syslog resources.

#### Parameters

None

#### Responses

200

Syslog properties

JSON Schema: [Syslog](#)

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/syslog
{
}
```

## Example Response

```
{
  "backups": "/api/lunasa/syslog/backups",
  "maxRotations": 12,
  "logs": "/api/lunasa/syslog/logs",
  "actions": "/api/lunasa/syslog/actions",
  "remoteHosts": "/api/lunasa/syslog/remoteHosts",
  "period": "weekly"
}
```

## See Also

[GET /api/lunasa/syslog/backups](#)

[GET /api/lunasa/syslog/actions](#)

[GET /api/lunasa/syslog/logs](#)

[GET /api/lunasa/syslog/remoteHosts](#)

### 3.2.7.2 PUT /api/lunasa/syslog

#### PUT /api/lunasa/syslog

This resource contains config and link urls for the syslog resources.

#### Parameters

##### period

This parameter specifies the log rotation period: daily, weekly, monthly.

Use: Required

JSON Schema:

```
Object
type: string
```

##### maxRotations

This parameter specifies how many log backups to keep.

Use: Required

JSON Schema:

```
Object
type: integer
```

#### Responses

204

Accepted

400

Unexpected failure

### Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/syslog
{
  "maxRotations": 12,
  "period": "daily"
}
```

### Example Response

```
{
}
```

#### 3.2.7.3 PATCH /api/lunasa/syslog

### PATCH /api/lunasa/syslog

This resource contains config and link urls for the syslog resources.

### Parameters

#### period

This parameter specifies the log rotation period: daily, weekly, monthly.

Use: Not Required

JSON Schema:

```
Object
type:string
```

#### maxRotations

This parameter specifies how many log backups to keep.

Use: Not Required

JSON Schema:

```
Object
type: integer
```

### Responses

204

Success

400

Unexpected failure



### Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/syslog
{
  "maxRotations": 12
}
```

### Example Response

```
{
}
```

#### 3.2.7.4 GET /api/lunasa/syslog/actions

### GET /api/lunasa/syslog/actions

Gets all syslog actions.

### Parameters

None

### Responses

200

A list of all actions that can be performed under syslog.

JSON Schema: [Syslog Actions](#)

#### location

"location" is the URL to the newly created log backup.

[see GET /api/lunasa/syslog/backups/{backupid}](#)

400

Unexpected error

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/syslog/actions
```

### Example Result

```
{
  "actions": [
    {
      "id": "rotate",
      "url": "/api/lunasa/syslog/actions/rotate"
    }
  ]
}
```

```
    },
    {
      "id": "cleanup",
      "url": "/api/lunasa/syslog/actions/cleanup"
    }
  ]
}
```

## See Also

[POST /api/lunasa/syslog/actions/{actionid}](#)

### 3.2.7.5 POST /api/lunasa/syslog/actions/{actionid}

#### POST /api/lunasa/syslog/actions/{actionid}

Performs the specified action.

## Parameters

### actionid

The identifier of the action to be performed

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

### Location

"Location" is the URL to the newly created log backup.

[see GET /api/lunasa/syslog/backups/{backupid}](#)

400

Unexpected error

404

Invalid action.

### Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/syslog/actions/cleanup
{}
```

### Example Result

```
{}
```

### Notes

cleanup action will create a waiting task.

#### 3.2.7.6 GET /api/lunasa/syslog/logs

### GET /api/lunasa/syslog/logs

Gets the list of syslog logs.

### Parameters

None

### Responses

200

Success

JSON Schema: [Syslog Logs](#)

400

Unexpected Error

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/syslog/logs
{
}
```

### Example Response

```
{
  "logs": [
    {"url": "/api/lunasa/syslog/logs/boot", "id": "boot"},
    {"url": "/api/lunasa/syslog/logs/cron", "id": "cron"},
    {"url": "/api/lunasa/syslog/logs/hsm", "id": "hsm"},
    {"url": "/api/lunasa/syslog/logs/lunalog", "id": "lunalog"},
    {"url": "/api/lunasa/syslog/logs/messages", "id": "messages"},
    {"url": "/api/lunasa/syslog/logs/ntp", "id": "ntp"},
    {"url": "/api/lunasa/syslog/logs/secure", "id": "secure"},
    {"url": "/api/lunasa/syslog/logs/snmp", "id": "snmp"}
  ]
}
```

```
} ]  
}
```

## See Also

[GET /api/lunasa/syslog/logs](#)

### 3.2.7.7 GET /api/lunasa/syslog/logs/{logid}

#### GET /api/lunasa/syslog/logs/{logid}

Gets information about the log.

## Parameters

### logid

The identifier of the log.

Use: Required

JSON Schema:

```
Object  
type: string
```

## Responses

200

Success

JSON Schema: [Syslog Log](#)

400

Unexpected Error

404

Log does not exist.

## Example Request

```
GET  
https://1.2.3.4:8443/api/lunasa/syslog/logs/lunalog  
{  
}
```

## Example Response

```
{  
  "tail": "Last 10 lines of the log.",  
}
```

```
    "severity": "debug"  
  }
```

## Notes

Severity will be null for SNMP and NTP logs.

### 3.2.7.8 PUT /api/lunasa/syslog/logs/{logid}

#### PUT /api/lunasa/syslog/logs/{logid}

Sets all log configurations.

## Parameters

### logid

The identifier of the log.

Use: Required

JSON Schema:

```
Object  
type: string
```

### severity

The severity of the log (emergency, alert, critical, error, warning, notice, info, debug, all).

Use: Required

JSON Schema:

```
Object  
type: string
```

## Responses

### 204

Success

### 400

Unexpected Error

### 404

Log does not exist.

### Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/syslog/logs/lunalog
{
  "severity" : "all"
}
```

### Example Response

```
{}
```

### Notes

Currently only the severity of lunalog can be set.

#### 3.2.7.9 PATCH /api/lunasa/syslog/logs/{logid}

#### PATCH /api/lunasa/syslog/logs/{logid}

Sets given log configurations.

### Parameters

#### logid

The identifier of the log.

Use: Required

JSON Schema:

```
Object
type: string
```

#### severity

The severity of the log (emergency, alert, critical, error, warning, notice, info, debug, all).

Use: Not Required

JSON Schema:

```
Object
type: string
```

### Responses

204

Success

400

Unexpected Error

404

Log does not exist.

### Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/syslog/logs/lunalog
{
  "severity" : "all"
}
```

### Example Response

```
{}
```

### Notes

Currently only the severity of lunalog can be set.

#### 3.2.7.10 GET /api/lunasa/syslog/backups

### GET /api/lunasa/syslog/backups

This resource returns the list of stored syslog backups.

### Parameters

None

### Responses

200

Success.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/syslog/backups
{
}
```

### Example Response

```
{
  "backups": [
    {"url": "/api/lunasa/syslog/backups/JEF3h8", "id": "JEF3h8"},
    {"url": "/api/lunasa/syslog/backups/Y66Pvs", "id": "Y66Pvs"}
  ]
}
```

### 3.2.7.11 POST /api/lunasa/syslog/backups

#### POST /api/lunasa/syslog/backups

This resource creates a syslog backup.

#### Parameters

None

#### Responses

204

Success

#### Location

"Location" represents the resource representing the newly created backup.

see [GET /api/lunasa/syslog/backups/{backupid}](#)

400

Unexpected failure.

#### Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/syslog/backups
{
}
```

#### Example Response

```
{
}
```

### 3.2.7.12 GET /api/lunasa/syslog/backups/{backupid}

#### GET /api/lunasa/syslog/backups/{backupid}

This resource retrieves a syslog backup and deletes it afterwards.

#### Parameters

**backupid**

Specifies the syslog backup to retrieve.

Use: Required



JSON Schema:

```
Object
type:string
```

## Responses

200

A binary stream that represents the syslog backup. This archive is in compressed tar format (tgz).

JSON Schema:

```
<binary stream>
```

400

Failure.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/syslog/backups/{backupid}
{
}
```

## Example Response

None

3.2.7.13 DELETE /api/lunasa/syslog/backups/{backupid}

**DELETE /api/lunasa/syslog/backups/{backupid}**

This resource deletes a specific syslog backup.

## Parameters

**backupid**

Specifies the syslog backup to delete.

Use: Required

JSON Schema:

```
Object
type:string
```

## Responses

204

Success

400

Failure.

### Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/syslog/backups/{backupid}
{
}
```

### Example Response

None

#### 3.2.7.14 GET /api/lunasa/syslog/remoteHosts

### GET /api/lunasa/syslog/remoteHosts

This resource returns a list of configured remote hosts.

### Parameters

None

### Responses

200

Success

JSON Schema: [Syslog Remote Hosts](#)

400

Unexpected Failure

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/syslog/remoteHosts
None
```

### Example Response

```
{"remoteHosts":
  [
    {"url": "/api/lunasa/syslog/remoteHosts/1.2.3.6", "id": "1.2.3.6"}
  ]
}
```

### 3.2.7.15 POST /api/lunasa/syslog/remoteHosts

#### POST /api/lunasa/syslog/remoteHosts

Creates a remote host entry.

#### Parameters

##### address

Specifies the address of the remote host. Valid ip address and hostname may be specified.

Use: Required

JSON Schema:

```
Object
  type:string
```

##### port

Specifies the port of the remote host. Valid ports range from 0 to 65535.

Use: Required

JSON Schema:

```
Object
  type:integer
```

##### protocol

Specifies the protocol of the remote host. Valid protocols include tcp and udp.

Use: Required

JSON Schema:

```
Object
  type:string
```

#### Responses

200

Success

Location

"Location" is the URL to the location to the newly created remote host.

see [GET /api/lunasa/remoteHosts/{remoteHostid}](#)

400

Bad Request

### Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/syslog/remoteHosts
{
  "protocol": "udp",
  "port": 1503,
  "address": "1.2.3.4"
}
```

### Example Response

```
{}
```

#### 3.2.7.16 DELETE /api/lunasa/syslog/remoteHosts

##### DELETE /api/lunasa/syslog/remoteHosts

Deletes all remote hosts entries.

### Parameters

None

### Responses

204

Success

400

Unexpected failure

### Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/syslog/remoteHosts
{}
```

### Example Response

```
{}
```

#### 3.2.7.17 GET /api/lunasa/syslog/remoteHosts/{remoteHostid}

##### GET /api/lunasa/syslog/remoteHosts/{remoteHostid}

Gets the information about a specific remote host.

## Parameters

### remoteHostid

Specifies the remote host to access.

Use: Required

JSON Schema:

```
Object
type:string
```

## Responses

### 200

Success

JSON Schema: [Syslog Remote Host](#)

### 400

Unexpected failure

### 404

Remote host not found

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/syslog/remoteHosts/4.5.6.7
{ }
```

## Example Response

```
{
  "protocol": "udp",
  "port": 1503,
  "address": "4.5.6.7"
}
```

### 3.2.7.18 DELETE /api/lunasa/syslog/remoteHosts/{remoteHostid}

#### DELETE /api/lunasa/syslog/remoteHosts/{remoteHostid}

Deletes a specific remote host.

## Parameters

### remoteHostid

Specifies the remote host to delete.

Use: Required

JSON Schema:

```
Object
type:string
```

## Responses

200

Success

400

Unexpected failure

404

Remote host not found

## Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/syslog/remoteHosts/4.5.6.7
{}
```

## Example Response

```
{}
```

### 3.2.8 NTP

NTP resources allow the user to manage NTP server list and settings.

- [GET /api/lunasa/ntp](#)
- [GET /api/lunasa/ntp/servers](#)
- [POST /api/lunasa/ntp/servers](#)
- [DELETE /api/lunasa/ntp/servers](#)
- [GET /api/lunasa/ntp/servers/{serverid}](#)
- [PUT /api/lunasa/ntp/servers/{serverid}](#)
- [PATCH /api/lunasa/ntp/servers/{serverid}](#)
- [DELETE /api/lunasa/ntp/servers/{serverid}](#)
- [GET /api/lunasa/ntp/actions](#)
- [GET /api/lunasa/ntp/status](#)
- [POST /api/lunasa/ntp/actions/{actionid}](#)

### 3.2.8.1 GET /api/lunasa/ntp

#### GET /api/lunasa/ntp

This resource contains NTP configuration information.

#### Parameters

None

#### Responses

200

NTP properties

JSON Schema: [NTP](#)

400

Unexpected failure

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ntp
{
}
```

#### Example Response

```
{
  "servers": "/api/lunasa/ntp/servers",
  "status": "/api/lunasa/ntp/status",
  "actions": "/api/lunasa/ntp/actions",
  "version": "4.2.8"
}
```

#### See Also

[GET /api/lunasa/ntp/servers](#)

[GET /api/lunasa/ntp/status](#)

[GET /api/lunasa/ntp/actions](#)

### 3.2.8.2 GET /api/lunasa/ntp/servers

#### GET /api/lunasa/ntp/servers

This resource contains the list of server resources.

## Parameters

None

## Responses

200

NTP servers

JSON Schema: [NTP Servers](#)

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ntp/servers
{
}
```

## Example Response

```
{
  "servers": [
    {"url": "/api/lunasa/ntp/servers/127.127.1.0", "id": "127.127.1.0"},
    {"url": "/api/lunasa/ntp/servers/example.com", "id": "example.com"}
  ]
}
```

## See Also

[GET /api/lunasa/ntp](#)

[GET /api/lunasa/ntp/servers/{serverid}](#)

### 3.2.8.3 POST /api/lunasa/ntp/servers

## POST /api/lunasa/ntp/servers

This resource adds an NTP server.

## Parameters

### address

Specifies the address of the NTP server. Valid ip address and hostname may be specified.

Use: Required

JSON Schema:

```
Object
type:string
```



**keyId**

Specifies the key id used in communication with the NTP server (1-65535).

Use: Optional

JSON Schema:

```
Object
  type:integer
```

**protocolVersion**

Specifies the protocol version used in communication with the NTP server (1-4).

Use: Required

JSON Schema:

```
Object
  type:integer
```

**isAutokeyEnabled**

Specifies flag controlling enabling autokey authentication.

Use: Required

JSON Schema:

```
Object
  type:boolean
```

**isBurstEnabled**

Specifies flag controlling sending a burst of packets instead of usual single packet.

Use: Required

JSON Schema:

```
Object
  type:boolean
```

**isInitialBurstEnabled**

Specifies flag controlling sending a burst of packets when an initial connection cannot be established.

Use: Required

JSON Schema:

```
Object
  type:boolean
```

**isPreferredServer**

Specifies flag designating this server as the preferred one.

Use: Required

JSON Schema:

```
Object
  type:boolean
```

## Responses

204

Success

Location

"Location" is the URL to the newly created NTP server.

see [GET /api/lunasa/ntp/servers/{serverid}](#)

400

Unexpected failure

## Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/ntp/servers
{
  "isAutokeyEnabled": false,
  "isInitialBurstEnabled": true,
  "isBurstEnabled": false,
  "isPreferredServer": true,
  "protocolVersion": 3,
  "address": "example.com"
}
```

## Example Response

```
{
}
```

## Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See [GET /api/lunasa](#))

### 3.2.8.4 DELETE /api/lunasa/ntp/servers

#### DELETE /api/lunasa/ntp/servers

Deletes all ntp server entries.

## Parameters

None

## Responses

200

Success

400

Unexpected failure

## Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/ntp/servers
{}
```

## Example Response

```
{}
```

3.2.8.5 GET /api/lunasa/ntp/servers/{serverid}

**GET /api/lunasa/ntp/servers/{serverid}**

This resource contains information about a specific server.

## Parameters

**serverid**

Specifies the id of the NTP server.

Use: Required

JSON Schema:

```
Object
type:string
```

## Responses

200

NTP server information

JSON Schema: [NTP Server](#)

400

Failure.

404

Specified server does not exist.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ntp/servers/example.com
{
}
```

### Example Response

```
{
  "address": "example.com",
  "isAutokeyEnabled": false,
  "keyId": null,
  "isInitialBurstEnabled": true,
  "isBurstEnabled": false,
  "isPreferredServer": true,
  "protocolVersion": 3
}
```

### See Also

[GET /api/lunasa/ntp/servers](#)

#### 3.2.8.6 PUT /api/lunasa/ntp/servers/{serverid}

#### PUT /api/lunasa/ntp/servers/{serverid}

This resource allows changing settings for a specific server.

### Parameters

#### serverid

Specifies the id of the NTP server.

Use: Required

JSON Schema:

```
Object
type:string
```

#### keyId

Specifies the key id used in communication with the NTP server (1-65535).

Use: Required

JSON Schema:

```
Object
type:integer
```

#### protocolVersion

Specifies the protocol version used in communication with the NTP server (1-4).

Use: Required

JSON Schema:

```
Object
type:integer
```

#### **isAutokeyEnabled**

Specifies flag controlling enabling autokey authentication.

Use: Required

JSON Schema:

```
Object
type:boolean
```

#### **isBurstEnabled**

Specifies flag controlling sending a burst of packets instead of usual single packet.

Use: Required

JSON Schema:

```
Object
type:boolean
```

#### **isInitialBurstEnabled**

Specifies flag controlling sending a burst of packets when an initial connection cannot be established.

Use: Required

JSON Schema:

```
Object
type:boolean
```

#### **isPreferredServer**

Specifies flag designating this server as the preferred one.

Use: Required

JSON Schema:

```
Object
type:boolean
```

## **Responses**

204

Success.

400

Unexpected failure.

404

Specified server does not exist.

### Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/ntp/servers/example.com
{
  "isAutokeyEnabled": false,
  "isInitialBurstEnabled": true,
  "isBurstEnabled": false,
  "isPreferredServer": true,
  "protocolVersion": 3,
  "keyId": 1
}
```

### Example Response

```
{
}
```

### Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See [GET /api/lunasa](#))

### See Also

[GET /api/lunasa/ntp/servers](#)

#### 3.2.8.7 PATCH /api/lunasa/ntp/servers/{serverid}

### PATCH /api/lunasa/ntp/servers/{serverid}

This resource allows changing settings for a specific server.

### Parameters

#### serverid

Specifies the id of the NTP server.

Use: Required

JSON Schema:

```
Object
type:string
```

#### keyId

Specifies the key id used in communication with the NTP server (1-65535).

Use: Optional

JSON Schema:

```
Object
type:integer
```

#### **protocolVersion**

Specifies the protocol version used in communication with the NTP server (1-4).

Use: Optional

JSON Schema:

```
Object
type:integer
```

#### **isAutokeyEnabled**

Specifies flag controlling enabling autokey authentication.

Use: Optional

JSON Schema:

```
Object
type:boolean
```

#### **isBurstEnabled**

Specifies flag controlling sending a burst of packets instead of usual single packet.

Use: Optional

JSON Schema:

```
Object
type:boolean
```

#### **isInitialBurstEnabled**

Specifies flag controlling sending a burst of packets when an initial connection cannot be established.

Use: Optional

JSON Schema:

```
Object
type:boolean
```

#### **isPreferredServer**

Specifies flag designating this server as the preferred one.

Use: Optional

JSON Schema:

```
Object
type:boolean
```

## Responses

204

Success

400

Unexpected failure.

404

Specified server does not exist.

## Example Request

```
    PATCH
    https://1.2.3.4:8443/api/lunasa/ntp/servers/example.com
  {
    "isPreferredServer": false
  }
```

## Example Response

```
{
}
```

## Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See [GET /api/lunasa](#))

## See Also

[GET /api/lunasa/ntp/servers](#)

### 3.2.8.8 DELETE /api/lunasa/ntp/servers/{serverid}

#### DELETE /api/lunasa/ntp/servers/{serverid}

This resource deletes an NTP server.

## Parameters

**serverid**

Specifies the id of the NTP server.

Use: Required

JSON Schema:



```
Object
type:string
```

## Responses

204

Success

400

Failure.

404

Specified server does not exist.

## Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/ntp/servers/example.com
{
}
```

## Example Response

```
{
}
```

## Notes

This resource will require SO authentication when the forceSoLogin flag is enabled. (See [GET /api/lunasa](#))

## See Also

[GET /api/lunasa/ntp/servers](#)

### 3.2.8.9 GET /api/lunasa/ntp/actions

#### GET /api/lunasa/ntp/actions

This resource returns a list of actions of NTP

## Parameters

None

## Responses

200

Success

JSON Schema: [NTP Actions](#)

400

Unexpected failure

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ntp/actions
{
}
```

## Example Response

```
{
  "actions": [
    {
      "url": "/api/lunasa/ntp/actions/synchronize",
      "id": "synchronize"
    }
  ]
}
```

### 3.2.8.10 GET /api/lunasa/ntp/status

#### GET /api/lunasa/ntp/status

This resource returns information of NTP time, max error, estimated error and offset.

## Parameters

None

## Responses

200

Success

JSON Schema: [NTP Status](#)

400

Unexpected failure

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ntp/status
{
}
```

## Example Response

```
{
  "estimatedError": 0.016063,
  "offset": 0.002655,
  "maxError": 3.037109,
  "ntpTime": "2016-05-05T10:37:28.252"
}
```

## Notes

NTP service needs to be started to get the status.

### 3.2.8.11 POST /api/lunasa/ntp/actions/{actionid}

#### POST /api/lunasa/ntp/actions/{actionid}

Performs the specified action.

## Parameters

### actionid

This parameter specifies the id of the action to be performed

Use: Required

JSON Schema:

```
Object
type:string
```

### server

This parameter specifies the address of server that is used for NTP synchronization

Use: Required

JSON Schema:

```
Object
type:string
```

## Responses

200

Success

400

Unexpected error

404

No action matched

### Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/ntp/actions/synchronize
{
  "server": "172.20.10.20"
}
```

### Example Response

```
{
  "offset": 0.002569
}
```

### Notes

Synchronization requires the NTP service to be stopped.

### 3.2.9 SNMP

SNMP resources allow the user to manage SNMP users, notifications and configure traps.

- [GET /api/lunasa/snmp](#)
- [GET /api/lunasa/snmp/trap](#)
- [PUT /api/lunasa/snmp/trap](#)
- [PATCH /api/lunasa/snmp/trap](#)
- [DELETE /api/lunasa/snmp/trap](#)
- [GET /api/lunasa/snmp/users](#)
- [POST /api/lunasa/snmp/users](#)
- [DELETE /api/lunasa/snmp/users](#)
- [GET /api/lunasa/snmp/users/{userid}](#)
- [DELETE /api/lunasa/snmp/users/{userid}](#)
- [GET /api/lunasa/snmp/users/{userid}/notifications](#)
- [POST /api/lunasa/snmp/users/{userid}/notifications](#)
- [DELETE /api/lunasa/snmp/users/{userid}/notifications](#)
- [GET /api/lunasa/snmp/users/{userid}/notifications/{notificationid}](#)
- [DELETE /api/lunasa/snmp/users/{userid}/notifications/{notificationid}](#)

### 3.2.9.1 GET /api/lunasa/snmp

#### GET /api/lunasa/snmp

This resource contains SNMP configuration information.

#### Parameters

None

#### Responses

200

SNMP properties

JSON Schema: [SNMP](#)

400

Unexpected failure

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/snmp
{
}
```

#### Example Response

```
{
  "version": 3,
  "users": "/api/lunasa/snmp/users",
  "trap": "/api/lunasa/snmp/trap"
}
```

#### See Also

[GET /api/lunasa/snmp/users](#)

[GET /api/lunasa/snmp/trap](#)

### 3.2.9.2 GET /api/lunasa/snmp/trap

#### GET /api/lunasa/snmp/trap

This resource contains SNMP trap configuration information.

#### Parameters

None

## Responses

200

SNMP trap properties

JSON Schema: [SNMP Trap](#)

400

Unexpected failure.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/snmp/trap
{
}
```

## Example Response

```
{
  "securityLevel": "authPriv",
  "privacyProtocol": "AES",
  "authenticationProtocol": "SHA",
  "securityName": "myUser",
  "address": "1.2.3.5",
  "engineId": "000000000F"
}
```

### 3.2.9.3 PUT /api/lunasa/snmp/trap

#### PUT /api/lunasa/snmp/trap

This resource configures all SNMP trap parameters.

#### Parameters

##### address

This parameter specifies the ip address or hostname that receives traps.

Use: Required

JSON Schema:

```
Object
type:string
```

##### securityName

This parameter specifies the SNMP user to associate traps with. Note: This is user that is created with [POST /api/lunasa/snmp/users](#)

Use: Required

JSON Schema:

```
Object
type:string
```

### engineId

Specifies the engine that receives traps and that has the authority to control the flow of information. Note: This value represents a hexadecimal value with a length of 10, 12, 14 or 16 (excluding the prepended 0x value).

Use: Required

JSON Schema:

```
Object
type:string
```

### authenticationPassword

Specifies and confirms the password used to authenticate SNMPv3 trap messages. Note: This password must contain between 8 and 128 characters and is case-sensitive.

Use: Required

JSON Schema:

```
Object
type:string
```

### authenticationProtocol

Specifies the HMAC (hash-based message authentication code) algorithm used to authenticate SNMPv3 trap messages. Note: Restricted to SHA.

Use: Required

JSON Schema:

```
Object
type:string
```

### privacyPassword

Specifies and confirms the password used to encrypt SNMPv3 trap messages. Note: This password must contain between 8 and 128 characters and is case-sensitive.

Use: Required

JSON Schema:

```
Object
type:string
```

### privacyProtocol

Specifies the algorithm used to encrypt SNMPv3 trap messages. Note: Restricted to AES.

Use: Required

JSON Schema:

```
Object
type:string
```

## Responses

204

No content

400

Unexpected failure.

404

Security name does not exist.

### Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/snmp/trap
{
  "address" : "1.2.3.5",
  "securityName" : "myUser",
  "engineId" : "000000000F",
  "authenticationProtocol" : "SHA",
  "privacyProtocol" : "AES",
  "authenticationPassword" : "password1",
  "privacyPassword" : "password2"
}
```

### Example Response

```
{
}
```

#### 3.2.9.4 PATCH /api/lunasa/snmp/trap

### PATCH /api/lunasa/snmp/trap

This resource configures specified SNMP trap parameters.

### Parameters

#### address

This parameter specifies the ip address or hostname that receives traps.

Use: Not Required

JSON Schema:

```
Object
type:string
```

#### securityName

This parameter specifies the SNMP user to associate traps with. Note: This is user that is created with [POST /api/lunasa/snmp/users](#)

Use: Not Required

JSON Schema:

```
Object
type:string
```



### engineId

Specifies the engine that receives traps and that has the authority to control the flow of information. Note: This value represents a hexadecimal value with a length of 10, 12, 14 or 16 (excluding the prepended 0x value).

Use: Not Required

JSON Schema:

```
Object
type:string
```

### authenticationPassword

Specifies and confirms the password used to authenticate SNMPv3 trap messages. Note: This password must contain between 8 and 128 characters and is case-sensitive.

Use: Not Required

JSON Schema:

```
Object
type:string
```

### authenticationProtocol

Specifies the HMAC (hash-based message authentication code) algorithm used to authenticate SNMPv3 trap messages. Note: Restricted to SHA.

Use: Not Required

JSON Schema:

```
Object
type:string
```

### privacyPassword

Specifies and confirms the password used to encrypt SNMPv3 trap messages. Note: This password must contain between 8 and 128 characters and is case-sensitive.

Use: Not Required

JSON Schema:

```
Object
type:string
```

### privacyProtocol

Specifies the algorithm used to encrypt SNMPv3 trap messages. Note: Restricted to AES.

Use: Not Required

JSON Schema:

```
Object
type:string
```

## Responses

204

Success.

400

Unexpected failure.

404

Security name does not exist.

### Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/snmp/trap
{
  "address": "1.2.3.5",
  "securityName" : "myUser"
}
```

### Example Response

```
{
}
```

### Notes

This resource is only to modify the current configuration of the trap. In order to do the initial trap configuration [see PUT /api/lunasa/snmp/trap](#)

#### 3.2.9.5 DELETE /api/lunasa/snmp/trap

### DELETE /api/lunasa/snmp/trap

This resource clears the SNMP configuration.

### Parameters

None

### Responses

204

Success.

400

Unexpected failure.

### Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/snmp/trap
{
}
```

### Example Response

```
{  
}
```

#### 3.2.9.6 GET /api/lunasa/snmp/users

### GET /api/lunasa/snmp/users

This resource contains a list of snmp users.

### Parameters

None

### Responses

200

SNMP users.

JSON Schema: [SNMP Users](#)

400

Unexpected failure

### Example Request

```
GET  
https://1.2.3.4:8443/api/lunasa/snmp/users  
{  
}
```

### Example Response

```
{  
  "users": [  
    {"url": "/api/lunasa/snmp/users/myUser", "id": "myUser"},  
    {"url": "/api/lunasa/snmp/users/myUser2", "id": "myUser2"}  
  ]  
}
```

### See Also

[GET /api/lunasa/snmp/users/{userid}](#)

#### 3.2.9.7 POST /api/lunasa/snmp/users

### POST /api/lunasa/snmp/users

This resource creates an SNMP user.

## Parameters

### securityName

Specifies the name of the user. Note: The security name must contain between 4 and 32 characters.

Use: Required

JSON Schema:

```
Object
type:string
```

### authenticationPassword

Specifies and confirms the password used to authenticate SNMPv3 notification messages. Note: This password must contain between 8 and 128 characters and is case-sensitive.

Use: Required

JSON Schema:

```
Object
type:string
```

### authenticationProtocol

Specifies the HMAC (hash-based message authentication code) algorithm used to authenticate SNMPv3 notification messages. Note: Restricted to SHA.

Use: Not Required

JSON Schema:

```
Object
type:string
```

### privacyPassword

Specifies and confirms the password used to encrypt SNMPv3 notification messages. Note: This password must contain between 8 and 128 characters and is case-sensitive.

Use: Required

JSON Schema:

```
Object
type:string
```

### privacyProtocol

Specifies the algorithm used to encrypt SNMPv3 notification messages. Note: Restricted to AES.

Use: Not Required

JSON Schema:

```
Object
type:string
```

## Responses

204

SNMP user created.

### Location

"Location" is the URL to the newly created snmp user.

see [GET /api/lunasa/snmp/users/{userid}](#)

400

Invalid parameters.

## Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/snmp/users
{
  "securityName": "myUser",
  "authenticationPassword" : "password",
  "authenticationProtocol" : "SHA",
  "privacyPassword" : "password2",
  "privacyProtocol" : "AES"
}
```

## Example Response

```
{
}
```

### 3.2.9.8 DELETE /api/lunasa/snmp/users

#### DELETE /api/lunasa/snmp/users

This resource deletes all SNMP users.

### Parameters

None

## Responses

204

Success.

400

Unexpected failure.

### Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/snmp/users
{
}
```

### Example Response

```
{
}
```

#### 3.2.9.9 GET /api/lunasa/snmp/users/{userid}

#### GET /api/lunasa/snmp/users/{userid}

This resource gets configuration information for a user.

### Parameters

#### userid

Specifies the user to access.

Use: Required

JSON Schema:

```
Object
type:string
```

### Responses

#### 200

SNMP user.

JSON Schema: [SNMP User](#)

#### 400

Unexpected failure

#### 404

Invalid user.

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/snmp/users/myUser
{
}
```

### Example Response

```
{
  "notifications" : "/api/lunasa/snmp/users/myUser/notifications"
}
```

#### 3.2.9.10 DELETE /api/lunasa/snmp/users/{userid}

### DELETE /api/lunasa/snmp/users/{userid}

This resource deletes a user.

### Parameters

**userid**

Specifies the user to access.

Use: Required

JSON Schema:

```
Object
type:string
```

### Responses

**204**

Success.

**400**

Unexpected failure

**404**

Invalid user.

### Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/snmp/users/myUser
{
}
```

### Example Response

```
{
}
```

### 3.2.9.11 GET /api/lunasa/snmp/users/{userid}/notifications

#### GET /api/lunasa/snmp/users/{userid}/notifications

This resource contains a list of snmp notifications for a specific user.

#### Parameters

##### userid

Specifies the user to access.

Use: Required

JSON Schema:

```
Object
type:string
```

#### Responses

200

SNMP notifications

JSON Schema: [SNMP Notifications](#)

400

Unexpected failure

404

Invalid user.

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/snmp/users/myUser/notifications
{
}
```

#### Example Response

```
{
  "notifications": [
    {"url": "/api/lunasa/snmp/users/myUser/notifications/172.20.11.123_1504", "id": "172.20.11.123_1504"},
    {"url": "/api/lunasa/snmp/users/myUser/notifications/172.20.11.93_1504", "id": "172.20.11.93_1504"}
  ]
}
```

#### See Also

[GET /api/lunasa/snmp/users/{userid}/notifications/{notificationid}](#)



### 3.2.9.12 POST /api/lunasa/snmp/users/{userid}/notifications

#### POST /api/lunasa/snmp/users/{userid}/notifications

This resource creates an SNMP user notification.

#### Parameters

##### userid

Specifies the user to create the notification for.

Use: Required

JSON Schema:

```
Object
  type:string
```

##### address

Specifies the IPv4 or IPv6 address that receives notifications.

Use: Required

JSON Schema:

```
Object
  type:string
```

##### port

Specifies the UDP port (0-65535).

Use: Required

JSON Schema:

```
Object
  type:integer
```

##### authenticationPassword

Specifies and confirms the password used to authenticate SNMPv3 notification messages. Note: This password must contain between 8 and 128 characters and is case-sensitive.

Use: Required

JSON Schema:

```
Object
  type:string
```

##### authenticationProtocol

Specifies the HMAC (hash-based message authentication code) algorithm used to authenticate SNMPv3 notification messages. Note: Restricted to SHA.

Use: Not Required

JSON Schema:

```
Object
type:string
```

#### privacyPassword

Specifies and confirms the password used to encrypt SNMPv3 notification messages. Note: This password must contain between 8 and 128 characters and is case-sensitive.

Use: Required

JSON Schema:

```
Object
type:string
```

#### privacyProtocol

Specifies the algorithm used to encrypt SNMPv3 notification messages. Note: Restricted to AES.

Use: Not Required

JSON Schema:

```
Object
type:string
```

#### type

Specifies the type of notification (trap, inform).

Use: Required

JSON Schema:

```
Object
type:string
```

#### engineId

Specifies the engine that receives notifications and that has the authority to control the flow of information. Note: This value represents a hexadecimal value with a length of 10, 12, 14 or 16 (excluding the prepended 0x value), if the notification type specified is of type inform this parameter will not be required.

Use: Not Required (conditional)

JSON Schema:

```
Object
type:string
```

## Responses

204

SNMP notification created.

#### Location

"Location" is the URL to the newly created SNMP notification.

see [GET /api/lunasa/snmp/users/{userid}/notifications/{notificationid}](#)

400

Invalid parameters.

404

Invalid user.

### Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/snmp/users/myUser/notifications
{
  "address": "172.20.11.123",
  "port" : 1504,
  "authenticationPassword" : "password",
  "authenticationProtocol" : "SHA",
  "privacyPassword" : "password2",
  "privacyProtocol" : "AES",
  "type" : "trap",
  "engineId" : "000FFFFFFFA9"
}
```

### Example Response

```
{
}
```

#### 3.2.9.13 DELETE /api/lunasa/snmp/users/{userid}/notifications

### DELETE /api/lunasa/snmp/users/{userid}/notifications

This resource deletes all user notifications.

### Parameters

**userid**

Specifies the user to access.

**Use:** Required

**JSON Schema:**

```
Object
type:string
```

### Responses

204

Success.

400

Unexpected failure.

404

Invalid user.

### Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/snmp/users/myUser/notifications
{
}
```

### Example Response

```
{
}
```

### See Also

[GET /api/lunasa/snmp/users/{userid}/notifications/{notificationid}](#)

#### 3.2.9.14 GET /api/lunasa/snmp/users/{userid}/notifications/{notificationid}

### GET /api/lunasa/snmp/users/{userid}/notifications/{notificationid}

This resource gets configuration information for a snmp notification.

### Parameters

#### userid

Specifies the user.

Use: Required

JSON Schema:

```
Object
type:string
```

#### notificationid

Specifies the notification.

Use: Required

JSON Schema:

```
Object
type:string
```

## Responses

200

SNMP notification.

JSON Schema: [SNMP Notification](#)

400

Unexpected failure

404

Invalid user or invalid notification.

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/snmp/users/myUser/notifications/172.20.11.123_1234
{
}
```

## Example Response

```
{
  "address": "172.20.11.123",
  "port": 1504,
  "type": "trap",
  "engineId": "0000FFFFFFFFA9",
  "authenticationProtocol" : "SHA".
  "privacyProtocol" : "AES"
}
```

### 3.2.9.15 DELETE /api/lunasa/snmp/users/{userid}/notifications/{notificationid}

#### DELETE /api/lunasa/snmp/users/{userid}/notifications/{notificationid}

This resource deletes a SNMP notification.

## Parameters

**userid**

Specifies the user to delete the notification under.

Use: Required

JSON Schema:

```
Object
type:string
```

**notificationid**

Specifies the notification to delete.

Use: Required

JSON Schema:

```
Object
type:string
```

## Responses

204

Success.

400

Unexpected failure

404

Invalid user or invalid notification.

## Example Request

```
DELETE
https://1.2.3.4:8443/api/lunasa/snmp/users/myUser/notifications/172.20.11.123_1234
{
}
```

## Example Response

```
{
}
```

### 3.2.10 SSH

SSH resources allow the user to configure and manage the SSH service.

- [GET /api/lunasa/ssh](#)
- [PUT /api/lunasa/ssh](#)
- [PATCH /api/lunasa/ssh](#)
- [GET /api/lunasa/ssh/actions](#)
- [POST /api/lunasa/ssh/actions/{actionid}](#)

#### 3.2.10.1 GET /api/lunasa/ssh

### GET /api/lunasa/ssh

This resource contains configuration and link urls for the SSH resources.

## Parameters

None

## Responses

200

SSH properties

JSON Schema: [SSH](#)

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ssh
{
}
```

## Example Response

```
{
  "port": 22,
  "isKeyAuthenticationEnabled": true,
  "isPasswordAuthenticationEnabled": true,
  "actions": "/api/lunasa/ssh/actions",
  "networkDevices": ["all"]
}
```

## See Also

[GET /api/lunasa/ssh/actions](#)

### 3.2.10.2 PUT /api/lunasa/ssh

#### PUT /api/lunasa/ssh

This resource updates SSH server configuration.

#### Parameters

##### isPasswordAuthenticationEnabled

This parameter enables password authentication.

Use: Required

JSON Schema:

```
Object
type:boolean
```

##### isKeyAuthenticationEnabled

This parameter enables public key authentication.

Use: Required

JSON Schema:

```
Object
  type: boolean
```

#### port

This parameter specifies the SSH server port.

Use: Required

JSON Schema:

```
Object
  type: integer
```

#### networkDevices

This parameter specifies the list of network devices to use for the SSH server.

Use: Required

JSON Schema:

```
Object
  type: array
    networkDevice: Object
      type: string
```

## Responses

204

Success

400

Unexpected failure

## Example Request

```
PUT
https://1.2.3.4:8443/api/lunasa/ssh
{
  "port": 22,
  "isKeyAuthenticationEnabled": true,
  "isPasswordAuthenticationEnabled": true,
  "networkDevices": ["all"]
}
```

## Example Response

```
{
}
```



### 3.2.10.3 PATCH /api/lunasa/ssh

#### PATCH /api/lunasa/ssh

This resource updates SSH server configuration.

#### Parameters

##### isPasswordAuthenticationEnabled

This parameter enables password authentication.

Use: Not Required

JSON Schema:

```
Object
  type: boolean
```

##### isKeyAuthenticationEnabled

This parameter enables public key authentication.

Use: Not Required

JSON Schema:

```
Object
  type: boolean
```

##### port

This parameter specifies the SSH server port.

Use: Not Required

JSON Schema:

```
Object
  type: integer
```

##### networkDevices

This parameter specifies the list of network devices to use for the SSH server.

Use: Not Required

JSON Schema:

```
Object
  type: array
    networkDevice: Object
      type: string
```

#### Responses

204

Success

400

Unexpected failure

### Example Request

```
PATCH
https://1.2.3.4:8443/api/lunasa/ssh
{
  "port": 22
}
```

### Example Response

```
{
}
```

#### 3.2.10.4 GET /api/lunasa/ssh/actions

### GET /api/lunasa/ssh/actions

Gets all SSH actions.

### Parameters

None

### Responses

200

A list of all actions that can be performed under SSH.

JSON Schema: [SSH Actions](#)

location

400

Unexpected error

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/ssh/actions
```

## Example Result

```
{
  "actions": [
    {
      "id": "keyRegenerate",
      "url": "/api/lunasa/ssh/actions/keyRegenerate"
    }
  ]
}
```

## See Also

[POST /api/lunasa/ssh/actions/{actionid}](#)

### 3.2.10.5 POST /api/lunasa/ssh/actions/{actionid}

#### POST /api/lunasa/ssh/actions/{actionid}

Performs the specified action.

## Parameters

### actionid

The identifier of the action to be performed

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

204

Success

400

Unexpected error

404

Invalid action.

## Example Request

```
POST
https://1.2.3.4:8443/api/lunasa/ssh/actions/keyRegenerate
{ }
```

## Example Result

```
{ }
```

### 3.2.11 Sensor

Sensor resources allow the user to view sensor data.

- [GET /api/lunasa/sensors](#)
- [GET /api/lunasa/sensors/{sensorid}](#)

#### 3.2.11.1 GET /api/lunasa/sensors

### GET /api/lunasa/sensors

This resource contains the list of sensor resources.

#### Parameters

None

#### Responses

200

sensors

JSON Schema: [Sensors](#)

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/sensors
{
}
```

#### Example Response

```
{
  "sensors": [
    {"url": "/api/lunasa/sensors/FAN1A", "id": "FAN1A"},
    {"url": "/api/lunasa/sensors/FAN1B", "id": "FAN1B"},
    {"url": "/api/lunasa/sensors/Inlet", "id": "Inlet"},
    {"url": "/api/lunasa/sensors/CHA%20DIMM%200", "id": "CHA DIMM 0"}
  ]
}
```

#### See Also

[GET /api/lunasa/sensors/{sensorid}](#)

### 3.2.11.2 GET /api/lunasa/sensors/{sensorid}

#### GET /api/lunasa/sensors/{sensorid}

This resource contains information about a specific sensor.

#### Parameters

##### sensorid

Specifies the id of the Sensor.

Use: Required

JSON Schema:

```
Object
type:string
```

#### Responses

##### 200

Sensor information

JSON Schema: [Sensor](#)

##### 400

Failure.

##### 404

Specified sensor does not exist.

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/sensors/FAN1A
{
}
```

#### Example Response

```
{
  "lowerNonRecoverable": 1000,
  "upperNonCritical": null,
  "value": 4600,
  "upperCritical": null,
  "upperNonRecoverable": null,
  "lowerCritical": 2000,
  "variance": 0,
  "type": null,
  "id": "FAN1A",
  "unit": "RPM",
  "lowerNonCritical": null
}
```

## See Also

[GET /api/lunasa/sensors](#)

### 3.2.12 CPU

CPU resources allow the user to view CPU data.

- [GET /api/lunasa/cpu](#)
- [GET /api/lunasa/cpu/processes](#)

#### 3.2.12.1 GET /api/lunasa/cpu

### GET /api/lunasa/cpu

This resource contains the list of CPU resources.

#### Parameters

None

#### Responses

200

CPU info

JSON Schema: [CPU](#)

400

Unexpected error

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/cpu
{
}
```

#### Example Response

```
{
  "average1MinuteUsage": 0.20,
  "processes": "/api/lunasa/cpu/processes",
  "average15MinuteUsage": 0.44,
  "average5MinuteUsage": 0.37,
  "uptime": 10867
}
```

## See Also

[GET /api/lunasa/cpu/processes](#)

### 3.2.12.2 GET /api/lunasa/cpu/processes

#### GET /api/lunasa/cpu/processes

This resource contains information about CPU processes.

#### Parameters

None

#### Responses

200

CPU Processes information

JSON Schema: [Processes](#)

400

Unexpected error

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/cpu/processes
{
}
```

#### Example Response

```
{
  "lastId": 3143,
  "running": 2,
  "total": 227
}
```

## See Also

[GET /api/lunasa/cpu](#)

### 3.2.13 Disk

Disk resources allow the user to view disk data.

- [GET /api/lunasa/disk](#)

- [GET /api/lunasa/disk/partitions](#)
- [GET /api/lunasa/disk/partitions/{partitionid}](#)
- [GET /api/lunasa/disk/smart](#)
- [GET /api/lunasa/disk/smart/attributes](#)
- [GET /api/lunasa/disk/smart/attributes/{attributeid}](#)

### 3.2.13.1 GET /api/lunasa/disk

#### GET /api/lunasa/disk

This resource contains disk information and resources.

#### Parameters

None

#### Responses

200

Disk info

JSON Schema: [Disk](#)

400

Unexpected error

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/disk
{
}
```

#### Example Response

```
{
  "partitions": "/api/lunasa/disk/partitions",
  "smart": "/api/lunasa/disk/smart",
  "deviceModel": "HGST HUS726020ALE611",
  "serialNumber": "N4G4THZS",
  "firmwareVersion": "APGNV7J0"
}
```

#### See Also

[GET /api/lunasa/disk/partitions](#)

[GET /api/lunasa/disk/smart](#)



### 3.2.13.2 GET /api/lunasa/disk/partitions

#### GET /api/lunasa/disk/partitions

This resource contains the list of partitions resources.

#### Parameters

None

#### Responses

200

Disk info

JSON Schema: [Partitions](#)

400

Unexpected error

#### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/disk/partitions
{
}
```

#### Example Response

```
{
  "partitions": [
    {
      "id": "sda5",
      "url": "/api/lunasa/disk/partitions/sda5"
    },
    {
      "id": "sda6",
      "url": "/api/lunasa/disk/partitions/sda6"
    },
    {
      "id": "sda7",
      "url": "/api/lunasa/disk/partitions/sda7"
    },
    {
      "id": "sda8",
      "url": "/api/lunasa/disk/partitions/sda8"
    },
    {
      "id": "sda9",
      "url": "/api/lunasa/disk/partitions/sda9"
    },
    {
      "id": "sda10",
      "url": "/api/lunasa/disk/partitions/sda10"
    },
    {
      "id": "sda11",
      "url": "/api/lunasa/disk/partitions/sda11"
    }
  ],
}
```

```
{
  {
    "id": "sda12",
    "url": "/api/lunasa/disk/partitions/sda12"
  },
  {
    "id": "sda13",
    "url": "/api/lunasa/disk/partitions/sda13"
  },
  {
    "id": "sda14",
    "url": "/api/lunasa/disk/partitions/sda14"
  },
  {
    "id": "1.2.3.5:home",
    "url": "/api/lunasa/disk/partitions/1.2.3.5:home"
  }
]
}
```

## See Also

[GET /api/lunasa/disk/partitions/{partitionid}](#)

### 3.2.13.3 GET /api/lunasa/disk/partitions/{partitionid}

#### GET /api/lunasa/disk/partitions/{partitionid}

This resource contains information associated with the disk partition.

#### Parameters

##### partitionid

The identifier of a disk partition.

Use: Required

JSON Schema:

```
Object
type: string
```

#### Responses

200

Disk partition information

JSON Schema: [Disk Partition](#)

400

Unexpected error

404

Disk partition does not exist

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/disk/partitions/sda5
{
}
```

### Example Response

```
{
  "available": 7397368,
  "mountPoint": "/",
  "size": 8125880,
  "used": 292700,
  "partition": "/dev/sda5"
}
```

### See Also

[GET /api/lunasa/disk/partitions](#)

#### 3.2.13.4 GET /api/lunasa/disk/smart

### GET /api/lunasa/disk/smart

This resource contains SMART information and resources.

### Parameters

None

### Responses

200

Disk info

JSON Schema: [Smart](#)

400

Unexpected error

### Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/disk/smart
{
}
```

### Example Response

```
{
  "selfAssessment": "passed",
}
```

```
  "attributes": "/api/lunasa/disk/smart/attributes"  
}
```

## See Also

[GET /api/lunasa/disk/smart/attributes](#)

### 3.2.13.5 GET /api/lunasa/disk/smart/attributes

#### GET /api/lunasa/disk/smart/attributes

This resource contains the list of disk SMART attributes.

#### Parameters

None

#### Responses

200

Disk info

JSON Schema: [SMART Attributes](#)

400

Unexpected error

#### Example Request

```
GET  
https://1.2.3.4:8443/api/lunasa/disk/smart/attributes  
{  
}
```

#### Example Response

```
{  
  "attributes": [  
    {  
      "id": "1",  
      "url": "/api/lunasa/disk/smart/attributes/1"  
    },  
    {  
      "id": "2",  
      "url": "/api/lunasa/disk/smart/attributes/2"  
    },  
    {  
      "id": "3",  
      "url": "/api/lunasa/disk/smart/attributes/3"  
    },  
    {  
      "id": "4",  
      "url": "/api/lunasa/disk/smart/attributes/4"  
    },  
  ],  
}
```

```
{
  {
    "id": "5",
    "url": "/api/lunasa/disk/smart/attributes/5"
  },
  {
    "id": "7",
    "url": "/api/lunasa/disk/smart/attributes/7"
  },
  {
    "id": "8",
    "url": "/api/lunasa/disk/smart/attributes/8"
  },
  {
    "id": "9",
    "url": "/api/lunasa/disk/smart/attributes/9"
  },
  {
    "id": "10",
    "url": "/api/lunasa/disk/smart/attributes/10"
  },
  {
    "id": "12",
    "url": "/api/lunasa/disk/smart/attributes/12"
  },
  {
    "id": "192",
    "url": "/api/lunasa/disk/smart/attributes/192"
  },
  {
    "id": "193",
    "url": "/api/lunasa/disk/smart/attributes/193"
  },
  {
    "id": "194",
    "url": "/api/lunasa/disk/smart/attributes/194"
  },
  {
    "id": "196",
    "url": "/api/lunasa/disk/smart/attributes/196"
  },
  {
    "id": "197",
    "url": "/api/lunasa/disk/smart/attributes/197"
  },
  {
    "id": "198",
    "url": "/api/lunasa/disk/smart/attributes/198"
  },
  {
    "id": "199",
    "url": "/api/lunasa/disk/smart/attributes/199"
  }
}
]
```

## See Also

[GET /api/lunasa/disk/smart/attributes/{attributeid}](#)

### 3.2.13.6 GET /api/lunasa/disk/smart/attributes/{attributeid}

#### GET /api/lunasa/disk/smart/attributes/{attributeid}

This resource contains information associated with the disk SMART attribute.

## Parameters

### attributeid

The identifier of a disk SMART attribute.

Use: Required

JSON Schema:

```
Object
type: string
```

## Responses

### 200

Disk SMART attribute information

JSON Schema: [SMART Attribute](#)

### 400

Unexpected error

### 404

SMART attribute does not exist

## Example Request

```
GET
https://1.2.3.4:8443/api/lunasa/disk/smart/attributes/10
{
}
```

## Example Response

```
{
  "id": 10,
  "name": "Spin_Retry_Count",
  "flag": "0x0013",
  "value": 100,
  "worst": 100,
  "threshold": 60,
  "type": "Pre-fail",
  "updated": "Always",
  "whenFailed": null,
  "rawValue": "0"
}
```

## See Also

[GET /api/lunasa/disk/smart/attributes](#)



# Chapter 4

## Resources

This section describes the resources of the REST API.

- [Actions](#)
- [Authentication Method](#)
- [Counter](#)
- [Errors](#)
- [Error Description](#)
- [Firmware](#)
- [HSM Resources](#)
- [Indirect Key](#)
- [Languages](#)
- [Licenses](#)
- [License Description](#)
- [Models](#)
- [Objects](#)
- [Partition Resources](#)
- [PED Resources](#)
- [State](#)
- [Services](#)
- [Service](#)
- [SFF Resources](#)
- [STC Resources](#)
- [Tasks](#)
- [Tamper Resources](#)
- [Updates](#)
- [Update Description](#)
- [WebServer Resources](#)



- [Network](#)
- [Syslog](#)
- [NTP](#)
- [SNMP](#)
- [Lunasa](#)
- [SSH](#)
- [Sensor](#)
- [NTLS](#)
- [CPU](#)
- [Disk](#)
- [Partition Policy Template](#)

## 4.1 Actions

This section describes actions supported on selected resources of the REST API.

- [Firmware Actions](#)
- [HSM Actions](#)
- [HSM Counter Actions](#)
- [HSM Role Actions](#)
- [Partition Objects Actions](#)
- [Partition Role Actions](#)
- [PED Actions](#)
- [Service Actions](#)
- [Task Actions](#)
- [Web Server Configuration Actions](#)
- [Web Server Certificate Actions](#)

### 4.1.1 Firmware Actions

#### Firmware Actions

```
Object
  actions: Object
  type: array
    items: Object
      id: Object
      type: string
      description: id is an internal reference for the action.
                   Use this identifier to perform the action in a POST to the resource.
                   Valid actions are:
                     upgrade - update the HSM firmware to a newer release
                     rollback - revert the HSM firmware to a version previously installed
                              and resident on the HSM

      url: Object
      type: string
      description: url is the fully-formed resource for a POST to complete the action.
```

(see [POST /api/lunasa/hsms/{hsmid}/firmware/actions/{actionid}](#))

## 4.1.2 HSM Actions

### HSM Actions

```
Object
  actions: Object
  type: array
  items: Object

    id: Object
    type: string
    description: id is an internal reference for the action.
                  Use this identifier to complete the action with a POST.
                  Valid actions are:
                    factoryReset - delete all cryptographic material and users
                                and return the HSM to a factory default state
                    selfTest - check the HSM for expected operation
                    zeroize - delete all cryptographic material and users
                    stmTransport - put the hsm into secure transport mode
                    stmRecover - recover the hsm from secure transport mode
```

url: string (see [POST /api/lunasa/hsms/{hsmid}/actions/{actionid}](#))

## 4.1.3 HSM Counter Actions

### HSM Counter Actions

```
Object
  actions: Object
  type: array
  items: Object
    id: Object
    type: string
    description: id is an internal reference for the action.
                  Use this identifier to perform the action in a POST to the resource.
                  A valid action is:
                    clear - Clears a subset of counters (criticalEvents, cryptoOperationErrors, c

  url: Object
    type: string
    description: url is the fully-formed resource for a POST to complete the action.
```

(see [POST /api/lunasa/hsms/{hsmid}/counter/actions/{actionid}](#))

## 4.1.4 HSM Role Actions

### HSM Role Actions

```
Object
  roles: Object
  type: array
  items: Object
    id: Object
    type: string
    description: id is an internal reference for the role action.
                  Use this identifier to complete the action with a
```

Valid actions are:

createChallenge - initialize the role challenge  
 reset - return the password for the role to the factory default or to a specified value or resets the contents of the black PED token. Note that the reset action applies to both password- and PED-based partitions. In the case of a PED-based partition, if it has a challenge, an administrator can reset the challenge by providing the PIN. Otherwise, for a PED-based partition, an administrator can reset the secret on the black PED token by providing no password.  
 deactivate - decache the PED key data

NOTE: These actions do not apply for the Security Officer role.

url: string (see POST /api/lunasa/hsms/{hsmid}/roles/{roleid}/actions/{actionid})

#### 4.1.5 Partition Objects Actions

##### Partition Objects Actions

Object

actions: Object  
 type: array  
 items: Object

id: Object  
 type: string  
 description:

id is an internal reference for the action.

Use this identifier to complete the action with a POST.

Valid actions are:

backup - backup a specific object to another partition  
 restore - restore a specific object to another partition

url: string (see POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions/{actionid})

#### 4.1.6 Partition Role Actions

##### Partition Role Actions

Object

roles: Object  
 type: array  
 items: Object

id: Object  
 type: string  
 description:

id is an internal reference for the role action.

Use this identifier to complete the action with a POST.

Valid actions are:

reset - return the password for the role to the factory default or to a specified value or resets the contents of the black PED token. Note that the reset action applies to both password- and PED-based partitions. In the case of a PED-based partition, if it has a challenge, an administrator can reset the challenge by providing the PIN. Otherwise, for a PED-based partition, an administrator can reset the secret on the black PED token by providing no password.  
 See "Applied Example" below for a password-based partition.

createChallenge - create a challenge for the partition role.  
 deactivate - decache the partition PED key data.

url: string (see POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}/actions/{actionid})

##### Applied Example

CO role is locked out.

```
GET /api/lunasa/hsms/150607/partitions/350659181751/roles/co
{}

```

```
==> OK. SERVER RESPONSE (200):

```

```
{"loginAttemptsLeft": 0, "name": "Crypto Officer", "lockedOut": true, "activated": false,
  "challengeToBeChanged": false, "initialized": true, "pinToBeChanged": false, "id": "co"}
```

Login as Security Officer and perform the reset password action.

```
POST /api/lunasa/hsms/150607/partitions/350659181751/roles/co/actions/reset
{"password": "password"}

```

```
==> OK. SERVER RESPONSE (204):

```

```
{}
```

Get information on the CO role to verify that the role is no longer locked out.

```
GET /api/lunasa/hsms/150607/partitions/350659181751/roles/co
{}

```

```
==> OK. SERVER RESPONSE (200):

```

```
{"loginAttemptsLeft": 10, "name": "Crypto Officer", "lockedOut": false, "activated": false,
  "challengeToBeChanged": false, "initialized": true, "pinToBeChanged": false, "id": "co"}
```

### 4.1.7 PED Actions

#### PED Actions

Object

```
actions: Object
type: array
items: Object

```

```
id: Object
type: string

```

```
description: id is an internal reference for the action.
Use this identifier to complete the action with a POST.
Valid actions are:

```

```
connect - establish a communication path between the HSM and a PED
on a remote workstation
parameters:
  Object
  ipAddress: Object
    type: string
    description: ipAddress is the IP address of remote
PED workstation.
  ipPort: Object
    type: integer
    description: ipPort is the network port listed
on the remote PED workstation for
incoming connection requests.

disconnect - tear down a previously-established communication path between
the HSM and a PED on a remote workstation
parameters: none

vectorErase - remove the PED vector on the HSM
Parameters: none

vectorInitialize - create a PED authentication value to be used to establish
communication between the HSM and a remote PED
Parameters: none

```

url: string (see POST /api/lunasa/hsms/{hsmid}/peds/{pedid}/actions/{actionid})

## 4.1.8 Service Actions

### Service Actions

```
actions: Object
type: array
  items: Object
    id: Object
    type: string
    description: id is an internal reference for the action.
                  Use this identifier to complete the action with a POST.
                  Valid actions are:
                    start - bring the service on-line; assumed not running
                    stop  - terminate the service assumed to be running
                    restart - stop and start the service; assumed to be running
```

url: string (see POST /api/lunasa/services/{serviceid}/actions/{actionid})

## 4.1.9 Task Actions

### Task Actions

```
Object
  actions: Object
  type: array
    items: Object
      id: Object
      type: string
      description: id is an internal reference for the action.
                    Use this identifier to perform the action in a POST to the resource.
                    Valid actions are:
                      start - begin a task that is in a WAITING state

  url: Object
    type: string
    description: url is the fully-formed resource for a POST to complete the action.
```

(see POST /tasks/{taskid}/actions/{actionid})

## 4.1.10 Web Server Configuration Actions

### Web Server Configuration Actions

```
Object
  actions: Object
  type: array
    items: Object

  id: Object
    type: string
    description: id is an internal reference for the action.
                  Use this identifier to complete the action with a POST.
                  Valid actions are:
                    setDefaultCipherList - set the cipher suite available
                                          for the web server certificate to a pre-defined list.
```

Use this action if a client changed the cipher list with PUT or PATCH to the /api/lunasa/webServer resource.

url: string (see [POST /api/lunasa/webServer/actions/{actionid}](#))

#### 4.1.11 Web Server Certificate Actions

##### Web Server Certificate Actions

Object

```
actions: Object
type: array
items: Object

id: Object
type: string
description: id is an internal reference for the action.
              Use this identifier to complete the action with a POST.
              Valid actions are:
                regenerate - create a new certificate for the web server
                            This action has no parameters: the REST API
                            service uses the configuration set by preceding
                            PUT/PATCH resources.
```

url: string (see [POST /api/lunasa/webServer/Certificate/actions/{actionid}](#))

## 4.2 Authentication Method

### Authentication Method

authenticationMethod represents the way a user presents credentials to the HSM. The following table shows defined values for authenticationMethod.

Value	Description
PASSWORD	Alpha-numeric string of characters secret to the user
CERTIFICATE	Alpha-numeric string of characters secret to the user
PED	PIN entry device, a Gemalto-proprietary instrument that uses small tokens to store data used to form a secret

## 4.3 Counter

### Counter

Object

```
counter: Object
type: Object

operationRequests: Object
type: integer
description: operationRequests is a count of all operations directed to the HSM
              since the last reset (e.g., power on) of the HSM.

operationErrors: Object
```

```

    type: integer
    description: operationErrors is a count of all unsuccessful operations directed
        to the HSM since the last reset of the HSM.

cryptoOperationRequests: Object
    type: integer
    description: cryptoOperationRequests is the total number of cryptographic operations
        (e.g., sign, decrypt, generate key, digest) directed to the HSM
        since the last reset of the HSM.

cryptoOperationErrors: Object
    type: integer
    description: cryptoOperationErrors is a count of all unsuccessful cryptographic
        operations directed to the HSM since the last reset of the HSM.

criticalEvents: Object
    type: integer
    description: criticalEvents is a count of all extraordinary occurrences detected by
        the HSM since the last reset of the HSM. The nature and number of
        extraordinary events is complex: many events never occur but the HSM
        monitors for them (e.g., cryptographic algorithm self tests).
        Any log record in the hsm.log file with the text "CRIT:" in the
        body represents an event that results in an increment of the
        criticalEvents counter.

nonCriticalEvents: Object
    type: integer
    description: nonCriticalEvents is a count of all non-extraordinary activity noted
        by the HSM since the last reset of the HSM. Any log record in the
        hsm.log file with the text "ERR:" or "INFO:" in the
        body represents an event that results in an increment of the
        nonCriticalEvents counter.

actions: Object
    type: string
    description: actions specifies the url to the list of actions which are supported by the counter.

uptime: Object
    type: double
    description: time in seconds that the hsm has been up.

idletime: Object
    type: double
    description: time in seconds that the hsm has been idling.

commands: Object
    type: integer
    description: number of commands executed on the hsm.

```

## 4.4 Errors

### Errors

```

Object
  errors: Object
  type: array
  items: Object
    id: Object
      type: string
      description: id is an internal reference for the error.
    url: Object
      type: string
      description: url is a link to the error object.

```

url: string (see [GET /errors/{languageid}/{errorid}](#))

## 4.5 Error Description

### Error Description

Object

details: Object  
type: string  
description: details is a human-friendly description of the error.

id: Object  
type: string  
description: id is the unique reference for the error.

message: Object  
type: string  
description: message is a human-friendly summary or title for the error.

returnCode: Object  
type: integer  
description: returnCode is the RFC 2616 value returned for the error.

see ([Status Codes](#))

status: Object  
type: string  
description: status is an indication of how the application using the REST API should interpret the error. For this release, "ERROR" is the only value for status.

type: Object  
type: string  
description: type is a designator for the component responsible for the error: the origin of the error. Values for type are:  
API - the error originates in the interface  
DOCS - the error originates in the Lexicon component  
FRAMEWORK - the error originates in the infrastructure of the REST API  
PLUGIN - the error originates in a plug-in providing a service via the REST API  
SERVER - the error originates in the REST API web server

## 4.6 Firmware

### Firmware

Object

firmware: Object  
type: Object

current: Object  
type: string  
description: current is the version of the firmware loaded onto and active on the HSM.

rollback: Object  
type: string  
description: rollback is the former version of the firmware loaded onto the HSM but inactive.

upgrade: Object  
type: integer  
description: upgrade is the version of the firmware installed on the SafeNet Network HSM appliance and available for download to the HSM.



## 4.7 HSM Resources

This section describes HSM-related resources of the REST API.

- [HSMs](#)
- [HSM](#)
- [HSM Capabilities](#)
- [HSM Capability Description](#)
- [HSM Policies](#)
- [HSM Policy Description](#)
- [HSM Roles](#)
- [HSM Role Description](#)
- [HSM Storage Space](#)

### 4.7.1 HSMs

#### HSMs

Array

```

id: Object
  type: string
  description: id is the unique serial number of the HSM.

label: Object
  type: string
  description: label is reserved for future use.
```

url: string (see [GET /api/lunasa/hsms/{hsmid}](#))

### 4.7.2 HSM

#### HSM

Object

actionsMethod: string (see [Actions](#))

authenticationMethod: string (see [Authentication Method](#))

countersUrl: string (see [Counter](#))

```

debugInfo: Object
  type: string
  description: debugInfo is base 64-encoded text returned by the HSM. The information
  is useful to Gemalto engineers but otherwise is of little value to
  end users.

driverTimeout: Object
  type: integer
  description: driverTimeout specifies the number of seconds the device driver waits
```

for a reply to an HSM request after which the driver fails the operation.

fipsModeEnabled: Object  
type: boolean  
description: fipsModeEnabled indicates whether the HSM is configured and operating in a mode compliant with FIPS 140-2 requirements. TRUE means the HSM is in a compliant mode; FALSE, is not in a compliant mode.

firmwareUrl: string (see [Firmware](#))

firmwareVersion: Object  
type: string  
description: firmwareVersion is a three-component identifier to represent the variant of the firmware on the HSM. Periods separate the three components: a major number, a minor number and a patch number. Example: "6.22.2"

label: Object  
type: string  
description: label is a human-friendly name for the HSM. Example: "SQL-crypto"

licensesUrl: string (see [Licenses](#))

loggedIn: Object  
type: boolean  
description: loggedIn indicates whether the Security Officer is authenticated to the HSM. TRUE means that the Security Officer is authenticated and is authorized to administer the HSM; FALSE, is not authorized.

model: string (see [Model](#))

partitionsUrl: string (see [Partitions](#))

partNumber: Object  
type: string  
description: partNumber indicates the version of the PCI-E card that is installed. On SA6, the partNumber is null

pedUrl: string (see [PED](#))

pkiEnabled: Object  
type: boolean  
description: pkiEnabled indicates whether the HSM is configured to be accessed via public key-based certificates. TRUE means that the HSM is configured for PKI access; FALSE, in not configured for PKI access.

policiesUrl: string (see [HSM Policies](#))

rolesUrl: string (see [HSM Roles](#))

storageSpace: RestObjectStorageSpace (see [HSM StorageSpace](#))

supportInfo: Object  
type: string  
description: supportInfo is reserved for future use.

tamperUrl: string (see [HSM Tamperers](#))  
 updatesUrl: string (see [HSM Updates](#))

```

zeroized: Object
type: boolean
description: zeroized indicates whether the HSM is in a state where all cryptographic
              material is inaccessible. A zeroized HSM requires re-initialization before
              it becomes capable of generating cryptographic keys and performing
              cryptographic operation. TRUE means that the HSM is zeroized; FALSE, is
              not zeroized.
  
```

## See Also

[licenses](#)

### 4.7.3 HSM Capabilities

#### HSM Capabilities

```

Object
  capabilities: Object
  type: array
  items: Object
    id: Object
      type: string
      description: id is an internal reference for the capability.
                  The format of the identifier may vary and may change in future.
                  Use this identifier to query for more details of the HSM capability.
    name: Object
      type: string
      description: name is a short, textual description of the capability.
                  Refer to the "HSM Capabilities and Policies" section of the
                  SafeNet Network HSM Product Documentation for details of each capability.
                  Example: "Enable non-FIPS algorithms"
  
```

url: string (see [GET /api/lunasa/hsms/{hsmid}/capability/{capabilityid}](#))

### 4.7.4 HSM Capability Description

#### HSM Capability Description

```

Object
  value: Object
    type: string
    description: value is the accessibility of the capability.
  name: Object
    type: string
    description: name is a textual description of the capability.
  id: Object
    type: string
    description: id is an internal reference for the capability.
  
```

### 4.7.5 HSM Policies

## HSM Policies

Object

```

policies: Object
  type: array
  items: Object
    id: Object
      type: string
      description: id is an internal reference for the HSM policy.
                  Use this identifier to query for more details of the HSM policy.

    name: Object
      type: string
      description: name is a short, textual description of the HSM policy.
                  Refer to the "HSM Capabilities and Policies" section of the
                  SafeNet Network HSM Product Documentation for details of each policy.
                  Example: "Performance level"

```

url: string (see [GET /api/lunasa/hsms/{hsmid}/policies/{policyid}](#))

### 4.7.6 HSM Policy Description

#### HSM Policy Description

Object

```

onToOffDestructive: Object
  type: boolean
  description: destructive indicates if changing the policy
              is destructive when changed from on to off.

offToOnDestructive: Object
  type: boolean
  description: destructive indicates if changing the policy
              is destructive when changed from off to on.

changeable: Object
  type: boolean
  description: changeable indicates whether an administrator is able
              to set the value for the HSM policy. TRUE means
              an administrator has the ability to set the policy.
              FALSE means the policy is read-only.

description: Object
  type: string
  description: description provides short, textual information about
              the policy.

enabled: Object
  type: boolean
  description: enabled indicates whether the policy is in effect.
              TRUE means that it is. FALSE means it is not.

id: Object
  type: string
  description: id is an internal reference for the partition policy.

value: Object
  type: integer
  description: value is the partition policy. See "HSM Capabilities
              and Policies" in the SafeNet Network HSM Product Documentation for
              details about the policy.

```

### 4.7.7 HSM Roles

## HSM Roles

Object

```

roles: Object
type: array
  items: Object
    id: Object
      type: string
      description: id is an internal reference for the role.
                   Use this identifier to query for more details of the HSM role.

    name: Object
      type: string
      description: name is a short, textual description of the role.
                   Refer to the "Roles and Users" section of the
                   SafeNet Network HSM Product Documentation for details of each role.
                   Example: "HSM SO"

```

url: string (see [GET /api/lunasa/hsms/{hsmid}/roles/{roleid}](#))

### 4.7.8 HSM Role Description

#### HSM Role Description

Object

```

activated: Object
  type: boolean
  description: activated indicates whether the role is authenticated.
               True means the role is authenticated with access to sensitive
               cryptographic material; False means authentication must
               occur before access is possible.

challengeToBeChanged: Object
  type: boolean
  description: challengeToBeChanged indicates whether the challenge for the
               role must be initialized or updated. True means the challenge
               must be updated; False means the challenge is okay as-is.

id: Object
  type: string
  description: id is a unique internal reference for the role.

initialized: Object
  type: boolean
  description: initialized indicates whether the role is set up for use.
               True means the role is ready; False means additional
               administration is necessary.

lockedOut: Object
  type: boolean
  description: lockedOut indicates whether a user is able to successfully
               authenticate to the HSM with the role. False means
               that the HSM permits a user to login to the HSM.
               True means that the HSM prevents a user to login even when
               the user presents the correct credentials. True means that
               a user attempted unsuccessfully too many times to login on a
               previous occasion.

loginAttemptsLeft: Object
  type: integer
  description: loginAttemptsLeft indicates how many consecutive tries a user
               has left to successfully login to the HSM. If this
               number of consecutive login attempts fail, the HSM locks
               out the HSM. See "Failed Logins" in the SafeNet Network HSM
               Product Documentation for details of what happens in
               this circumstance.

```

```

name: Object
  type: string
  description: name is a short-form, human-friendly tag for the role.

pinToBeChanged: Object
  type: boolean
  description: pinToBeChanged indicates whether a user is forced to choose
    a new password on login. False means that the user can
    keep the existing password. True means that the user must
    change the password after successfully logging in.

```

## 4.7.9 HSM Storage Space

### HSM Storage Space

```

Object
  RestObjectStorageSpace: Object
    free: Object
      type: integer
      description: free is the number of bytes of memory available for use on the HSM.

    total: Object
      type: integer
      description: total is the memory capacity of the HSM in bytes.
        On a standard SafeNet Network HSM, total should be approximately two megabytes.

    used: Object
      type: integer
      description: used is number of bytes of memory allocated to cryptographic
        objects residing on the HSM.

```

## 4.8 Indirect Key

### Key

```

Object
  key: Object
    exponent: Object
      type: string
      description: exponent is the exponent component of the public
        key used for indirect login.

    modulus: Object
      type: string
      description: modulus is the modulus component of the public
        key used for indirect login.

```

## 4.9 Languages

### Languages

```

Object
  languages: Object
    type: array
    items: Object
      id: Object
        type: string
        description: language is an internal reference for the language.
          With this release, the only language supported is English (en).
          Use this identifier to query for more details of the language.

      url: Object
        type: string
        description: url is a link to a list of errors supported for this language.

```

url: string (see GET /errors/{languageid})

## 4.10 Licenses

### Licenses

```
Object
  licenses: Object
  type: array
  items: Object
    id: Object
      type: string
      description: id is an internal reference for the capability.
                   The format of the identifier may vary and may change in future.
                   Use this identifier to query for more details of the license capability.
    name: Object
      type: string
      description: name is a textual description of the capability.
                   The text may include numbers with the text: the numbers are
                   internal to Gemalto.
                   Example: "K6 Base 621-000002-000", "Cloning"
```

url: string (see GET /api/lunasa/hsms/{hsmid}/licenses/{licenseid})

## 4.11 License Description

### License Description

```
Object
  name: Object
    type: string
    description: name is a textual description of the capability.
  id: Object
    type: string
    description: id is an internal reference for the capability.
```

## 4.12 Models

### Models

model represents the form-factor of the HSM. The following table shows defined values for model.

Value	Description
K6 Base	PCI Express card
G5 Base	USB-attached, portable, text book-sized device

## 4.13 Objects

### Objects

Object

```

objects: Object
type: array
  items: Object
    Id: Object
      type: string
      description: <xxx>
    Description: Object
      type: string
      description: <xxx>

```

## 4.14 Partition Resources

This section describes partition-related resources of the REST API.

- [Partitions](#)
- [Partition Description](#)
- [Partition Capabilities](#)
- [Partition Capability Description](#)
- [Partition Policies](#)
- [Partition Policy Description](#)
- [Partition Objects](#)
- [Partition Object Description](#)
- [Partition Roles](#)
- [Partition Role Description](#)
- [Partition Storage Space](#)

### 4.14.1 Partitions

#### Partitions

```

Object
partitions: Object
type: array
  items: Object
    id: Object
      type: string
      description: id is a unique internal reference for the partition.
                  Use this identifier to query for more details of the partition.

    label: Object
      type: string
      description: name is a short, textual way to reference the partition.
                  Generally, it has an application-specific context.
                  Example: "HSM1:sigver"

```

url: string (see [GET /api/lunasa/hsms/{hsmid}/partition/{partitionid}](#))



## 4.14.2 Partition Description

### Partition Description

Object

```

activated: Object
type: boolean
description: activated indicates if the partition is authenticated and in a state
              where it can be used without the need to re-present login credentials.
              A value of TRUE means that an application can use the partition without
              additional authentication. A value of FALSE means that an application
              must present login credentials to use the partition.

```

capabilitiesUrl: string (see [Partition Capabilities](#))

```

label: Object
type: string
description: label is an identifier for the partition that may or may not be unique.
              It can consist of alpha-numeric characters; see "Partition Create" in
              the SafeNet Network HSM Product Documentation for more details. If label is
              unspecified when the partition is created, it has the same value as the
              name attribute.

name: Object
type: string
description: name is an HSM-unique identifier for the partition. It can consist of
              alpha-numeric characters; see "Partition Create" in the SafeNet Network HSM Product
              Documentation for more details.
              example: "AcmePartition"

objectCount: Object
type: integer
description: objectCount indicates how many cryptographic objects exists within the
              partition.

```

objectsUrl: string (see [Partition Objects](#))

policiesUrl: string (see [Partition Policies](#))

rolesUrl: string (see [Partition Roles](#))

state: string (see [State](#))

stc: string (see [STC](#))

storageSpace: RestObjectStorageSpace (see [Partition StorageSpace](#))

## 4.14.3 Partition Capabilities

### Partition Capabilities

Object

```

capabilities: Object
type: array
  items: Object
    id: Object
    type: string
    description: id is an internal reference for the partition capability.
                 Use this identifier to query for more details of the partition capability.

```

```

name: Object
  type: string
  description: name is a short, textual description of the partition capability.
               Refer to the "Partition Capabilities and Policies" section of the
               SafeNet Network HSM Product Documentation for details of each capability.
               Example: "Enable Activation"

```

```
url: string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/capabilities/{ca
```

#### 4.14.4 Partition Capability Description

##### Partition Capability Description

```

Object
  name: Object
    type: string
    description: name is a textual description of the partition capability.

  id: Object
    type: string
    description: id is an internal reference for the partition capability.

```

#### 4.14.5 Partition Policies

##### Partition Policies

```

Object
  policies: Object
    type: array
    items: Object
      id: Object
        type: string
        description: id is an internal reference for the partition policy.
                   Use this identifier to query for more details of the partition policy.

      name: Object
        type: string
        description: name is a short, textual description of the partition policy.
                   Refer to the "Partition Capabilities and Policies" section of the
                   SafeNet Network HSM Product Documentation for details of each policy.
                   Example: "Allow RSA PKCS mechanism"

```

```
url: string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policy
```

#### 4.14.6 Partition Policy Description

##### Partition Policy Description

```

Object
  onToOffDestructive: Object
    type: boolean
    description: destructive indicates if changing the policy
               is destructive when changed from on to off.

  offToOnDestructive: Object
    type: boolean
    description: destructive indicates if changing the policy
               is destructive when changed from off to on.

```

```

changeable: Object
  type: boolean
  description: changeable indicates whether an administrator is able
    to set the value for the partition policy. TRUE means
    an administrator has the ability to set the policy.
    FALSE means the policy is read-only.

description: Object
  type: string
  description: description provides short, textual information about
    the policy.

enabled: Object
  type: boolean
  description: enabled indicates whether the policy is in effect.
    TRUE means that it is. FALSE means it is not.

id: Object
  type: string
  description: id is an internal reference for the partition policy.

value: Object
  type: integer
  description: value is the partition policy. See "Partition Capabilities
    and Policies" in the SafeNet Network HSM Product Documentation for
    details about the policy.

```

#### 4.14.7 Partition Objects

##### Partition Objects

```

Object
  objects: Object
    type: array
    items: Object
      id: Object
        type: string
        description: id is an internal reference for the partition object.
          Use this identifier to query for more details of the partition object.

      name: Object
        type: string
        description: name is a short, textual description of the partition object.

  actions: Object
    type: string
    description: the url to the list of actions in the partition.

url: string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/{objectid})
url: string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions)

```

#### 4.14.8 Partition Object Description

##### Partition Object Description

```

Object
  label: Object
    type: string
    description: label is a textual description of the partition object.

  id: Object
    type: string
    description: id is an internal reference for the partition object.

```

```

type: Object
  type: string
  description: the type of the partition object.

uid: Object
  type: string
  description: the unique identifier of the partition object.

```

#### 4.14.9 Partition Roles

##### Partition Roles

```

Object
  roles: Object
  type: array
  items: Object
    id: Object
      type: string
      description: id is an internal reference for the partition role.
                    Use this identifier to query for more details of the partition role.

    name: Object
      type: string
      description: name is a short, textual description of the role.
                    Refer to the "Roles and Users" section of the
                    SafeNet Network HSM Product Documentation for details of each partition role.
                    Example: "Application Partition SO"

url: string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/role/{roleid})

```

#### 4.14.10 Partition Role Description

##### Partition Role Description

```

Object
  activated: Object
    type: boolean
    description: activated indicates whether the role is authenticated.
                  True means the role is authenticated with access to sensitive
                  cryptographic material; False means authentication must
                  occur before access is possible.

  challengeToBeChanged: Object
    type: boolean
    description: challengeToBeChanged indicates whether the challenge for the
                  role must be initialized or updated. True means the challenge
                  must be updated; False means the challenge is okay as-is.

  id: Object
    type: string
    description: id is a unique internal reference for the role.

  initialized: Object
    type: boolean
    description: initialized indicates whether the role is set up for use.
                  True means the role is ready; False means additional
                  administration is necessary.

  lockedOut: Object
    type: boolean
    description: lockedOut indicates whether a user is able to successfully
                  authenticate to the partition with the role. False means
                  that the HSM permits a user to login to the partition.
                  True means that the HSM prevents a user to login even when
                  the user presents the correct credentials. True means that

```

a user attempted unsuccessfully too many times to login on a previous occasion.

```
loginAttemptsLeft: Object
  type: integer
  description: loginAttemptsLeft indicates how many consecutive tries a user
    has left to successfully login to the partition. If this
    number of consecutive login attempts fail, the HSM locks
    out the partition. See "Failed Logins" in the SafeNet Network HSM
    Product Documentation for details of what happens in
    this circumstance.

name: Object
  type: string
  description: name is a short, textual description of the role.
    Refer to the "Roles and Users" section of the
    SafeNet Network HSM Product Documentation for details of each partition role.

pinToBeChanged: Object
  type: boolean
  description: pinToBeChanged indicates whether a user is forced to choose
    a new password on login. False means that the user can
    keep the existing password. True means that the user must
    change the password after successfully logging in.

primaryAuthentication: Object
  type: string
  description: primaryAuthentication is the means by which the role must
    authenticate to the partition. Values are:
    None - not applicable for this means of authentication
    PED - use the PIN entry device
    PIN - provide a password

secondaryAuthentication: Object
  type: string
  description: secondaryAuthentication is the means by which, in additional
    to authenticating to the partition via the method defined
    by the primary authentication attribute, the role must also
    authenticate to the partition. Values are:
    None - no other authentication is necessary
    PED - not applicable for this means of authentication
    PIN - a challenge must be provided
```

#### 4.14.11 Partition Storage Space

##### Partition Storage Space

```
Object
  RestObjectStorageSpace: Object
    free: Object
      type: integer
      description: free is the number of bytes of memory available for use within the partition.

    total: Object
      type: integer
      description: total is the memory capacity of the partition in bytes.

    used: Object
      type: integer
      description: used is number of bytes of memory allocated to cryptographic
        objects residing in the partition.
```

#### 4.15 PED Resources

This section describes PED-related resources of the REST API.

- [PED](#)

- [PEDs](#)
- [PED Description](#)
- [PED Servers](#)
- [PED Server](#)

### 4.15.1 PED

#### PED

Object

```
pedes: Object
  type: string
  description: The location for PEDs.

servers: Object
  type: string
  description: The location for PED servers.
```

#### See Also

[GET /api/lunasa/hsms/{hsmid}/ped/peds](#)

[GET /api/lunasa/hsms/{hsmid}/ped/servers](#)

### 4.15.2 PEDs

#### PEDs

Object

```
pedes: Object
  type: array
  items: Object
    id: Object
      type: string
      description: id is a unique internal reference for the PED.
                   Use this identifier to query for more details of the PED.
```

url: string (see [GET /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}](#))

### 4.15.3 PED Description

#### PED Description

Object

```
ipAddress: Object
  type: string
  description: ipAddress is the location of the PED server
               from which an administrator authenticates to
               the HSM.

isConnected: Object
  type: boolean
  description: isConnected indicates whether a PED is
               attached to or accessible by the HSM.
```

FALSE means that the HSM is not able to access the PED; TRUE means that communication between the PED and HSM is established.

```
pedId: Object
  type: string
  description: pedId is a unique internal reference for the PED.

port: Object
  type: integer
  description: port is the logical end-point number reserved for
    the PED server. The port must be within the range:
    80 to 65535.

server: Object
  type: string
  description: server is the location to the currently selected PED server

actions: Object
  type: string
  description: actions is the location to the PED actions resource
```

[GET /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}](#)  
[GET /api/lunasa/hsms/{hsmid}/ped/servers/{serverid}](#)  
[GET /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}/actions](#)

#### 4.15.4 PED Servers

##### PED Servers

```
Object
  servers: Object
  type: array
  items: Object
  id: Object
  type: string
  description: id is a unique internal reference for the PED server.
    Use this identifier to query for more details of the PED server.
```

url: string (see [GET /api/lunasa/hsms/{hsmid}/ped/server/{serverid}](#))

#### 4.15.5 PED Server

##### PED Server

```
Object
  commonName: Object
  type: string
  description: commonName is the common name of the certificate
    used to register the server
```

[GET /api/lunasa/hsms/{hsmid}/ped/servers/{serverid}](#)

#### 4.16 State

## States

`state` represents the readiness of the partition for activity. The following table shows defined values for `state`.



Value	Description
initialized	the partition is ready for use
zeroized	the partition has no authenticated users and no cryptographic material

## 4.17 Services

### Services

```
Array
  id: Object
    type: string
    description: id is the unique identifier for the service.
```

```
url: string (see GET /api/lunasa/services/{serviceid})
```

## 4.18 Service

### Service

```
Object
  status: Object
    type: string
    description: status provides state information about the service.
                  For many services, status indicates whether a service
                  is running.
  onBoot: Object
    type: boolean
    description: onBoot is a flag indicating if a service is enabled or not.
```

## 4.19 SFF Resources

This section describes resources related to the small form-factor backup device of the REST API.

- [SFF Description](#)
- [SFF Objects](#)
- [SFF Object Description](#)

### 4.19.1 SFF Description

#### SFF Description

```
Object
  name: Object
    type: string
    description: name is a textual description of the small form factor backup device.
  objectCount: Object
    type: integer
    description: objectCount is the number of items stored on the SFF backup device.
  uid: Object
    type: string
    description: uid is a unique identifier for the SFF backup device.
```

## 4.19.2 SFF Objects

### SFF Objects

```
Object
  objects: Object
  type: array
    items: Object
      id: Object
        type: string
        description: id is an internal reference for the object.
                    Use this identifier to query for more details of the object.

      label: Object
        type: string
        description: label is a textual description to identify the object.
```

```
url: string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects/{obj
```

## 4.19.3 SFF Object Description

### SFF Object Description

```
Object
  fingerprint: Object
    type: string
    description: fingerprint is an SHA-256 hash of the object.
                Use the fingerprint to quickly determine whether an object
                attribute has changed since the last time you obtained
                the fingerprint.

  id: Object
    type: string
    description: id is an internal reference for the object.

  label: Object
    type: string
    description: label is a textual description to identify the object.

  type: Object
    type: string
    description: type is the category of the object. Values for type are:
                  Certificate
                  Data
                  Private Key
                  Public Key
                  Symmetric Key

  uid: Object
    type: string
    description: uid is a unique identifier for the object.
```

## 4.20 STC Resources

This section describes resources related to the secure trusted channel of the REST API.

- [STC Ciphers](#)
- [STC HMACs](#)
- [STC Client Identities](#)

- [STC Client Identity Description](#)
- [STC Configuration and Partition Identify Description](#)

#### 4.20.1 STC Ciphers

##### STC Ciphers

```
Object
  ciphers: Object
  type: array
    items: Object
      id: Object
      type: string
      description: id is a unique reference for a symmetric algorithm
                  that can be used for the secure trusted channel.
```

#### 4.20.2 STC HMACs

##### STC HMACs

```
Object
  hmacs: Object
  type: array
    items: Object
      id: Object
      type: string
      description: id is a unique reference for a message digest algorithm
                  that can be used for the secure trusted channel.
```

#### 4.20.3 STC Client Identities

##### STC Client Identities

```
Object
  stcClientIdentities: Object
  type: array
    items: Object
      clientID: Object
      type: string
      description: clientID is a unique internal reference for the client identity.
                  Use this instance to query for more details of the client identity.
```

url: string ([see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients/{clientid}](#))

#### 4.20.4 STC Client Identity Description

##### STC Client Identity Description

```
Object
  type: array
    items: Object
      fingerprint: Object
      type: string
      description: fingerprint is the SHA1 hash of the public key
                  used to secure the trusted channel between the
                  registered client and the HSM.

  label: Object
```

```

type: string
description: label is a user-friendly name to reference the
             client identity.

```

#### 4.20.5 STC Configuration and Partition Identify Description

##### STC Configuration and Partition Identity Description

Object

```

activationTimeout: Object
  type: integer
  description: activationTimeout is the maximum time in seconds allowed to establish
               the STC link before the channel request is dropped. The range is
               1 to 240 seconds.

```

```

ciphers: string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid/stc/ciphers

```

```

clients: string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid/stc/clients

```

```

fingerprint: Object
  type: string
  description: fingerprint is the cryptographic hash of the certificate
               used to establish the secure trusted channel between a
               client application and a partition.

```

```

hmacs: string (see GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid/stc/hmacs

```

```

publicKey: Object
  type: string
  description: publicKey is the public key component used to secure the
               trusted channel between the partition and the client.
               publicKey is BASE64-encoded.

```

```

rekeyThreshold: Object
  type: integer
  description: rekeyThreshold is the number of times to use the symmetric key
               to encrypt data on an STC link. When this threshold is
               reached, the HSM regenerates the symmetric key. The range is
               0 to 4000 million uses.

```

```

replayThreshold: Object
  type: integer
  description: replayThreshold is the number of packets tracked to provide
               anti-replay protection. The range is 100 to 1000 packets.

```

## 4.21 Tasks

### Tasks

Object

```

tasks: Object
  type: array
  items: Object
    finishTime: Object
      type: string
      description: finishTime records when the tasked resource completed.

    instance: Object
      type: string

```

```

    description: instance is a unique internal reference for the task.
                  Use this instance to query for more details of the task.

  responseUrl: Object
    type: string
    description: responseUrl is the resource for the results of the task
                  when it is Finished.

  sourceUrl: Object
    type: string
    description: sourceUrl is the resource that resulted in the task.

  startTime: Object
    type: string
    description: startTime records when the tasked resource began.

  state: Object
    type: string
    description: state is the progress of the tasked resource.

  details: Object
    type: string
    description: details is the descriptions of the task.

```

See [Tasks](#) for the different states and their meaning.

## 4.22 Tamper Resources

This section describes Tamper-related resources of the REST API.

- [Tamper](#)
- [Tamper Actions](#)

### 4.22.1 Tamper

#### Tamper

Object

actionsUrl: string (see [GET /api/lunasa/hsms/{hsmid}/tamper/actions](#))

```

  tamperTime: Object
    type: string
    description: tamperTime is the timestamp of when the tamper was detected.

  tampers: Object
    type: array
    items: Object
      index: Object
        type: string
        description: index is an internal reference to the tamper.

      tamper: Object
        type: string
        description: tamper is the type of tamper that has been detected.
                     It will specify if that particular tamper is destructive.

  Temperature: Object
    type: integer

```

```

description: Temperature is the temperature related to the detected environmental tamper.

VBATVoltage: Object
  type: integer
  description: The VBAT Voltage. Will be null if no environmental (voltage or temperature) tamper has been detected.

VCCIVoltage: Object
  type: integer
  description: The VCCI Voltage. Will be null if no environmental (voltage or temperature) tamper has been detected.

VREFVoltage: Object
  type: integer
  description: The VREF Voltage. Will be null if no environmental (voltage or temperature) tamper has been detected.

```

## 4.22.2 Tamper Actions

### Tamper Actions

```

Object
  actions: Object
  type: array
  items: Object

  id: Object
    type: string
    description: id is an internal reference for the action.
    Use this identifier to complete the action with a POST.
    Valid actions are:
    clear - Clears detected tamper information

url: string (see POST /api/lunasa/hsms/{hsmid}/tamper/actions/{actionid})

```

## 4.23 Updates

### Updates

```

Object
  updates: Object
  type: array
  items: Object
    id: Object
      type: string
      description: id is a unique internal reference for the update.
      Use this identifier to query for more details of the update.

    name: Object
      type: string
      description: name is a short moniker for the update.

```

## 4.24 Update Description

### Update Description

NOTE: This version of the REST API does not support this object. It is for a future release.

```

Object
  description: Object

```

```

type: string
description: description is a short, textual explanation of the update.
             This attribute is subject to change with a future release
             of the REST API.

```

## 4.25 WebServer Resources

This section describes web server related resources.

- [Web Server Certificate Description](#)
- [Web Server Configuration Description](#)
- [Web Server Blacklist](#)
- [Web Server Blacklist Actions](#)

### 4.25.1 Web Server Certificate Description

#### Web Server Certificate Description

Object

```

curveName: Object
  type: string
  description: curveName is the name of the elliptic curve used for an
               ECDSA-based certificate. This parameter does not apply for
               RSA key types.

fingerprint: Object
  type: string
  description: fingerprint is the message digest of the web server certificate.

hash: Object
  type: string
  description: hash is the cryptographic algorithm used to generate the fingerprint
               object.

keyType: Object
  type: string
  description: keyType is the type of key used by the web server to secure access
               to the REST API service.

keySize: Object
  type: integer
  description: keySize is the number of bits for the key used to secure access
               to the REST API service.

subjectAltNames: Object
  type: array
  items: Object
    subjectAltName: Object
      type: string
      description: subjectAltName is an extension to X.509 that allows various values
                  be associated with a security certificate.

```

### 4.25.2 Web Server Configuration Description

#### Web Server Configuration Description

Object

```

apiVersion: Object
  type: integer
  description: apiVersion is the revision of the REST API service.

cipherList: Object

```

```

    type: string
    description: cipherList is the cipher suite the REST API service is to
                 accept for applications requesting connection to the web server.
                 cipherList is a sub-set of the ciphers known to the REST
                 API service.

  csr: Object
    type: string
    description: csr is the certificate signing request to apply for a public key
                 certificate.

  ipAddress: Object
    type: string
    description: ipAddress is the network address to the REST API service.

  netDevice: Object
    type: string
    description: netDevice is the interface to which the REST API service is bound.
                 Valid interfaces for SA7 are: eth0, eth1, eth2, eth3, all, all_ipv4, bond0 and bond1. (
                 Valid interfaces for SA6 are: eth0, eth1, all, bond0. ("all" includes all ipv4 addresses

  port: Object
    type: integer
    description: port is the logical end-point number reserved for the REST API service.
                 The port must be within the range: 80 to 65535.

  threads: Object
    type: integer
    description: threads is the number of simultaneous connections the REST API service
                 supports. A small number of threads implies restricted administrative
                 access to the appliance.

  actions: Object
    type: string
    description: actions is the url to get a list of webserver actions.

  certificate: Object
    type: string
    description: certificate is the url to get the certificate currently being used by the web server.

  corsOrigins: Object
    type: Array
    item: Object
      corsOrigin: Object
    description: corsOrigins is the list of Cross-Origin-Resource-Sharing (CORS) origins.
                 It determines from which origins requests are allowed. If "*" is given in the list
                 all origin requests will be allowed.

  blacklist: Object
    type: string
    description: blacklist is the location of the blacklist configuration.

```

## See Also

[GET /api/lunasa/webServer/certificate](#)  
[GET /api/lunasa/webServer/actions](#)  
[GET /api/lunasa/webServer/csr](#)  
[GET /api/lunasa/webServer/blacklist](#)

### 4.25.3 Web Server Blacklist

#### Web Server Blacklist

```

Object
  maxInfractionCount: Object
    type: integer
    description: maxInfractionCount is the maximum amount of infractions that can be made before a user is b

```



```
timeoutStart: Object
  type: integer
  description: timeoutStart is the starting timeout of a blacklist entry.

timeoutMultiplier: Object
  type: integer
  description: timeoutMultiplier is the multiplier that defines how much to increment the timeout upon an i

actions: Object
  type: string
  description: actions is the location to get the list of blacklist actions.
```

## See Also

[GET /api/lunasa/webServer/actions](#)

## 4.25.4 Web Server Blacklist Actions

### Web Server Blacklist Actions

```
Object
actions: Object
type: array
  items: Object

  id: Object
    type: string
    description: id is an internal reference for the action.
      Use this identifier to complete the action with a POST.
      Valid actions are:
        reset - resets the blacklist entries clearing any user who was previously blacklisted.

  url: Object
    type: string
    description: url is the location of the action.
```

## See Also

[POST /api/lunasa/webServer/blacklist/actions/{actionid}](#)

## 4.26 Network

This section describes the response objects for the network resources.

- [Network](#)
- [Network Actions](#)
- [Network Devices](#)
- [Network Device](#)
- [Network Device Stats](#)
- [Network Device Ip4](#)
- [Network Device Ip6](#)

- [Network Routes](#)
- [Network Route](#)
- [Network Dns](#)
- [Network Name Servers](#)
- [Network Name Server](#)
- [Network Search Domains](#)
- [Network Search Domain](#)
- [Network Netstat](#)
- [Network Netstat Socket ID](#)

### 4.26.1 Network

#### Network

Object

```
hostname: Object
  type: string
  description: hostname specifies the network name to associate the appliance with.

domain: Object
  type: string
  description: domain specifies an alternative

actions: Object
  type: string
  description: actions is the location of the list of actions that can be performed
on the network resource.

devices: Object
  type: string
  description: devices is the location of the list of network devices.
```

#### See Also

[GET /api/lunasa/network/actions](#)

[GET /api/lunasa/network/devices](#)

### 4.26.2 Network Actions

#### Network Actions

Object

```
actions: Object
type: array
  items: Object

    id: Object
      type: string
      description: id is an internal reference for the action.
        Use this identifier to complete the action with a POST.
        Valid actions are:
          ping - ping a specific ip.

    url: Object
      type: string
      description: url is the location of the action.
```

## See Also

[POST /api/lunasa/network/actions/{actionid}](#)

### 4.26.3 Network Devices

#### Network Devices

```
Array
  id: Object
    type: string
    description: id is the name identified by the network device.

  type: Object
    type: string
    description: type is the type of network device.

  url: Object
    type: string
    description: url is the location of the list of network devices.
```

## See Also

[GET /api/lunasa/network/devices/{deviceid}](#)

### 4.26.4 Network Device

#### Devices

```
Object
  name: Object
    type: string
    description: name is the network device identifier (eg. eth0, eth1, eth2, eth3, bond0, bond1).

  mac: Object
    type: string
    description: mac is the hardware address of the device.

  type: Object
    type: string
    description: type is the type of network device.

  ip4: Object
    type: string
    description: ip4 is the location of the ip4 configuration for the device.

  ip6: Object
    type: string
    description: ip6 is the location of the ip6 configuration for the device.

  routes: Object
    type: string
    description: routes is the location of the routes.

  stats: Object
    type: string
    description: stats is the location of packet stats
```

## See Also

[GET /api/lunasa/network/devices/{deviceid}/routes](#)  
[GET /api/lunasa/network/devices/{deviceid}/ip4](#)  
[GET /api/lunasa/network/devices/{deviceid}/ip6](#)  
[GET /api/lunasa/network/devices/{deviceid}/stats](#)

### 4.26.5 Network Device Stats

#### Stats

Object

```
receivedPackets: Object
  type: integer
  description: The number of received packets

receivedBytes: Object
  type: integer
  description: The total number of received bytes

receivedErrors: Object
  type: integer
  description: The number of errors in received packets

receivedDropped: Object
  type: integer
  description: The number of drops in received packets

transmittedPackets: Object
  type: integer
  description: The number of transmitted packets

transmittedBytes: Object
  type: integer
  description: The total number of transmitted bytes

transmittedErrors: Object
  type: integer
  description: The number of errors in transmitted packets

transmittedDropped: Object
  type: integer
  description: The number of drops in transmitted packets

transmittedCollisions: Object
  type: integer
  description: The number of collisions in transmitted packets
```

## See Also

[GET /api/lunasa/network/devices/{deviceid}/stats](#)

### 4.26.6 Network Device Ip4

#### Network Device Ip4

Object

```
ip: Object
  type: string
  description: ip is a string representing a version 4 ip address (eg. 172.11.92.90)
```

```

mask: Object
  type: integer
  description: mask is a integer representation of the mask from 1-32 a mask value
    of 0 indicates that the device is not configured or the mask does
    not pertain to the specific device.

gateway: Object
  type: string
  description: gateway is the default route of the interface, a gateway value
    of "null" indicates that the device is not configured or the gateway does not pertain t

```

#### 4.26.7 Network Device Ip6

##### Network Device Ip6

```

Object
  ip: Object
    type: string
    description: ip is a string representing a global version 6 ip address (eg. 2000::1)

  prefix: Object
    type: integer
    description: prefix is a integer representation of the prefix from 1-128 a prefix value
      of 0 indicates that the device is not configured or the prefix does
      not pertain to the specific device.

  gateway: Object
    type: string
    description: gateway is the default route of the interface, a gateway value
      of "null" indicates that the device is not configured or the gateway does not pertain t

```

#### 4.26.8 Network Routes

##### Network Routes

```

Object
  actions: Object
  type: array
  items: Object

  id: Object
    type: string
    description: id is the route identifier. This id can either be "default"
      referring to the gateway, or another route where the ip, mask,
      type ("k" is a kernel route, "s" is a static route, "a" is an advertised route,
      and "c" is a cached route) and metric are separated
      by underscores (e.g: 172.20.11.12_24_s_50 or 2000::55_128_s_15).

  url: Object
    type: string
    description: url is the location of the route.

```

##### See Also

[GET /api/lunasa/network/devices/{deviceid}/routes/{routeid}](#)  
[DELETE /api/lunasa/network/devices/{deviceid}/routes/{routeid}](#)

#### 4.26.9 Network Route

##### Devices

```

Object

```

```
destination: Object
  type: string
  description: destination is the route destination ip.

mask: Object
  type: integer
  description: mask is a integer representation of the mask from 1-32 for ipv4 or 1-128 for
  ipv6. A mask value of 0 indicates that the device is not configured
  or the mask does not pertain to the specific device.

gateway: Object
  type: string
  description: gateway is the default route, a gateway value of "null" indicates that it does
  not pertain to that route.

metric: Object
  type: integer
  description: metric is the number that helps the router determine the best path among multiple
  routes to the destination.
```

## See Also

[GET /api/lunasa/network/devices/{deviceid}/routes/{routeid}](#)

### 4.26.10 Network Dns

#### Network Dns

```
Object
  nameServers: Object
    type: string
    description: Url to nameServers resource.

  searchDomains: Object
    type: string
    description: Url to searchDomain resource.
```

## See Also

[GET /api/lunasa/network/dns/nameServers](#)  
[GET /api/lunasa/network/dns/searchDomains](#)

### 4.26.11 Network Name Servers

#### Network Name Servers

```
Object
  actions: Object
    type: array
    items: Object

    id: Object
      type: string
      description: id of the name server.

    url: Object
      type: string
      description: url is the location of the name server.
```

## See Also

[GET /api/lunasa/network/dns/nameServers/{nameServerid}](#)

[DELETE /api/lunasa/network/dns/nameServers/{nameServerid}](#)

### 4.26.12 Network Name Server

#### Network Name Server

```
Object
  address: Object
    type: string
    description: Address of the name server.
```

### 4.26.13 Network Search Domains

#### Network Search Domains

```
Object
  actions: Object
  type: array
  items: Object

    id: Object
      type: string
      description: id of the search domain.
    url: Object
      type: string
      description: url is the location of the search domain.
```

## See Also

[GET /api/lunasa/network/dns/searchDomains/{searchDomainid}](#)

[DELETE /api/lunasa/network/dns/searchDomains/{searchDomainid}](#)

### 4.26.14 Network Search Domain

#### Network Search Domain

```
Object
  domain: Object
    type: string
    description: Address of the search domain.
```

### 4.26.15 Network Netstat

#### Network Netstat

```
Object
  sockets: Object
  type: array
  items: Object
    id: Object
      type: string
      description: id is a unique internal reference for the socket.
```

```
url: Object
type: string
description: url is the location of the socket.
```

## See Also

[GET /api/lunasa/network/netstat/{socketid}](#)

### 4.26.16 Network Netstat Socket ID

#### Network Netstat Socket ID

Object

```
protocol: Object
type: string
description: protocol is the tcp/udp protocol for the socket.
```

```
localAddress: Object
type: string
description: localAddress is the address of the socket.
```

```
foreignAddress: Object
type: string
description: foreignAddress is the address that is connected to the socket.
```

```
state: Object
type: string
description: state is the current state of the socket, such as LISTEN and ESTABLISHED.
```

```
sendQueue: Object
type: integer
description: sendQueue is the number of bytes not acknowledged by the remote host.
```

```
receiveQueue: Object
type: integer
description: receiveQueue is the number of bytes not copied by the user program connected to this socket.
```

## 4.27 Syslog

This section describes the response objects for the syslog resources.

- [Syslog Actions](#)
- [Syslog Logs](#)
- [Syslog Log](#)
- [Syslog](#)
- [Syslog Remote Hosts](#)
- [Syslog Remote Host](#)

### 4.27.1 Syslog Actions

#### Syslog Actions

Object  
actions: Object



```

type: array
  items: Object

    id: Object
      type: string
      description: id is an internal reference for the action.
                   Use this identifier to complete the action with a POST.
                   Valid actions are:
                       rotate - rotates all logs, creates a new log backup entry.
                       cleanup - removes all logs, preserving the hsm log and created a new log backup
                              in the 'location' header.

    url: Object
      type: string
      description: url is the location of the action.

```

## See Also

[POST /api/lunasa/syslog/actions/{actionid}](#)

## 4.27.2 Syslog Logs

### Syslog Logs

```

Array
  id: Object
    type: string
    description: id is the name of the log.

  url: Object
    type: string
    description: url is the location of the log.

```

## See Also

[GET /api/lunasa/syslog/logs/{logid}](#)

## 4.27.3 Syslog Log

### Syslog Log

```

Object
  tail: Object
    type: string
    description: tail is the last 10 lines of the log.

  severity: Object
    type: string
    description: severity is the level for which the log will log.

```

## 4.27.4 Syslog

### Syslog

```

Object
  period: Object
    Type: String
    Description: This member indicates the frequency of log rotation.
                 Allowed values: daily, weekly, monthly

```

```

maxRotations:Object
  Type:Integer
  Description:This member specifies the maximum number of log backups to use in the log rotation.

backups:Object
  Type:String
  Description:Url link to backups

logs:Object
  Type:String
  Description:Url link to logs

actions:Object
  Type:String
  Description:Url link to actions

remoteHosts:Object
  Type:String
  Description: Url link to the remote hosts.

```

## See Also

[GET /api/lunasa/syslog/backups](#) [GET /api/lunasa/syslog/logs](#) [GET /api/lunasa/syslog/actions](#) [GET /api/lunasa/syslog/remoteHosts](#)

### 4.27.5 Syslog Remote Hosts

#### Syslog Remote Hosts

```

Object
  remoteHosts: Object
  type: array
  items: Object

    id: Object
      type: string
      description: id is the unique identifier for a remote host.
    url: Object
      type: string
      description: url is the location of a specific remote host.

```

## See Also

[GET /api/lunasa/syslog/remoteHosts/{remoteHostid}](#)

### 4.27.6 Syslog Remote Host

#### Syslog Remote Host

```

Object
  address: Object
    Type: string
    Description: address is the ip address or hostname of the remote host.

  port: Object
    Type: integer
    Description: port is the network port that the remote host is configured on.

  protocol: Object
    Type: string
    Description: protocol is the protocol of the remote host (udp or tcp).

```

## 4.28 NTP

This section describes the response objects for the NTP resources.

- [NTP](#)
- [NTP Servers](#)
- [NTP Server](#)
- [NTP Actions](#)
- [NTP Status](#)

### 4.28.1 NTP

#### NTP

```
Object
  servers: Object
    Type: String
    Description: Url link to list of servers
  status: Object
    Type: string
    Description: Url link to NTP status
  version: Object
    Type: string
    Description: The version number of NTP
  actions: Object
    Type: string
    Description: Url link to NTP actions
```

#### See Also

[GET /api/lunasa/ntp/servers](#)

### 4.28.2 NTP Servers

#### NTP Servers

```
Object
  servers: Object
  type: array
    items: Object
      id: Object
        type: string
        description: This member represents the id of the NTP server.
      url: Object
        type: string
        description: This member represents the corresponding url.
```

#### See Also

[GET /api/lunasa/ntp/servers](#)

### 4.28.3 NTP Server

#### NTP Server

Object

```

address: Object
  type: string
  description: This member represents the host or ip address of the NTP server.
keyId: Object
  type: integer
  description: This member represents the key id used in communication with the NTP server (1-65535).
protocolVersion: Object
  type: integer
  description: This member represents the protocol version used in communication with the NTP server (1-3).
isAutokeyEnabled: Object
  type: boolean
  description: This member represents flag controlling enabling autokey authentication.
isBurstEnabled: Object
  type: boolean
  description: This member represents flag controlling sending a burst of packets instead of usual single packets.
isInitialBurstEnabled: Object
  type: boolean
  description: This member represents flag controlling sending a burst of packets when an initial connection is established.
isPreferredServer: Object
  type: boolean
  description: This member represents flag designating this server as the preferred one.

```

#### See Also

[GET /api/lunasa/ntp/servers/{serverid}](#)

### 4.28.4 NTP Actions

#### NTP Actions

Object

```

actions: Object
  type: array
  items: Object
    url: Object
      type: string
      description: Url which links to the action
    id: Object
      type: string
      description: Id of the action.

```

#### See Also

[POST /api/lunasa/ntp/actions/{actionid}](#)

### 4.28.5 NTP Status

#### NTP Status

Object

```

estimatedError: Object
  Type: float
  Description: Estimated Error of NTP time. The error is measured in seconds.

maxError: Object
  Type: float
  Description: Maximum error of NTP. The error is measured in seconds.

```

```
offset: Object
  Type: float
  Description: The offset between NTP time and time of server. The unit of time is in seconds.

ntpTime: Object
  Type: string
  Description: The current NTP time.
```

## See Also

[GET /api/lunasa/ntp/status](#)

## 4.29 SNMP

This section describes the response objects for the SNMP resources.

- [SNMP](#)
- [SNMP Trap](#)
- [SNMP Users](#)
- [SNMP User](#)
- [SNMP Notifications](#)
- [SNMP Notification](#)

### 4.29.1 SNMP

#### SNMP

```
Object
  users: Object
    Type: String
    Description: Url link to list of SNMP users.

  trap: Object
    Type: String
    Description: Url link to the SNMP trap configuration.
```

## See Also

[GET /api/lunasa/snmp/users](#)

### 4.29.2 SNMP Trap

#### SNMP Trap

```
Object
  address: Object
    Type: String
    Description: This member is the ip address or hostname that receives traps.

  securityName: Object
    Type: String
    Description: This member is the SNMP user to associate traps with.
```

```

securityLevel: Object
  Type: String
  Description: This member is the SNMP trap security level.

engineId: Object
  Type: String
  Description: This member is the engine that receives traps and that has the authority to control the f

authenticationProtocol: Object
  Type: String
  Description: This member is the authentication protocol used for the authentication password.

privacyProtocol: Object
  Type: String
  Description: This member is the privacy protocol used for the privacy password.

```

### 4.29.3 SNMP Users

#### SNMP Users

```

Object
  servers: Object
  type: array
    items: Object
      id: Object
        type: string
        description: This member represents the id of the SNMP user.
      url: Object
        type: string
        description: This member represents the corresponding url.

```

#### See Also

[GET /api/lunasa/snmp/users/{userid}](#)

### 4.29.4 SNMP User

#### SNMP User

```

Object
  notifications: Object
  type: string
  description: This member represents the location of the list of user notifications.

```

#### See Also

[GET /api/lunasa/snmp/users/{userid}/notifications](#)

### 4.29.5 SNMP Notifications

#### SNMP Notifications

```

Object
  servers: Object
  type: array
    items: Object
      id: Object
        type: string

```

```

        description: This member represents the id of the SNMP notification.
url: Object
  type: string
  description: This member represents the corresponding url.

```

## See Also

[GET /api/lunasa/snmp/users/{userid}/notifications/{notificationid}](#)

## 4.29.6 SNMP Notification

### SNMP Notification

```

Object
  address: Object
    type: string
    description: This member represents the ip address that receives notifications.
  port: Object
    type: integer
    description: This member represents the port number the SNMP manager monitors for notifications.
  type: Object
    type: string
    description: This member represents the type of notification (trap, inform).
  engineId: Object
    type: string
    description: This member represents the engine that receives notifications and that has the authority

  authenticationProtocol: Object
    Type: String
    Description: This member is the authentication protocol used for the authentication password.

  privacyProtocol: Object
    Type: String
    Description: This member is the privacy protocol used for the privacy password.

```

## See Also

[GET /api/lunasa/snmp/users/{userid}/notifications/{notificationid}](#)

## 4.30 Lunasa

This section describes the response objects for the lunasa resources.

- [Lunasa](#)
- [Lunasa Actions](#)
- [Time](#)

### 4.30.1 Lunasa

#### Lunasa

```

Object
  version: Object
    type: string
    description: The current version of the appliance.

```

```
forceSoLogin: Object
  type: boolean
  description: Specifies whether the forceSoLogin flag is enabled, the flag is
    used to force security officer credentials on actions that would
    otherwise not be needed.

hsms: Object
  type: string
  description: The location for hsm info.

syslog: Object
  type: string
  description: The location for syslog info.

ssh: Object
  type: string
  description: The location for SSH info.

network: Object
  type: string
  description: The location for network info.

services: Object
  type: string
  description: The location for service info.

ntp: Object
  type: string
  description: The location for ntp info.

actions: Object
  type: string
  description: The location for appliance actions.

time: Object
  type: string
  description: The location for appliance time.

ssh: Object
  type: string
  description: The location for appliance ssh.

sensors: Object
  type: string
  description: The location for appliance sensors.

cpu: Object
  type: string
  description: The location for CPU usage info.

disk: Object
  type: string
  description: The location for disk info.
```

## See Also

[GET /api/lunasa/hsms](#)  
[GET /api/lunasa/syslog](#)  
[GET /api/lunasa/network](#)  
[GET /api/lunasa/services](#)  
[GET /api/lunasa/ntp](#)  
[GET /api/lunasa/time](#)  
[GET /api/lunasa/ssh](#)  
[GET /api/lunasa/sensors](#)  
[GET /api/lunasa/cpu](#)  
[GET /api/lunasa/disk](#)  
[POST /api/lunasa/actions](#)



## 4.30.2 Lunasa Actions

### Lunasa Actions

```
Object
  actions: Object
  type: array
  items: Object

    id: Object
    type: string
    description: id is an internal reference for the action.
                 Use this identifier to complete the action with a POST.
                 Valid actions are:
                 reboot - reboots the appliance.
                 regenerateCertificate - regenerates the appliance certificate

  url: Object
  type: string
  description: url is the location of the action.
```

### See Also

[POST /api/lunasa/actions/{actionid}](#)

## 4.30.3 Time

### Time

```
Object
  time: Object
  type: string
  description: Time represented in HH:MM:SS.
  date: Object
  type: string
  description: Date represented in YYYY-MM-DD.
  timeZone: Object
  type: string
  description: time zone information. Please refer to SafeNet Network HSM documentation for details.
```

### See Also

[GET /api/lunasa/time](#)  
[PUT /api/lunasa/time](#)  
[PATCH /api/lunasa/time](#)

## 4.31 SSH

This section describes the response objects for the SSH resources.

- [SSH](#)
- [SSH Actions](#)

### 4.31.1 SSH

## SSH

```

Object
  actions: Object
    type: string
    description: url containing the resource for listing SSH actions.

  isPasswordAuthenticationEnabled: Object
    type: boolean
    description: flag to enable password authentication.

  isKeyAuthenticationEnabled: Object
    type: boolean
    description: flag to enable public key authentication.

  port: Object
    type: integer
    description: specifies the SSH server port

  networkDevices: Object
    type: array
    items: Object
      NetworkDevice: Object
        type: string
      description: list of network devices to use for the SSH server.

```

### See Also

[GET /api/lunasa/ssh](#)

### 4.31.2 SSH Actions

#### SSH Actions

```

Object
  actions: Object
    type: array
    items: Object

      id: Object
        type: string
        description: id is an internal reference for the action.
          Use this identifier to complete the action with a POST.
          Valid actions are:
            keyRegenerate - Regenerate SSH server keys.

      url: Object
        type: string
        description: url is the location of the action.

```

### See Also

[POST /api/lunasa/ssh/actions/{actionid}](#)

## 4.32 Sensor

This section describes the response objects for the Sensor resources.

- [Sensor](#)
- [Sensors](#)

### 4.32.1 Sensor

#### Sensor

```
Object
  id: Object
    type: string
    description: This member represents the id of the sensor.
  type: Object
    type: string
    description: This member represents the type of the sensor. i.e. "Power Supply", "Voltage", "Temperature"
  unit: Object
    type: string
    description: This member represents the unit the sensor is read in. i.e. "Present", "Volts", "degree C"
  variance: Object
    type: number
    description: This member represents the accuracy of the sensor (+/-).
  value: Object
    type: number
    description: This member represents the value of the sensor reading.
  lowerNonRecoverable: Object
    type: number
    description: This member represents the lower limit of non recoverable values. (traps/warnings/errors)
  lowerNonCritical: Object
    type: number
    description: This member represents the lower limit of non critical values. (traps/warnings/errors)
  lowerCritical: Object
    type: number
    description: This member represents the lower limit of critical values. (traps/warnings/errors)
  upperNonRecoverable: Object
    type: number
    description: This member represents the upper limit of non recoverable values. (traps/warnings/errors)
  upperNonCritical: Object
    type: number
    description: This member represents the upper limit of non critical values. (traps/warnings/errors)
  upperCritical: Object
    type: number
    description: This member represents the upper limit of critical values. (traps/warnings/errors)
```

#### See Also

[GET /api/lunasa/sensor/{sensorid}](#)

### 4.32.2 Sensors

#### Sensors

```
Object
  sensors: Object
    type: array
      items: Object
        id: Object
          type: string
          description: This member represents the id of the sensor.
        url: Object
          type: string
          description: This member represents the corresponding url.
```

#### See Also

[GET /api/lunasa/sensors](#)

## 4.33 NTLS

This section describes the NTLS resources of the REST API.

- [NTLS](#)
- [Clients](#)
- [Client](#)
- [Link](#)
- [Links](#)

### 4.33.1 NTLS

#### NTLS

Object

```

clients: Object
  type: string
  description: clients is a path to a list of NTLS clients.

certificate: Object
  type: string
  description: certificate is a path to the NTLS certificate object.

operationalStatus: Object
  type: string
  description: operationalStatus is the current NTLS operational status

connectedClients: Object
  type: string
  description: connectedClients is the current number of connected NTLS clients

links: Object
  type: string
  description: links is the current number of NTLS links

successfulClientConnections: Object
  type: string
  description: successfulClientConnections is the number of successful NTLS client connections

failedClientConnections: Object
  type: string
  description: failedClientConnections is the number of failed NTLS client connections

```

### 4.33.2 Clients

#### List of Clients Registered with Appliance

Array

```

clientID: Object
  type: string
  description: clientID is a unique identifier to reference the clientID
  on the appliance.

```

url: string ([see GET /api/lunasa/ntls/clients/{clientid}](#))

### 4.33.3 Client

#### Client

Object

```
htlRequired: Object
  type: boolean
  description: htlRequired indicates whether a client is configured to
    use the host trust link service. FALSE means that the
    client is not configured for HTL. TRUE means that the
    client must authenticate with the HTL service.

clientID: Object
  type: string
  description: clientID is a unique internal reference for the client.

links: Object
  type: string
  description: links is the URL to the list of partitions assigned
    to the client.

    see GET /api/lunasa/ntls/clients/{clientid}/partitions

hostname: Object
  type: string
  description: hostname is the client computer or IP address registered
    with the appliance.
```

### 4.33.4 Link

#### Link

Object

```
type: Object
  type: string
  description: type is a object type linked in the url attribute.

url: Object
  type: string
  description: url is a path to a linked object.
```

url: string (see GET /api/lunasa/ntls/clients/{clientid}/links)

### 4.33.5 Links

#### Links

Object

```
links: Object
  type: array
  items: Object
    id: Object
      type: string
      description: id is a unique internal reference for the link.
        Use this identifier to query for more details of the link.

    url: Object
      type: string
      description: url a path to the link object.
```

url: string (see GET /api/lunasa/ntls/clients/{clientid}/links)

## 4.34 CPU

This section describes the response objects for the CPU resources.

- [CPU](#)
- [Processes](#)

### 4.34.1 CPU

#### CPU

Object

```
average1MinuteUsage: Object
  type: integer
  description: The average CPU usage in the last minute

average5MinuteUsage: Object
  type: integer
  description: The average CPU usage in the last five minutes

average15MinuteUsage: Object
  type: integer
  description: The average CPU usage in the last fifteen minutes

processes: Object
  type: string
  description: The location for cpu processes info

uptime: Object
  type: integer
  description: The number of seconds the appliance has been running
```

#### See Also

[GET /api/lunasa/cpu](#)

### 4.34.2 Processes

#### Processes

Object

```
lastId: Object
  type: integer
  description: The last process ID that was used

running: Object
  type: integer
  description: The number of currently running processes

total: Object
  type: integer
  description: The total number of processes
```

#### See Also

[GET /api/lunasa/cpu/processes](#)

## 4.35 Disk

This section describes the response objects for the Disk resources.

- [Disk](#)
- [Partitions](#)
- [Disk Partition](#)
- [Smart](#)
- [SMART Attributes](#)
- [SMART Attribute](#)

### 4.35.1 Disk

#### Disk

Object

```
partitions: Object
  type: string
  description: The location for disk partition list.

smart: Object
  type: string
  description: The location for SMART attribute list.

deviceModel: Object
  type: string
  description: The device model number of the disk.

serialNumber: Object
  type: string
  description: The serial number of the disk.

firmwareVersion: Object
  type: string
  description: The firmware version of the disk.
```

#### See Also

[GET /api/lunasa/disk](#)

### 4.35.2 Partitions

#### Partitions

Object

```
partitions: Object
type: array
  items: Object
    id: Object
      type: string
      description: id is an internal reference for the partition.

    url: Object
      type: string
      description: url is the location of the partition resource.
```

## See Also

[GET /api/lunasa/disk/partitions](#)

### 4.35.3 Disk Partition

#### Disk Partition

Object

```
size: Object
  type: integer
  description: The size of the disk partition.

available: Object
  type: integer
  description: The available space of the disk partition

used: Object
  type: integer
  description: The used space of the disk partition

partition: Object
  type: string
  description: The name of the disk partition

mountPoint: Object
  type: string
  description: The location where the disk partition is mounted
```

## See Also

[GET /api/lunasa/disk/partitions/{partitionid}](#)

### 4.35.4 Smart

#### Smart

Object

```
selfAssessment: Object
  type: string
  description: The result of the SMART overall-health self-assessment test.

attributes: Object
  type: string
  description: The location for SMART attribute list.
```

## See Also

[GET /api/lunasa/disk/smart](#)

### 4.35.5 SMART Attributes

#### SMART Attributes

Object

```
attributes: Object
type: array
```



```

items: Object
  id: Object
    type: string
    description: id is an internal reference for the SMART attribute.

  url: Object
    type: string
    description: url is the location of the SMART attribute resource.

```

## See Also

[GET /api/lunasa/disk/smart/attributes](#)

### 4.35.6 SMART Attribute

#### SMART Attribute

Object

```

id: Object
  type: integer
  description: The SMART id of the attribute.

name: Object
  type: string
  description: The name of the attribute.

flag: Object
  type: string
  description: The flag of the attribute.

value: Object
  type: integer
  description: The normalized value of the attribute.

worst: Object
  type: integer
  description: The normalized value closest to failure recorded for the attribute.

threshold: Object
  type: integer
  description: The normalized value threshold where the attribute is said to be in a failed state.

type: Object
  type: string
  description: The type of failure detected by the attribute.
    A Pre-fail attribute in a failure state indicates a pending failure.
    An Old age attribute in a failure state indicates end-of-product life.

updated: Object
  type: string
  description: The conditions when the attribute value is updated.
    Always indicates updates during both normal operations and offline testing.
    Offline indicates updates only during offline testing.

whenFailed: Object
  type: string
  description: The indicator of current or past failures of the attribute.
    FAILING_NOW indicates the attribute is in a failure state.
    In_the_past indicates the attribute was once in a failure state but is not anymore.
    null indicates the attribute has never been in a failure state.

rawValue: Object
  type: string
  description: The raw non-normalized value of the attribute.

```

## See Also

[GET /api/lunasa/disk/smart/attributes/{attributeid}](#)

## 4.36 Partition Policy Template

This section describes the response objects for the partition policy template resources.

- [Partition Policy Templates](#)
- [Partition Policy Template](#)
- [Partition Policy Template Policies](#)
- [Partition Policy Template Policy](#)

### 4.36.1 Partition Policy Templates

#### Partition Policy Templates

Object

```
partitionPolicyTemplates: Object
  type: array
  items: Object

    id: Object
      type: string
      description: id is an internal reference for the partition policy template.
    url: Object
      type: string
      description: url is the location of the partition policy template.
```

## See Also

[GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}](#)

### 4.36.2 Partition Policy Template

#### Partition Policy Template

Object

```
name: Object
  type: string
  description: The name of the partition policy template.

description: Object
  type: string
  description: The description of the partition policy template.

policies: Object
  type: string
  description: The location of the template policies.
```

## See Also

[GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies](#)

### 4.36.3 Partition Policy Template Policies

#### Partition Policy Template Policies

```
Object
  policies: Object
  type: array
  items: Object
    id: Object
      type: string
      description: id is an internal reference for the policy.

    name: Object
      type: string
      description: name is a short, textual description of the policy.
```

#### See Also

[GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies](#)

### 4.36.4 Partition Policy Template Policy

#### Partition Policy Template Policy

```
Object

  description: Object
    type: string
    description: The description of the policy.

  offToOnDestructive: Object
    type: bool
    description: Specifies whether the policy will be destructive when the policy is changed from off-to-on.

  onToOffDestructive: Object
    type: bool
    description: Specifies whether the policy will be destructive when the policy is changed from on-to-off.

  value: Object
    type: integer
    description: The default state of the policy.
```

#### See Also

[GET /api/lunasa/partitionPolicyTemplates/{partitionpolicytemplateid}/policies](#)

## Chapter 5

# LunaSH Cross Reference

The REST API is a new method to administer the SafeNet Network HSM appliance. For years, the only way to administer SafeNet Network HSM was through a shell interface (SSH). The shell is Luna Shell – LunaSH for short. SafeNet Network HSM continues to support LunaSH along with the REST API. Long-standing customers familiar with LunaSH may want to migrate to the REST API. A set of cross reference tables summarize the mapping between LunaSH commands and REST API resources.

NOTE: What LunaSH presents in "show" and other status commands may not match the information obtained via the REST API. The principal reason for the variance is the use of different utilities on the appliance. Therefore, as a general rule, rely on one of either LunaSH or the REST API to administer the appliance. If you use both, the information reported may not be consistent between the two facilities. For example, you will see the following flags show up in LunaSH output after initializing a PSO partition via the REST API.

```
Partition SO PIN to be Changed
Partition SO Challenged to be Changed
```

```
Before partition initialization:
[myLuna] lunash:>partition show
Partition Name: John2
Partition SN: 894069516
Partition Label:
Partition SO is not initialized.
Crypto Officer is not initialized.
Crypto User is not initialized.
Legacy Domain Has Been Set: no
Partition Storage Information (Bytes): Total=20480, Used=0, Free=20480
Partition Object Count: 0
```

```
After partition initialization via the REST API:
[myLuna] lunash:>partition show
Partition Name: John2
Partition SN: 894069516
Partition Label: Johnny2
Partition SO PIN To Be Changed: no
Partition SO Challenge To Be Changed: no
Partition SO Zeroized: no
Partition SO Login Attempts Left: 10
Crypto Officer is not initialized.
Crypto User is not initialized.
Legacy Domain Has Been Set: no
Partition Storage Information (Bytes): Total=20480, Used=0, Free=20480
Partition Object Count: 0
```

They have no meaning for the PSO role. Because the utility that manages roles for the REST API changes flags that LunaSH does not manage, these new flags appear in the LunaSH output.

Refer to the following cross reference tables for the mapping between LunaSH and REST API resources.

- ["client" LunaSH Commands Cross Reference](#)
- ["hsm" LunaSH Commands Cross Reference](#)
- ["ntls" LunaSH Commands Cross Reference](#)

- ["partition" LunaSH Commands Cross Reference](#)
- ["partition sff" LunaSH Commands Cross Reference](#)
- ["service" LunaSH Commands Cross Reference](#)
- ["stc" LunaSH Commands Cross Reference](#)

## 5.1 "client" LunaSH Commands Cross Reference

### "client" LunaSH Commands Cross Reference to REST API

Lush Command	REST API	Notes
client assignPartition	POST /api/lunasa/services/ntls/clients/{clientid}/partitions	
client delete	DELETE /api/lunasa/services/ntls/clients/{clientid}	
client list	GET /api/lunasa/services/ntls/clients	
client register	POST /api/lunasa/services/ntls/clients	
client revokePartition	POST DELETE /api/lunasa/services/ntls/clients/{clientid}/partitions/{partitionid}	
client show	GET /api/lunasa/services/ntls/clients/{clientid}	

## 5.2 "hsm" LunaSH Commands Cross Reference

### "hsm" LunaSH Commands Cross Reference to REST API

Lush Command	REST API	Notes
hsm backup	POST /api/lunasa/hsms/{hsmid}/backup	
hsm changePolicy	PUT /api/lunasa/hsms/{hsmid}/policies/{policyid}	
hsm displayLicenses	GET /api/lunasa/hsms/{hsmid}/licenses	
hsm factoryReset, hsm selfTest, hsm zeroize	GET /api/lunasa/hsms/{hsmid}/actions/{actionid}	actionid = "factoryReset", "selfTest", "zeroize"
hsm initialize	PUT /api/lunasa/hsms/{hsmid}	
hsm firmware show	GET /api/lunasa/hsms/{hsmid}/updates/firmware	
hsm firmware rollback, hsm firmware upgrade	POST /api/lunasa/hsms/{hsmid}/firmware/actions/{actionid}	actionid = "upgrade", "rollback"
hsm information reset	POST /api/lunasa/hsms/{hsmid}/counters/reset	
hsm information show	GET /api/lunasa/hsms/{hsmid}/counters	
hsm login	POST /api/lunasa/hsms/{hsmid}/login	

hsm logout	DELETE /api/lunasa/hsms/{hsmid}/logout	
hsm ped connect, hsm ped disconnect, hsm ped vector init, hsm ped vector erase	POST /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}/actions/{actionid}	actionid = "connect", "disconnect", "vectorInit", "vectorErase"
hsm ped server list	GET /api/lunasa/hsms/{hsmid}/ped/servers	
hsm ped server register, hsm ped server delete	PUT /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}, PATCH /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}	
hsm ped show	GET /api/lunasa/hsms/{hsmid}/ped/peds/{pedid}	
hsm remote login	POST /api/lunasa/hsms/{hsmid}/remote↔ HSMLogin/login	
hsm restore	POST /api/lunasa/hsms/{hsmid}/restore	
hsm setLegacyDomain	POST /api/lunasa/hsms/{hsmid}/set↔ LegacyDomain	
hsm show	GET /api/lunasa/hsms/{hsmid}	
hsm showPolicies	GET /api/lunasa/hsms/{hsmid}/policies	
hsm update show	GET /api/lunasa/hsms/{hsmid}/updates/capabilities	

### 5.3 "ntls" LunaSH Commands Cross Reference

#### "ntls" LunaSH Commands Cross Reference to REST API

Lush Command	REST API	Notes
ntls show	GET /api/lunasa/ntls	

### 5.4 "partition" LunaSH Commands Cross Reference

#### "partition" LunaSH Commands Cross Reference to REST API

Lush Command	REST API	Notes
partition create	POST /api/lunasa/hsms/{hsmid}/partitions	
partition resize	PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/storage↔ Space	
partition createuser	PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/{roleid}	
partition list	GET /api/lunasa/hsms/{hsmid}/partitions	
partition show	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}	

partition showContents	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects	
partition showPolicies	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies	
partition changePolicy	PUT /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/policies/{policyid}	
partition changePw	PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/[roleid]	
partition resetPw	POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/roles/[roleid]/actions/reset	
partition delete	DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}	
partition clear	DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects	

## 5.5 "partition sff" LunaSH Commands Cross Reference

### "partition sff" LunaSH Commands Cross Reference to REST API

Lush Command	REST API	Notes
partition sff backup, partition sff restore	POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/objects/actions/{actionid}	actionid = "backup", "restore"
partition sff list	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff	
partition sff showContents	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/sff/objects	

## 5.6 "service" LunaSH Commands Cross Reference

### "service" LunaSH Commands Cross Reference to REST API

Lush Command	REST API	Notes
service start <serviceid>	POST /api/lunasa/service/start/{serviceid}/actions/start	"serviceid" = "cbs", "htl", ... "noobserve"
service stop <serviceid>	POST /api/lunasa/service/stop/{serviceid}/actions/stop	see above
service restart <serviceid>	POST /api/lunasa/service/restart/{serviceid}/actions/restart	see above
service status <serviceid>	GET /api/lunasa/service/{serviceid}	see above

## 5.7 "stc" LunaSH Commands Cross Reference

### "stc" LunaSH Commands Cross Reference to REST API

Lush Command	REST API	Notes
stc client deregister	DELETE /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/{clientid}	

stc client list	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/clients	
stc client register	POST /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/{clientid}	
stc partition show, stc partition export	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc	
stc activationTimeOut show, stc rekeyThreshold show, stc replayWindow show	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc	
stc activationTimeOut set, stc rekeyThreshold set, stc replayWindow set	PUT/PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc	
stc cipher show	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers	
stc cipher set	PUT/PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/ciphers	
stc hmac show	GET /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs	
stc hmac set	PUT/PATCH /api/lunasa/hsms/{hsmid}/partitions/{partitionid}/stc/hmacs	



