



Red Hat Satellite 6.8

API Guide

A guide to using the Red Hat Satellite Representational State Transfer (REST) API

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Abstract

The Red Hat Satellite Representational State Transfer (REST) API guide explains the concepts behind a REST API and provides example usage for various types of requests. This provides a basis for administrators and developers to write custom scripts and integrate Red Hat Satellite with third-party applications.

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CHAPTER 1. INTRODUCTION

Red Hat Satellite provides a Representational State Transfer (REST) API. The API provides software developers and system administrators with control over their Red Hat Satellite environment outside of the standard web interface. The REST API is useful for developers and administrators who aim to integrate the functionality of Red Hat Satellite with custom scripts or external applications that access the API over HTTP.

1.1. OVERVIEW OF THE RED HAT SATELLITE API

The benefits of using the REST API are:

- Broad client support – any programming language, framework, or system with support for HTTP protocol can use the API.
- Self-descriptive – client applications require minimal knowledge of the Red Hat Satellite infrastructure because a user discovers many details at runtime.
- Resource-based model – the resource-based REST model provides a natural way to manage a virtualization platform.

You can use the REST API to perform the following tasks:

- Integrate with enterprise IT systems.
- Integrate with third-party applications.
- Perform automated maintenance or error checking tasks.
- Automate repetitive tasks with scripts.

As you prepare to upgrade Satellite Server, ensure that any scripts you use that contain Satellite API commands are up to date. API commands differ between versions of Satellite. For more information about changes in the API, see the Knowledgebase article [API Changes Between Satellite Versions](#) on the Red Hat Customer Portal.

1.2. SATELLITE API COMPARED TO HAMMER CLI TOOL

For many tasks, you can use both Hammer and Satellite API. You can use Hammer as a human-friendly interface to Satellite API. For example, to test responses to API calls before applying them in a script, use the **--debug** option to inspect API calls that Hammer issues: **hammer --debug organization list**.

In the background, each Hammer command first establishes a binding to the API and then sends a request. This can have performance implications when executing a large number of Hammer commands in sequence. In contrast, scripts that use API commands communicate directly with the Satellite API.

Note that you must manually update scripts that use API commands, while Hammer automatically reflects changes in the API. For more information, see the [Hammer CLI Guide](#).

CHAPTER 2. API REFERENCE

The full API reference is available on your Satellite Server at <https://satellite.example.com/apidoc/v2.html>. Be aware that even though versions 1 and 2 of the Satellite 6 API are available, Red Hat only supports version 2.

2.1. UNDERSTANDING THE API SYNTAX

The built-in API reference shows the API route, or path, preceded by an HTTP verb:

```
HTTP_VERB API_ROUTE
```

To work with the API, construct a command using the **curl** command syntax and the API route from the reference document:

```
$ curl --request HTTP_VERB \
--insecure \
--user sat_username:sat_password \
--data @file.json \
--header "Accept:application/json,version=2" \
--header "Content-Type:application/json" \
--output file
API_ROUTE \
| python -m json.tool
```

- 1 To use **curl** for the API call, specify an HTTP verb with the **--request** option. For example, **--request POST**.
- 2 Add the **--insecure** option to skip SSL peer certificate verification check.
- 3 Provide user credentials with the **--user** option.
- 4 For **POST** and **PUT** requests, use the **--data** option to pass JSON formatted data. For more information, see [Section 4.1.1, "Passing JSON Data to the API Request"](#).
- 5 6 When passing the JSON data with the **--data** option, you must specify the following headers with the **--header** option. For more information, see [Section 4.1.1, "Passing JSON Data to the API Request"](#).
- 7 When downloading content from Satellite Server, specify the output file with the **--output** option.
- 8 Use the API route in the following format:
https://satellite.example.com/katello/api/activation_keys. In Satellite 6, version 2 of the API is the default. Therefore it is not necessary to use **v2** in the URL for API calls.
- 9 Redirect the output to the Python **json.tool** module to make the output easier to read.

2.1.1. Using the GET HTTP Verb

Use the GET HTTP verb to get data from the API about an existing entry or resource.

Example

This example requests the amount of Satellite hosts:

Example request:

```
$ curl --request GET --insecure --user sat_username:sat_password \
https://satellite.example.com/api/hosts | python -m json.tool
```

Example response:

```
{
  "total": 2,
  "subtotal": 2,
  "page": 1,
  "per_page": 20,
  "search": null,
  "sort": {
    "by": null,
    "order": null
  },
  "results":
  output truncated
```

The response from the API indicates that there are two results in total, this is the first page of the results, and the maximum results per page is set to 20. For more information, see [Section 2.2, “Understanding the JSON Response Format”](#).

2.1.2. Using the POST HTTP Verb

Use the POST HTTP verb to submit data to the API to create an entry or resource. You must submit the data in JSON format. For more information, see [Section 4.1.1, “Passing JSON Data to the API Request”](#).

Example

This example creates an activation key.

1. Create a test file, for example, **activation-key.json**, with the following content:

```
{"organization_id":1, "name":"TestKey", "description":"Just for testing"}
```

2. Create an activation key by applying the data in the **activation-key.json** file:

Example request:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" --request POST \
--user sat_username:sat_password --insecure \
--data @activation-key.json \
https://satellite.example.com/katello/api/activation_keys \
| python -m json.tool
```

Example response:

```
{
  "id": 2,
  "name": "TestKey",
```

```

    "description": "Just for testing",
    "unlimited_hosts": true,
    "auto_attach": true,
    "content_view_id": null,
    "environment_id": null,
    "usage_count": 0,
    "user_id": 3,
    "max_hosts": null,
    "release_version": null,
    "service_level": null,
    "content_overrides": [

  ],
  "organization": {
    "name": "Default Organization",
    "label": "Default_Organization",
    "id": 1
  },
  "created_at": "2017-02-16 12:37:47 UTC",
  "updated_at": "2017-02-16 12:37:48 UTC",
  "content_view": null,
  "environment": null,
  "products": null,
  "host_collections": [

  ],
  "permissions": {
    "view_activation_keys": true,
    "edit_activation_keys": true,
    "destroy_activation_keys": true
  }
}

```

3. Verify that the new activation key is present. In the Satellite web UI, navigate to **Content** > **Activation keys** to view your activation keys.

2.1.3. Using the PUT HTTP Verb

Use the PUT HTTP verb to change an existing value or append to an existing resource. You must submit the data in JSON format. For more information, see [Section 4.1.1, "Passing JSON Data to the API Request"](#).

Example

This example updates the **TestKey** activation key created in the previous example.

1. Edit the **activation-key.json** file created previously as follows:

```
{ "organization_id":1, "name":"TestKey", "description":"Just for testing", "max_hosts":"10" }
```

2. Apply the changes in the JSON file:
Example request:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" --request PUT \
```

```
--user sat_username:sat_password --insecure \
--data @activation-key.json \
https://satellite.example.com/katello/api/activation_keys/2 \
| python -m json.tool
```

Example response:

```
{
  "id": 2,
  "name": "TestKey",
  "description": "Just for testing",
  "unlimited_hosts": false,
  "auto_attach": true,
  "content_view_id": null,
  "environment_id": null,
  "usage_count": 0,
  "user_id": 3,
  "max_hosts": 10,
  "release_version": null,
  "service_level": null,
  "content_overrides": [

],
  "organization": {
    "name": "Default Organization",
    "label": "Default_Organization",
    "id": 1
  },
  "created_at": "2017-02-16 12:37:47 UTC",
  "updated_at": "2017-02-16 12:46:17 UTC",
  "content_view": null,
  "environment": null,
  "products": null,
  "host_collections": [

],
  "permissions": {
    "view_activation_keys": true,
    "edit_activation_keys": true,
    "destroy_activation_keys": true
  }
}
```

3. In the Satellite web UI, verify the changes by navigating to **Content > Activation keys**.

2.1.4. Using the DELETE HTTP Verb

To delete a resource, use the DELETE verb with an API route that includes the ID of the resource you want to delete.

Example

This example deletes the **TestKey** activation key which ID is 2:

Example request:

■

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" --request DELETE \
--user sat_username:sat_password --insecure \
https://satellite.example.com/katello/api/activation_keys/2 \
| python -m json.tool
```

Example response:

```
output omitted
"started_at": "2017-02-16 12:58:17 UTC",
"ended_at": "2017-02-16 12:58:18 UTC",
"state": "stopped",
"result": "success",
"progress": 1.0,
"input": {
  "activation_key": {
    "id": 2,
    "name": "TestKey"
  }
}
output truncated
```

2.1.5. Relating API Error Messages to the API Reference

The API uses a RAILS format to indicate an error:

```
Nested_Resource.Attribute_Name
```

This translates to the following format used in the API reference:

```
Resource[Nested_Resource_attributes][Attribute_Name_id]
```

2.2. UNDERSTANDING THE JSON RESPONSE FORMAT

Calls to the API return results in JSON format. The API call returns the result for a single-option response or for responses collections.

JSON Response Format for Single Objects

You can use single-object JSON responses to work with a single object. API requests to a single object require the object's unique identifier **:id**.

This is an example of the format for a single-object request for the Satellite domain which ID is 23:

Example request:

```
$ curl --request GET --insecure --user sat_username:sat_password \
https://satellite.example.com/api/domains/23 | python -m json.tool
```

Example response:

```
{
  "id": 23,
  "name": "qa.lab.example.com",
  "fullname": "QA",
```

```

    "dns_id": 10,
    "created_at": "2013-08-13T09:02:31Z",
    "updated_at": "2013-08-13T09:02:31Z"
  }

```

JSON Response Format for Collections

Collections are a list of objects such as hosts and domains. The format for a collection JSON response consists of a metadata fields section and a results section.

This is an example of the format for a collection request for a list of Satellite domains:

Example request:

```

$ curl --request GET --insecure --user sat_username:sat_password\
https://satellite.example.com/api/domains | python -m json.tool

```

Example response:

```

{
  "total": 3,
  "subtotal": 3,
  "page": 1,
  "per_page": 20,
  "search": null,
  "sort": {
    "by": null,
    "order": null
  },
  "results": [
    {
      "id": 23,
      "name": "qa.lab.example.com",
      "fullname": "QA",
      "dns_id": 10,
      "created_at": "2013-08-13T09:02:31Z",
      "updated_at": "2013-08-13T09:02:31Z"
    },
    {
      "id": 25,
      "name": "sat.lab.example.com",
      "fullname": "SATLAB",
      "dns_id": 8,
      "created_at": "2013-08-13T08:32:48Z",
      "updated_at": "2013-08-14T07:04:03Z"
    },
    {
      "id": 32,
      "name": "hr.lab.example.com",
      "fullname": "HR",
      "dns_id": 8,
      "created_at": "2013-08-16T08:32:48Z",
      "updated_at": "2013-08-16T07:04:03Z"
    }
  ]
}

```

-

The response metadata fields

API response uses the following metadata fields:

- **total** – The total number of objects without any search parameters.
- **subtotal** – The number of objects returned with the given search parameters. If there is no search, then subtotal is equal to total.
- **page** – The page number.
- **per_page** – The maximum number of objects returned per page.
- **limit** – The specified number of objects to return in a collection response.
- **offset** – The number of objects skipped before returning a collection.
- **search** – The search string based on **scoped_scoped** syntax.
- **sort**
 - **by** – Specifies by what field the API sorts the collection.
 - **order** – The sort order, either ASC for ascending or DESC for descending.
- **results** – The collection of objects.

CHAPTER 3. AUTHENTICATING API CALLS

Interaction with the Satellite API requires SSL authentication with Satellite Server CA certificate and authentication with valid Satellite user credentials. This chapter outlines the authenticating methods you can use.

3.1. SSL AUTHENTICATION OVERVIEW

Red Hat Satellite uses HTTPS, which provides a degree of encryption and identity verification when communicating with a Red Hat Satellite Server. Satellite 6.8 does not support non-SSL communications.

Each Red Hat Satellite Server uses a self-signed certificate. This certificate acts as both the server certificate to verify the encryption key and the certificate authority (CA) to trust the identity of Satellite Server.

3.1.1. Configuring SSL Authentication

Use the following procedure to configure an SSL authentication for the API requests to Satellite Server.

Procedure

1. Obtain a certificate from the Satellite Server with which you want to communicate using one of the following options:

- If you execute the command from a remote server, obtain a certificate using SSH:

```
$ scp root@satellite.example.com:/var/www/html/pub/katello-server-ca.crt ./
```

- If you execute the command directly on the Satellite Server, copy the certificate to the current directory:

```
$ cp /var/www/html/pub/katello-server-ca.crt ./
```

2. Use the API request with the **--cacert katello-server-ca.crt** option to verify the identity of the Satellite Server:

```
$ curl --request GET \  
--user sat_username:sat_password \  
--header "Accept:application/json" \  
--cacert katello-server-ca.crt \  
https://satellite.example.com/katello/api/organizations \  
| python -m json.tool
```

3. Create a Network Security Services (NSS) database to store the **katello-server-ca.crt** certificate:

```
$ certutil -N -d sql:$HOME/.pki/nssdb
```

4. Permanently include the certificate in the NSS database:

```
$ certutil -d sql:$HOME/.pki/nssdb -A -t TC -n "Red Hat Satellite" \  
-i katello-server-ca.crt
```

- Verify that the certificate is present in the NSS database by entering the API request without the **--cacert** option:

```
$ curl --request GET \
--user sat_username:sat_password \
https://satellite.example.com/api/v2/hosts
```

3.2. HTTP AUTHENTICATION OVERVIEW

All requests to the Satellite API require a valid Satellite user name and password. The API uses HTTP Basic Authentication to encode these credentials and add to the **Authorization** header. For more information about Basic Authentication, see [RFC 2617 HTTP Authentication: Basic and Digest Access Authentication](#). If a request does not include an appropriate **Authorization** header, the API returns a **401 Authorization Required** error



IMPORTANT

Basic authentication involves potentially sensitive information, for example, it sends passwords as plain text. The REST API requires HTTPS for transport level encryption of plain text requests.

Some base64 libraries break encoded credentials into multiple lines and terminate each line with a newline character. This invalidates the header and causes a faulty request. The Authorization header requires that the encoded credentials be on a single line within the header.

3.3. OAUTH AUTHENTICATION OVERVIEW

As an alternative to basic authentication, you can use limited OAuth 1.0 authentication. This is sometimes referred to as 1-legged OAuth in version 1.0a of the protocol.

To view OAuth settings, in the Satellite web UI, navigate to **Administer > Settings > Authentication**. The **OAuth consumer key** is the token to be used by all OAuth clients.

Satellite stores OAuth settings in the `/etc/foreman/settings.yaml` file. Use the **satellite-installer** script to configure these settings, because Satellite overwrites any manual changes to this file when upgrading.

3.3.1. Configuring OAuth

To change the OAuth settings, enter the **satellite-installer** with the required options. Enter the following command to list all the OAuth related installer options:

```
# satellite-installer --full-help | grep oauth
```

Enabling OAuth mapping

By default, Satellite authorizes all OAuth API requests as the built-in anonymous API administrator account. Therefore, API responses include all Satellite data. However, you can also specify the Foreman user that makes the request and restrict access to data to that user.

To enable OAuth user mapping, enter the following command:

```
# satellite-installer --foreman-oauth-map-users true
```




IMPORTANT

Satellite does not sign the header in an OAuth request. Anyone with a valid consumer key can impersonate any Foreman user.

3.3.2. OAuth Request Format

Use an OAuth client library to construct all OAuth parameters. Every OAuth API request requires the **FOREMAN-USER** header with the login of an existing Foreman user and the **Authorization** header in the following format:

```
--header 'FOREMAN-USER: sat_username' \  
--header 'Authorization: OAuth  
oauth_version="1.0",oauth_consumer_key="secretkey",oauth_signature_method="hmac-  
sha1",oauth_timestamp=1321473112,oauth_signature=ll8hR8/ogj/XVuOqMPB9qNjSy6E='
```

Example

This example lists architectures using OAuth for authentication. The request uses a *sat_username* username in the **FOREMAN-USER** header. With the **--foreman-oauth-map-users** set to **true**, the response includes only architectures that the user has access to view. The signature reflects every parameter, HTTP method, and URI change.

Example request:

```
$ curl 'https://satellite.example.com/api/architectures' \  
--header 'Content-Type: application/json' \  
--header 'Accept: application/json,version=2' \  
--header 'FOREMAN-USER: sat_username' \  
--header 'Authorization: OAuth  
oauth_version="1.0",oauth_consumer_key="secretkey",oauth_signature_method="hmac-  
sha1",oauth_timestamp=1321473112,oauth_signature=ll8hR8/ogj/XVuOqMPB9qNjSy6E='
```

CHAPTER 4. API REQUESTS IN DIFFERENT LANGUAGES

This chapter outlines sending API requests to Red Hat Satellite with `curl`, Ruby, and Python and provides examples.

4.1. API REQUESTS WITH CURL

This section outlines how to use **curl** with the Satellite API to perform various tasks.

Red Hat Satellite requires the use of HTTPS, and by default a certificate for host identification. If you have not added the Satellite Server certificate as described in [Section 3.1, "SSL Authentication Overview"](#), then you can use the **--insecure** option to bypass certificate checks.

For user authentication, you can use the **--user** option to provide Satellite user credentials in the form **--user *username:password*** or, if you do not include the password, the command prompts you to enter it. To reduce security risks, do not include the password as part of the command, because it then becomes part of your shell history. Examples in this section include the password only for the sake of simplicity.

Be aware that if you use the **--silent** option, **curl** does not display a progress meter or any error messages.

Examples in this chapter use the Python **json.tool** module to format the output.

4.1.1. Passing JSON Data to the API Request

You can pass data to Satellite Server with the API request. The data must be in JSON format. When specifying JSON data with the **--data** option, you must set the following HTTP headers with the **--header** option:

```
--header "Accept:application/json,version=2" \  
--header "Content-Type:application/json"
```

Use one of the following options to include data with the **--data** option:

1. The quoted JSON formatted data enclosed in curly braces **{}**. When passing a value for a JSON type parameter, you must escape quotation marks **"** with backslashes ****. For example, within curly braces, you must format **"Example JSON Variable"** as **\"Example JSON Variable\"**:

```
--data {"id":44, "smart_class_parameter":{"override":"true", "parameter_type":"json",  
"default_value":{"GRUB_CMDLINE_LINUX": {"audit":"1","crashkernel":"true"}}}}
```

2. The unquoted JSON formatted data enclosed in a file and specified by the **@** sign and the filename. For example:

```
--data @file.json
```

Using external files for JSON formatted data has the following advantages:

- You can use your favorite text editor.
- You can use syntax checker to find and avoid mistakes.
- You can use tools to check the validity of JSON data or to reformat it.

Validating a JSON file

Use the `json_verify` tool to check the validity of a JSON file:

```
$ json_verify < test_file.json
```

4.1.2. Retrieving a List of Resources

This section outlines how to use `curl` with the Satellite 6 API to request information from your Satellite deployment. These examples include both requests and responses. Expect different results for each deployment.

Listing Users

This example is a basic request that returns a list of Satellite resources, Satellite users in this case. Such requests return a list of data wrapped in metadata, while other request types only return the actual object.

Example request:

```
$ curl --request GET --insecure --user sat_username:sat_password\  
https://satellite.example.com/api/users | python -m json.tool
```

Example response:

```
{  
  "page": 1,  
  "per_page": 20,  
  "results": [  
    {  
      "admin": false,  
      "auth_source_id": 1,  
      "auth_source_name": "Internal",  
      "created_at": "2018-09-21 08:59:22 UTC",  
      "default_location": null,  
      "default_organization": null,  
      "description": "",  
      "effective_admin": false,  
      "firstname": "",  
      "id": 5,  
      "last_login_on": "2018-09-21 09:03:25 UTC",  
      "lastname": "",  
      "locale": null,  
      "locations": [],  
      "login": "test",  
      "mail": "example@domain.com",  
      "organizations": [  
        {  
          "id": 1,  
          "name": "Default Organization"  
        }  
      ],  
      "ssh_keys": [],  
      "timezone": null,  
      "updated_at": "2018-09-21 09:04:45 UTC"
```

```

    },
    {
      "admin": true,
      "auth_source_id": 1,
      "auth_source_name": "Internal",
      "created_at": "2018-09-20 07:09:41 UTC",
      "default_location": null,
      "default_organization": {
        "description": null,
        "id": 1,
        "name": "Default Organization",
        "title": "Default Organization"
      },
      "description": "",
      "effective_admin": true,
      "firstname": "Admin",
      "id": 4,
      "last_login_on": "2018-12-07 07:31:09 UTC",
      "lastname": "User",
      "locale": null,
      "locations": [
        {
          "id": 2,
          "name": "Default Location"
        }
      ],
      "login": "admin",
      "mail": "root@example.com",
      "organizations": [
        {
          "id": 1,
          "name": "Default Organization"
        }
      ],
      "ssh_keys": [],
      "timezone": null,
      "updated_at": "2018-11-14 08:19:46 UTC"
    }
  ],
  "search": null,
  "sort": {
    "by": null,
    "order": null
  },
  "subtotal": 2,
  "total": 2
}

```

4.1.3. Creating and Modifying Resources

This section outlines how to use **curl** with the Satellite 6 API to manipulate resources on the Satellite Server. These API calls require that you pass data in **json** format with the API call. For more information, see [Section 4.1.1, "Passing JSON Data to the API Request"](#).

Creating a User

This example creates a user using **--data** option to provide required information.

Example request:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" --request POST \
--user sat_username:sat_password --insecure \
--data "{\"firstname\":\"Test
Name\",\"mail\":\"test@example.com\",\"login\":\"test_user\",\"password\":\"password123\",\"auth_sour
ce_id\":1}" \
https://satellite.example.com/api/users | python -m json.tool
```

Modifying a User

This example modifies first name and login of the **test_user** that was created in [Creating a User](#).

Example request:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" --request PUT \
--user sat_username:sat_password --insecure \
--data "{\"firstname\":\"New Test
Name\",\"mail\":\"test@example.com\",\"login\":\"new_test_user\",\"password\":\"password123\",\"auth
_source_id\":1}" \
https://satellite.example.com/api/users/8 | python -m json.tool
```

4.2. API REQUESTS WITH RUBY

This section outlines how to use Ruby with the Satellite API to perform various tasks.



IMPORTANT

These are example scripts and commands. Ensure you review these scripts carefully before use, and replace any variables, user names, passwords, and other information to suit your own deployment.

4.2.1. Creating Objects Using Ruby

This script connects to the Red Hat Satellite 6 API and creates an organization, and then creates three environments in the organization. If the organization already exists, the script uses that organization. If any of the environments already exist in the organization, the script raises an error and quits.

```
#!/usr/bin/ruby

require 'rest-client'
require 'json'

url = 'https://satellite.example.com/api/v2/'
katello_url = "#{url}/katello/api/v2/"

$username = 'admin'
$password = 'changeme'

org_name = "MyOrg"
```

```

environments = [ "Development", "Testing", "Production" ]

# Performs a GET using the passed URL location
def get_json(location)
  response = RestClient::Request.new(
    :method => :get,
    :url => location,
    :user => $username,
    :password => $password,
    :headers => { :accept => :json,
                 :content_type => :json }
  ).execute
  JSON.parse(response.to_str)
end

# Performs a POST and passes the data to the URL location
def post_json(location, json_data)
  response = RestClient::Request.new(
    :method => :post,
    :url => location,
    :user => $username,
    :password => $password,
    :headers => { :accept => :json,
                 :content_type => :json},
    :payload => json_data
  ).execute
  JSON.parse(response.to_str)
end

# Creates a hash with ids mapping to names for an array of records
def id_name_map(records)
  records.inject({}) do |map, record|
    map.update(record['id'] => record['name'])
  end
end

# Get list of existing organizations
orgs = get_json("#{katello_url}/organizations")
org_list = id_name_map(orgs['results'])

if !org_list.has_value?(org_name)
  # If our organization is not found, create it
  puts "Creating organization: \#{org_name}"
  org_id = post_json("#{katello_url}/organizations", JSON.generate({"name"=> org_name}))["id"]
else
  # Our organization exists, so let's grab it
  org_id = org_list.key(org_name)
  puts "Organization \#{org_name}\" exists"
end

# Get list of organization's lifecycle environments
envs = get_json("#{katello_url}/organizations/\#{org_id}/environments")
env_list = id_name_map(envs['results'])
prior_env_id = env_list.key("Library")

# Exit the script if at least one life cycle environment already exists

```

```

environments.each do |e|
  if env_list.has_value?(e)
    puts "ERROR: One of the Environments is not unique to organization"
    exit
  end
end

# Create life cycle environments
environments.each do |environment|
  puts "Creating environment: \#{environment}"
  prior_env_id = post_json("#{katello_url}/organizations/#{org_id}/environments",
JSON.generate({"name" => environment, "organization_id" => org_id, "prior_id" => prior_env_id}))
  ["id"]
end

```

4.2.2. Using Apipie Bindings with Ruby

Apipie bindings are the Ruby bindings for apipie documented API calls. They fetch and cache the API definition from Satellite and then generate API calls on demand. This example creates an organization, and then creates three environments in the organization. If the organization already exists, the script uses that organization. If any of the environments already exist in the organization, the script raises an error and quits.

```

#!/usr/bin/tfm-ruby

require 'apipie-bindings'

org_name = "MyOrg"
environments = [ "Development", "Testing", "Production" ]

# Create an instance of apipie bindings
@api = ApipieBindings::API.new({
  :uri => 'https://satellite.example.com/',
  :username => 'admin',
  :password => 'changeme',
  :api_version => 2
})

# Performs an API call with default options
def call_api(resource_name, action_name, params = {})
  http_headers = {}
  apipie_options = { :skip_validation => true }
  @api.resource(resource_name).call(action_name, params, http_headers, apipie_options)
end

# Creates a hash with IDs mapping to names for an array of records
def id_name_map(records)
  records.inject({}) do |map, record|
    map.update(record['id'] => record['name'])
  end
end

# Get list of existing organizations
orgs = call_api(:organizations, :index)
org_list = id_name_map(orgs['results'])

```

```

if lorg_list.has_value?(org_name)
  # If our organization is not found, create it
  puts "Creating organization: \t#{org_name}"
  org_id = call_api(:organizations, :create, {'organization' => { :name => org_name }})['id']
else
  # Our organization exists, so let's grab it
  org_id = org_list.key(org_name)
  puts "Organization \t#{org_name}\t exists"
end

# Get list of organization's life cycle environments
envs = call_api(:lifecycle_environments, :index, {'organization_id' => org_id})
env_list = id_name_map(envs['results'])
prior_env_id = env_list.key("Library")

# Exit the script if at least one life cycle environment already exists
environments.each do |e|
  if env_list.has_value?(e)
    puts "ERROR: One of the Environments is not unique to organization"
    exit
  end
end

# Create life cycle environments
environments.each do |environment|
  puts "Creating environment: \t#{environment}"
  prior_env_id = call_api(:lifecycle_environments, :create, {"name" => environment, "organization_id"
=> org_id, "prior_id" => prior_env_id })['id']
end

```

4.3. API REQUESTS WITH PYTHON

This section outlines how to use Python with the Satellite API to perform various tasks.



IMPORTANT

These are example scripts and commands. Ensure you review these scripts carefully before use, and replace any variables, user names, passwords, and other information to suit your own deployment.

Example scripts in this section do not use SSL verification for interacting with the REST API.

4.3.1. Creating Objects Using Python

This script connects to the Red Hat Satellite 6 API and creates an organization, and then creates three environments in the organization. If the organization already exists, the script uses that organization. If any of the environments already exist in the organization, the script raises an error and quits.

Python 2 Example

```

#!/usr/bin/python

import json

```



```

import sys

try:
    import requests
except ImportError:
    print "Please install the python-requests module."
    sys.exit(-1)

# URL to your Satellite 6 server
URL = "https://satellite.example.com"
# URL for the API to your deployed Satellite 6 server
SAT_API = "%s/katello/api/v2/" % URL
# Katello-specific API
KATELLO_API = "%s/katello/api/" % URL
POST_HEADERS = {'content-type': 'application/json'}
# Default credentials to login to Satellite 6
USERNAME = "admin"
PASSWORD = "changeme"
# Ignore SSL for now
SSL_VERIFY = False

# Name of the organization to be either created or used
ORG_NAME = "MyOrg"
# Name for life cycle environments to be either created or used
ENVIRONMENTS = ["Development", "Testing", "Production"]

def get_json(location):
    """
    Performs a GET using the passed URL location
    """

    r = requests.get(location, auth=(USERNAME, PASSWORD), verify=SSL_VERIFY)

    return r.json()

def post_json(location, json_data):
    """
    Performs a POST and passes the data to the URL location
    """

    result = requests.post(
        location,
        data=json_data,
        auth=(USERNAME, PASSWORD),
        verify=SSL_VERIFY,
        headers=POST_HEADERS)

    return result.json()

def main():
    """
    Main routine that creates or re-uses an organization and
    life cycle environments. If life cycle environments already

```

```

exist, exit out.
"""

# Check if our organization already exists
org = get_json(SAT_API + "organizations/" + ORG_NAME)

# If our organization is not found, create it
if org.get('error', None):
    org_id = post_json(
        SAT_API + "organizations/",
        json.dumps({"name": ORG_NAME}))["id"]
    print "Creating organization: \t" + ORG_NAME
else:
    # Our organization exists, so let's grab it
    org_id = org['id']
    print "Organization '%s' exists." % ORG_NAME

# Now, let's fetch all available life cycle environments for this org...
envs = get_json(
    SAT_API + "organizations/" + str(org_id) + "/environments/")

# ... and add them to a dictionary, with respective 'Prior' environment
prior_env_id = 0
env_list = {}
for env in envs['results']:
    env_list[env['id']] = env['name']
    prior_env_id = env['id'] if env['name'] == "Library" else prior_env_id

# Exit the script if at least one life cycle environment already exists
if all(environment in env_list.values() for environment in ENVIRONMENTS):
    print "ERROR: One of the Environments is not unique to organization"
    sys.exit(-1)

# Create life cycle environments
for environment in ENVIRONMENTS:
    new_env_id = post_json(
        SAT_API + "organizations/" + str(org_id) + "/environments/",
        json.dumps(
            {
                "name": environment,
                "organization_id": org_id,
                "prior": prior_env_id}
        ))["id"]

    print "Creating environment: \t" + environment
    prior_env_id = new_env_id

if __name__ == "__main__":
    main()

```

4.3.2. Requesting information from the API using Python

This is an example script that uses Python for various API requests.

Python 2 Example

```

#!/usr/bin/python
import json
import sys
try:
    import requests
except ImportError:
    print "Please install the python-requests module."
    sys.exit(-1)

SAT_API = 'https://satellite.example.com/api/v2/'
USERNAME = "admin"
PASSWORD = "password"
SSL_VERIFY = False # Ignore SSL for now

def get_json(url):
    # Performs a GET using the passed URL location
    r = requests.get(url, auth=(USERNAME, PASSWORD), verify=SSL_VERIFY)
    return r.json()

def get_results(url):
    jsn = get_json(url)
    if jsn.get('error'):
        print "Error: " + jsn['error']['message']
    else:
        if jsn.get('results'):
            return jsn['results']
        elif 'results' not in jsn:
            return jsn
        else:
            print "No results found"
    return None

def display_all_results(url):
    results = get_results(url)
    if results:
        print json.dumps(results, indent=4, sort_keys=True)

def display_info_for_hosts(url):
    hosts = get_results(url)
    if hosts:
        for host in hosts:
            print "ID: %-10d Name: %-30s IP: %-20s OS: %-30s" % (host['id'], host['name'], host['ip'],
host['operatingsystem_name'])

def main():
    host = 'satellite.example.com'
    print "Displaying all info for host %s ..." % host
    display_all_results(SAT_API + 'hosts/' + host)

    print "Displaying all facts for host %s ..." % host
    display_all_results(SAT_API + 'hosts/%s/facts' % host)

    host_pattern = 'example'
    print "Displaying basic info for hosts matching pattern '%s'..." % host_pattern

```

```

display_info_for_hosts(SAT_API + 'hosts?search=' + host_pattern)

environment = 'production'
print "Displaying basic info for hosts in environment %s..." % environment
display_info_for_hosts(SAT_API + 'hosts?search=environment=' + environment)

model = 'RHEV Hypervisor'
print "Displaying basic info for hosts with model name %s..." % model
display_info_for_hosts(SAT_API + 'hosts?search=model="' + model + '"')

if __name__ == "__main__":
    main()

```

Python 3 Example

```

#!/usr/bin/env python3

import json
import sys

try:
    import requests
except ImportError:
    print("Please install the python-requests module.")
    sys.exit(-1)

SAT = "satellite.example.com"
# URL for the API to your deployed Satellite 6 server
SAT_API = f"https://{SAT}/api/"
KATELLO_API = f"https://{SAT}/katello/api/v2/"

POST_HEADERS = {'content-type': 'application/json'}
# Default credentials to login to Satellite 6
USERNAME = "admin"
PASSWORD = "password"
# Ignore SSL for now
SSL_VERIFY = False
#SSL_VERIFY = "./path/to/CA-certificate.crt" # Put the path to your CA certificate here to allow
SSL_VERIFY

def get_json(url):
    # Performs a GET using the passed URL location
    r = requests.get(url, auth=(USERNAME, PASSWORD), verify=SSL_VERIFY)
    return r.json()

def get_results(url):
    jsn = get_json(url)
    if jsn.get('error'):
        print("Error: " + jsn['error']['message'])
    else:
        if jsn.get('results'):
            return jsn['results']
        elif 'results' not in jsn:
            return jsn
        else:

```

```

        print("No results found")
    return None

def display_all_results(url):
    results = get_results(url)
    if results:
        print(json.dumps(results, indent=4, sort_keys=True))

def display_info_for_hosts(url):
    hosts = get_results(url)
    if hosts:
        print(f"{'ID':10}{'Name':40}{'IP':30}{'Operating System':30}")
        for host in hosts:
            print(f"{str(host['id']):10}{host['name']:40}{str(host['ip']):30}{str(host['operatingsystem_name']):30}")

def display_info_for_subs(url):
    subs = get_results(url)
    if subs:
        print(f"{'ID':10}{'Name':90}{'Start Date':30}")
        for sub in subs:
            print(f"{str(sub['id']):10}{sub['name']:90}{str(sub['start_date']):30}")

def main():
    host = SAT
    print(f"Displaying all info for host {host} ...")
    display_all_results(SAT_API + 'hosts/' + host)

    print(f"Displaying all facts for host {host} ...")
    display_all_results(SAT_API + f'hosts/{host}/facts')

    host_pattern = 'example'
    print(f"Displaying basic info for hosts matching pattern '{host_pattern}'...")
    display_info_for_hosts(SAT_API + 'hosts?per_page=1&search=name~' + host_pattern)

    print(f"Displaying basic info for subscriptions")
    display_info_for_subs(KATELLO_API + 'subscriptions')

    environment = 'production'
    print(f"Displaying basic info for hosts in environment {environment}...")
    display_info_for_hosts(SAT_API + 'hosts?search=environment=' + environment)

if __name__ == "__main__":
    main()

```

CHAPTER 5. USING THE RED HAT SATELLITE API

This chapter provides a range of examples of how to use the Red Hat Satellite API to perform different tasks. You can use the API on Satellite Server via HTTPS on port 443, or on Capsule Server via HTTPS on port 8443.

You can address these different port requirements within the script itself. For example, in Ruby, you can specify the Satellite and Capsule URLs as follows:

```
url = 'https://satellite.example.com/api/v2/'
capsule_url = 'https://capsule.example.com:8443/api/v2/'
katello_url = 'https://satellite.example.com/katello/api/v2/'
```

For the host that is subscribed to Satellite Server or Capsule Server, you can determine the correct port required to access the API from the `/etc/rhsm/rhsm.conf` file, in the port entry of the **[server]** section. You can use these values to fully automate your scripts, removing any need to verify which ports to use.

This chapter uses **curl** for sending API requests. For more information, see [Section 4.1, “API Requests with curl”](#).

Examples in this chapter use the Python **json.tool** module to format the output.

5.1. WORKING WITH HOSTS

Listing Hosts

This example returns a list of Satellite hosts.

Example request:

```
$ curl -request GET --insecure --user sat_username:sat_password\
https://satellite.example.com/api/v2/hosts | python -m json.tool
```

Example response:

```
{
  ...
  "total" => 2,
  "subtotal" => 2,
  "page" => 1,
  "per_page" => 1000,
  "search" => nil,
  "sort" => {
    "by" => nil,
    "order" => nil
  },
  "results" => [
    ...
  ]
}
```

Requesting Information for a Host

This request returns information for the host **satellite.example.com**.

Example request:

```
$ curl --request GET --insecure --user sat_username:sat_password \
https://satellite.example.com/api/v2/hosts/satellite.example.com \
| python -m json.tool
```

Example response:

```
{
  "all_puppetclasses": [],
  "architecture_id": 1,
  "architecture_name": "x86_64",
  "build": false,
  "capabilities": [
    "build"
  ],
  "certname": "satellite.example.com",
  "comment": null,
  "compute_profile_id": null,
  ...
}
```

Listing Host Facts

This request returns all facts for the host **satellite.example.com**.

Example request:

```
$ curl --request GET --insecure --user sat_username:sat_password \
https://satellite.example.com/api/v2/hosts/satellite.example.com/facts \
| python -m json.tool
```

Example response:

```
{
  ...
  "results": {
    "satellite.example.com": {
      "augeasversion": "1.0.0",
      "bios_release_date": "01/01/2007",
      "bios_version": "0.5.1",
      "blockdevice_sr0_size": "1073741312",
      "facterversion": "1.7.6",
      ...
    }
  }
}
```

Searching for Hosts with Matching Patterns

This query returns all hosts that match the pattern "example".

Example request:

```
$ curl --request GET --insecure --user sat_username:sat_password \
https://satellite.example.com/api/v2/hosts?search=example \
| python -m json.tool
```

Example response:

```
{
  ...
  "results": [
    {
      "name": "satellite.example.com",
      ...
    }
  ],
  "search": "example",
  ...
}
```

Searching for Hosts in an Environment

This query returns all hosts in the **production** environment.

Example request:

```
$ curl --request GET --insecure --user sat_username:sat_password \
https://satellite.example.com/api/v2/hosts?search=environment=production \
| python -m json.tool
```

Example response:

```
{
  ...
  "results": [
    {
      "environment_name": "production",
      "name": "satellite.example.com",
      ...
    }
  ],
  "search": "environment=production",
  ...
}
```

Searching for Hosts with a Specific Fact Value

This query returns all hosts with a model name **RHEV Hypervisor**.

Example request:

```
$ curl --request GET --insecure --user sat_username:sat_password \
https://satellite.example.com/api/v2/hosts?search=model="RHEV+Hypervisor" \
| python -m json.tool
```

Example response:

```
{
  ...
  "results": [
    {
      "model_id": 1,
      "model_name": "RHEV Hypervisor",
      ...
    }
  ],
  "search": "model=RHEV+Hypervisor",
  ...
}
```



```

        "name": "satellite.example.com",
        ...
    }
],
"search": "model=\"RHEV Hypervisor\"",
...
}

```

Deleting a Host

This request deletes a host with a name *host1.example.com*.

Example request:

```

$ curl --request DELETE --insecure --user sat_username:sat_password \
https://satellite.example.com/api/v2/hosts/host1.example.com \
| python -m json.tool

```

Downloading a Full Boot Disk Image

This request downloads a full boot disk image for a host by its ID.

Example request:

```

$ curl --request GET --insecure --user sat_username:sat_password \
https://satellite.example.com/bootdisk/api/hosts/host_ID?full=true \
--output image.iso

```

5.2. WORKING WITH LIFE CYCLE ENVIRONMENTS

Satellite divides application life cycles into life cycle environments, which represent each stage of the application life cycle. Life cycle environments are linked to from an environment path. To create linked life cycle environments with the API, use the **prior_id** parameter.

You can find the built-in API reference for life cycle environments at

https://satellite.example.com/apidoc/v2/lifecycle_environments.html. The API routes include **[/katello/api/environments](#)** and **[/katello/api/organizations/:organization_id/environments](#)**.

Listing Life Cycle Environments

Use this API call to list all the current life cycle environments on your Satellite for the default organization with ID **1**.

Example request:

```

$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" \
--request GET --user sat_username:sat_password --insecure \
https://satellite.example.com/katello/api/organizations/1/environments \
| python -m json.tool

```

Example response:

```

output omitted
"description": null,

```

```

"id": 1,
"label": "Library",
"library": true,
"name": "Library",
"organization": {
  "id": 1,
  "label": "Default_Organization",
  "name": "Default Organization"
},
"permissions": {
  "destroy_lifecycle_environments": false,
  "edit_lifecycle_environments": true,
  "promote_or_remove_content_views_to_environments": true,
  "view_lifecycle_environments": true
},
"prior": null,
"successor": null,
output truncated

```

Creating Linked Life Cycle Environments

Use this example to create a path of life cycle environments.

This procedure uses the default Library environment with ID **1** as the starting point for creating life cycle environments.

1. Choose an existing life cycle environment that you want to use as a starting point. List the environment using its ID, in this case, the environment with ID **1**:

Example request:

```

$ curl --request GET --user sat_username:sat_password --insecure \
https://satellite.example.com/katello/api/environments/1 \
| python -m json.tool

```

Example response:

```

output omitted
"id": 1,
"label": "Library",
output omitted
"prior": null,
"successor": null,
output truncated

```

2. Create a JSON file, for example, **life-cycle.json**, with the following content:

```

{"organization_id":1,"label":"api-dev","name":"API Development","prior":1}

```

3. Create a life cycle environment using the **prior** option set to **1**.

Example request:

```

$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" \
--request POST --user sat_username:sat_password --insecure \

```

```
--data @life-cycle.json \
https://satellite.example.com/katello/api/environments \
| python -m json.tool
```

Example response:

```
output omitted
"description": null,
"id": 2,
"label": "api-dev",
"library": false,
"name": "API Development",
"organization": {
  "id": 1,
  "label": "Default_Organization",
  "name": "Default Organization"
},
"permissions": {
  "destroy_lifecycle_environments": true,
  "edit_lifecycle_environments": true,
  "promote_or_remove_content_views_to_environments": true,
  "view_lifecycle_environments": true
},
"prior": {
  "id": 1,
  "name": "Library"
},
output truncated
```

In the command output, you can see the ID for this life cycle environment is **2**, and the life cycle environment prior to this one is **1**. Use the life cycle environment with ID **2** to create a successor to this environment.

4. Edit the previously created **life-cycle.json** file, updating the **label**, **name**, and **prior** values.

```
{"organization_id":1,"label":"api-qa","name":"API QA","prior":2}
```

5. Create a life cycle environment, using the **prior** option set to **2**.

Example request:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" \
--request POST --user sat_username:sat_password --insecure \
--data @life-cycle.json \
https://satellite.example.com/katello/api/environments \
| python -m json.tool
```

Example response:

```
output omitted
"description": null,
"id": 3,
"label": "api-qa",
"library": false,
```

```

"name": "API QA",
"organization": {
  "id": 1,
  "label": "Default_Organization",
  "name": "Default Organization"
},
"permissions": {
  "destroy_lifecycle_environments": true,
  "edit_lifecycle_environments": true,
  "promote_or_remove_content_views_to_environments": true,
  "view_lifecycle_environments": true
},
"prior": {
  "id": 2,
  "name": "API Development"
},
"successor": null,
output truncated

```

In the command output, you can see the ID for this life cycle environment is **3**, and the life cycle environment prior to this one is **2**.

Updating a Life Cycle Environment

You can update a life cycle environment using a PUT command.

This example request updates a description of the life cycle environment with ID **3**.

Example request:

```

$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" \
--request POST --user sat_username:sat_password --insecure \
--data '{"description":"Quality Acceptance Testing"}' \
https://satellite.example.com/katello/api/environments/3 \
| python -m json.tool

```

Example response:

```

output omitted
"description": "Quality Acceptance Testing",
"id": 3,
"label": "api-qa",
"library": false,
"name": "API QA",
"organization": {
  "id": 1,
  "label": "Default_Organization",
  "name": "Default Organization"
},
"permissions": {
  "destroy_lifecycle_environments": true,
  "edit_lifecycle_environments": true,
  "promote_or_remove_content_views_to_environments": true,
  "view_lifecycle_environments": true
},

```

```
"prior": {
  "id": 2,
  "name": "API Development"
},
output truncated
```

Deleting a Life Cycle Environment

You can delete a life cycle environment provided it has no successor. Therefore, delete them in reverse order using a command in the following format:

Example request:

```
$ curl --request DELETE --user sat_username:sat_password --insecure \
https://satellite.example.com/katello/api/environments/:id
```

5.3. UPLOADING CONTENT TO THE SATELLITE SERVER

This section outlines how to use the Satellite 6 API to upload and import large files to your Satellite Server. This process involves four steps:

1. Create an upload request.
2. Upload the content.
3. Import the content.
4. Delete the upload request.

The maximum file size that you can upload is 2MB. For information about uploading larger content, see [Uploading Content Larger than 2 MB](#).

Procedure

1. Create the upload request. Ensure you modify the example parameters to suit your deployment. Example request:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" \
--request POST --insecure \
--user sat_username:sat_password --data "{}" \
https://satellite.example.com/katello/api/repositories/3/content_uploads
```

This command returns the **upload_id**.

Example response:

```
{"upload_id":"0be156b1-f373-4cad-89d0-
924f8f4491d2","_href":"/pulp/api/v2/content/uploads/0be156b1-f373-4cad-89d0-
924f8f4491d2/"}
```

Note the **upload_id** for uploading the content.

2. Upload your content. Ensure you use the correct MIME type when you upload data. The API uses the **application/json** MIME type for the majority of requests to Satellite 6. Combine the **upload_id**, MIME type, and other parameters to upload content.

Example request:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:multipart/form-data" \
--request PUT --insecure --user sat_username:sat_password \
--data-urlencode "content@/home/sat6user/rpmbuild/RPMS/noarch/python-scripttest-1.1.1-1.fc21.noarch.rpm" \
--data-urlencode offset=0 \
https://satellite.example.com/katello/api/repositories/3/content_uploads/0be156b1-f373-4cad-89d0-924f8f4491d2
```

3. After you have uploaded the content to the Satellite Server, you need to import it into the appropriate repository. Until you complete this step, the Satellite Server does not detect the new content.

Example request:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" \
--request PUT --insecure \
--user sat_username:sat_password \
--data "{\"uploads\":{\"0be156b1-f373-4cad-89d0-924f8f4491d2\"}}" \
https://satellite.example.com/katello/api/repositories/3/import_uploads
```

4. After you have successfully uploaded and imported your content, you can delete the upload request. This frees any temporary disk space that data is using during the upload.

Example request:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" \
--request DELETE --insecure \
--user sat_username:sat_password --data "{}" \
https://satellite.example.com/katello/api/repositories/3/content_uploads/0be156b1-f373-4cad-89d0-924f8f4491d2
```

Uploading Content Larger than 2 MB

The following example demonstrates how to split a large file into chunks, create an upload request, upload the individual files, import them to Satellite, and then delete the upload request. Note that this example uses sample content, host names, user names, and file names.

1. Use the following example to split your file into 2MB chunks:

```
$ split --bytes 2MB --numeric-suffixes --suffix-length=1 \
theforeman-foreman-5.0.1.tar.gz foreman_module.
```

2. View the resulting files:

```
$ ls -la theforeman-foreman-5.0.1.tar.gz foreman_module.*
-rw-r--r--. 1 root root 50000 Nov  4 04:42 foreman_module.0
-rw-r--r--. 1 root root 32928 Nov  4 04:42 foreman_module.1
-rw-r--r--. 1 root root 82928 Nov  4 04:41 theforeman-foreman-5.0.1.tar.gz
```

3. Create an upload request.

Example request:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" \
--request POST --insecure --user sat_username:sat_password --data "{}" \
https://ibm-vm01.example.com/katello/api/repositories/2/content_uploads
```

Example response:

```
{"upload_id":"9585528f-07ad-4bb1-9c80-
ccece249b2b7","_href":"/pulp/api/v2/content/uploads/9585528f-07ad-4bb1-9c80-
ccece249b2b7/"}
```

Note the **upload_id** for uploading the content.

4. Upload the file chunks to Satellite Server. Notice the use of the **offset** parameter in this example and how it relates to the file size:

Example request:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:multipart/form-data" \
--request PUT --insecure --user sat_username:sat_password \
--data-urlencode "content@foreman_module.0" \
--data-urlencode offset=0 \
https://ibm-vm01.example.com/katello/api/repositories/2/content_uploads/9585528f-07ad-
4bb1-9c80-ccece249b2b7
```

5. Import the complete upload to the repository:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" \
--request PUT --insecure --user sat_username:sat_password \
--data "{\"upload_ids\":[\"9585528f-07ad-4bb1-9c80-ccece249b2b7\"]}" \
https://ibm-vm01.example.com/katello/api/repositories/2/import_uploads
```

6. Delete the upload request:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" \
--request DELETE --insecure --user sat_username:sat_password --data "{}" \
https://ibm-vm01.example.com/katello/api/repositories/2/content_uploads/9585528f-07ad-
4bb1-9c80-ccece249b2b7
```

7. On Satellite Server, check the transferred file:

```
# ls -la /var/lib/pulp/content/puppet_module/foreman-foreman-5.0.1.tar.gz
-rw-r--r--. 1 apache apache 82928 Nov  4 04:55
/var/lib/pulp/content/puppet_module/foreman-foreman-5.0.1.tar.gz
```

8. Verify that the initial file is the same as the transferred by comparing them:

```
$ cmp /var/lib/pulp/content/puppet_module/foreman-foreman-5.0.1.tar.gz \
theforeman-foreman-5.0.1.tar.gz
```

5.4. APPLYING ERRATA TO A HOST OR HOST COLLECTION

You can use the API to apply errata to a host, host group, or host collection. The following is the basic syntax of a PUT request:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" --request PUT \
--user sat_username:sat_password --insecure \
--data json-formatted-data https://satellite7.example.com
```

You can browse the built in API doc to find a URL to use for applying Errata. You can use the Satellite web UI to help discover the format for the search query. Navigate to **Hosts > Host Collections** and select a host collection. Go to **Collection Actions > Errata Installation** and notice the search query box contents. For example, for a Host Collection called *my-collection*, the search box contains **host_collection="my-collection"**.

Applying Errata to a Host

This example uses the API URL for bulk actions **/katello/api/hosts/bulk/install_content** to show the format required for a simple search.

Example request:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" --request PUT \
--user sat_username:sat_password --insecure \
--data "{\"organization_id\":1,\"included\":{\"search\":\"my-host\"},\"content_type\":\"errata\",\"content\":\
[\"RHBA-2016:1981\"]}" \
https://satellite.example.com/api/v2/hosts/bulk/install_content
```

Applying Errata to a Host Collection

In this example, notice the level of escaping required to pass the search string **host_collection="my-collection"** as seen in the Satellite web UI.

Example request:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" --request PUT \
--user sat_username:sat_password --insecure \
--data "{\"organization_id\":1,\"included\":{\"search\":\"host_collection=\\\"my-
collection\\\"\"},\"content_type\":\"errata\",\"content\":[\"RHBA-2016:1981\"]}" \
https://satellite.example.com/api/v2/hosts/bulk/install_content
```

5.5. USING EXTENDED SEARCHES

You can find search parameters that you can use to build your search queries in the web UI. For more information, see [Building Search Queries](#) in *Administering Red Hat Satellite*.

For example, to search for hosts, complete the following steps:

1. In the Satellite web UI, navigate to **Hosts** > **All Hosts** and click the **Search** field to display a list of search parameters.
2. Locate the search parameters that you want to use. For this example, locate **os_title** and **model**.
3. Combine the search parameters in your API query as follows:
Example request:

```
$ curl --insecure --user sat_username:sat_password \
https://satellite.example.com/api/v2/hosts?
search=os_title="RedHat+7.7",model="PowerEdge+R330" \
| python -m json.tool
```

Example response:

```
{
  ...
  "results": [
    {
      "model_id": 1,
      "model_name": "PowerEdge R330",
      "name": "satellite.example.com",
      "operatingsystem_id": 1,
      "operatingsystem_name": "RedHat 7.7",
      ...
    }
  ],
  "search": "os_title=\"RedHat 7.7\",model=\"PowerEdge R330\"",
  "subtotal": 1,
  "total": 11
}
```

5.6. USING SEARCHES WITH PAGINATION CONTROL

You can use the **per_page** and **page** pagination parameters to limit the search results that an API search query returns. The **per_page** parameter specifies the number of results per page and the **page** parameter specifies which page, as calculated by the **per_page** parameter, to return.

The default number of items to return is set to 1000 when you do not specify any pagination parameters, but the **per_page** value has a default of 20 which applies when you specify the **page** parameter.

Listing Content Views

This example returns a list of Content Views in pages. The list contains 10 keys per page and returns the third page.

Example request:

```
$ curl --request GET --user sat_username:sat_password \
https://satellite.example.com/katello/api/content_views?per_page=10&page=3
```

Listing Activation Keys

This example returns a list of activation keys for an organization with ID **1** in pages. The list contains 30 keys per page and returns the second page.

Example request:

```
$ curl --request GET --user sat_username:sat_password \
https://satellite.example.com/katello/api/activation_keys?
organization_id=1&per_page=30&page=2
```

Returning Multiple Pages

You can use a **for** loop structure to get multiple pages of results.

This example returns pages 1 to 3 of Content Views with 5 results per page:

```
$ for i in seq 1 3; do \
curl --request GET --user sat_username:sat_password \
https://satellite.example.com/katello/api/content_views?per_page=5&page=$i; \
done
```

5.7. OVERRIDING SMART CLASS PARAMETERS

You can search for Smart Parameters using the API and supply a value to override a Smart Parameter in a Class. You can find the full list of attributes that you can modify in the built-in API reference at https://satellite.example.com/apidoc/v2/smart_class_parameters/update.html.

1. Find the ID of the Smart Class parameter you want to change:

- List all Smart Class Parameters.

Example request:

```
$ curl --request GET --insecure --user sat_username:sat_password \
https://satellite.example.com/api/smart_class_parameters
```

- If you know the Puppet class ID, for example 5, you can restrict the scope:

Example request:

```
$ curl --request GET --insecure --user sat_username:sat_password \
https://satellite.example.com/api/puppetclasses/5/smart_class_parameters
```

Both calls accept a search parameter. You can view the full list of searchable fields in the Satellite web UI. Navigate to **Configure > Smart variables** and click in the search query box to reveal the list of fields.

Two particularly useful search parameters are **puppetclass_name** and **key**, which you can use to search for a specific parameter. For example, using the **--data** option to pass URL encoded data.

Example request:

```
$ curl --request GET --insecure --user sat_username:sat_password \
--data 'search=puppetclass_name = access_insights_client and key = authmethod' \
https://satellite.example.com/api/smart_class_parameters
```

Satellite supports standard scoped-search syntax.

- When you find the ID of the parameter, list the full details including current override values.
Example request:

```
$ curl --request GET --insecure --user sat_username:sat_password \
https://satellite.example.com/api/smart_class_parameters/63
```

- Enable overriding of parameter values.
Example request:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" \
--request PUT --insecure --user sat_username:sat_password \
--data '{"smart_class_parameter":{"override":true}}' \
https://satellite.example.com/api/smart_class_parameters/63
```

Note that you cannot create or delete the parameters manually. You can only modify their attributes. Satellite creates and deletes parameters only upon class import from a proxy.

- Add custom override matchers.
Example request:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" \
--request PUT --insecure --user sat_username:sat_password \
--data '{"smart_class_parameter":{"override_value":
{"match":{"hostgroup=Test","value":"2.4.6"}}}' \
https://satellite.example.com/api/smart_class_parameters/63
```

For more information about override values, see
https://satellite.example.com/apidoc/v2/override_values.html.

- You can delete override values.
Example request:

```
$ curl --request DELETE --user sat_username:sat_password \
https://satellite.example.com/api/smart_class_parameters/63/override_values/3
```

5.8. MODIFYING A SMART CLASS PARAMETER USING AN EXTERNAL FILE

Using external files simplifies working with JSON data. Using an editor with syntax highlighting can help you avoid and locate mistakes.

Modifying a Smart Class Parameter Using an External File

This example uses a MOTD Puppet manifest.

- Search for the Puppet Class by name, **motd** in this case.
Example request:

```
$ curl --header "Accept:application/json,version=2" \
```

```
--header "Content-Type:application/json" \
--request GET --user sat_user:sat_password --insecure \
https://satellite.example.com/api/smart_class_parameters?search=puppetclass_name=motd
\
| python -m json.tool
```

- Examine the following output. Each Smart Class Parameter has an ID that is global for the same Satellite instance. The **content** parameter of the **motd** class has **id=3** in this Satellite Server. Do not confuse this with the Puppet Class ID that displays before the Puppet Class name.

Example response:

```
{
  "avoid_duplicates": false,
  "created_at": "2017-02-06 12:37:48 UTC", # Remove this line.
  "default_value": "", # Add a new value here.
  "description": "",
  "hidden_value": "",
  "hidden_value?": false,
  "id": 3,
  "merge_default": false,
  "merge_overrides": false,
  "override": false, # Set the override value to true.
  "override_value_order": "fqdn\nhostgroup\nos\ndomain",
  "override_values": [], # Remove this line.
  "override_values_count": 0,
  "parameter": "content",
  "parameter_type": "string",
  "puppetclass_id": 3,
  "puppetclass_name": "motd",
  "required": false,
  "updated_at": "2017-02-07 11:56:55 UTC", # Remove this line.
  "use_puppet_default": false,
  "validator_rule": null,
  "validator_type": ""
}
```

- Use the parameter ID **3** to get the information specific to the **motd** parameter and redirect the output to a file, for example, **output_file.json**.

Example request:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" --request GET \
--user sat_user:sat_password --insecure \
https://satellite.example.com/api/smart_class_parameters/3 \
| python -m json.tool > output_file.json
```

- Copy the file created in the previous step to a new file for editing, for example, **changed_file.json**:

```
$ cp output_file.json changed_file.json
```

- Modify the required values in the file. In this example, change the content parameter of the **motd** module, which requires changing the **override** option from **false** to **true**:

```
{
  "avoid_duplicates": false,
  "created_at": "2017-02-06 12:37:48 UTC", # Remove this line.
  "default_value": "", # Add a new value here.
  "description": "",
  "hidden_value": "",
  "hidden_value?": false,
  "id": 3,
  "merge_default": false,
  "merge_overrides": false,
  "override": false, # Set the override value to true.
  "override_value_order": "fqdn\nhostgroup\nos\ndomain",
  "override_values": [], # Remove this line.
  "override_values_count": 0,
  "parameter": "content",
  "parameter_type": "string",
  "puppetclass_id": 3,
  "puppetclass_name": "motd",
  "required": false,
  "updated_at": "2017-02-07 11:56:55 UTC", # Remove this line.
  "use_puppet_default": false,
  "validator_rule": null,
  "validator_type": ""
}
```

6. After editing the file, verify that it looks as follows and then save the changes:

```
{
  "avoid_duplicates": false,
  "default_value": "No Unauthorized Access Allowed",
  "description": "",
  "hidden_value": "",
  "hidden_value?": false,
  "id": 3,
  "merge_default": false,
  "merge_overrides": false,
  "override": true,
  "override_value_order": "fqdn\nhostgroup\nos\ndomain",
  "override_values_count": 0,
  "parameter": "content",
  "parameter_type": "string",
  "puppetclass_id": 3,
  "puppetclass_name": "motd",
  "required": false,
  "use_puppet_default": false,
  "validator_rule": null,
  "validator_type": ""
}
```

7. Apply the changes to Satellite Server:

```
$ curl --header "Accept:application/json,version=2" \
--header "Content-Type:application/json" \
--request PUT --user sat_username:sat_password --insecure \
```

```
--data @changed_file.json \
https://satellite.example.com/api/smart_class_parameters/3
```

5.9. DELETING OPENSAP REPORTS

In Satellite Server, you can delete one or more OpenSCAP reports. However, when you delete reports, you must delete one page at a time. If you want to delete all Openscap reports, use the bash script that follows.

Deleting an OpenSCAP Report

To delete an OpenSCAP report, complete the following steps:

1. List all OpenSCAP reports. Note the IDs of the reports that you want to delete.

Example request:

```
curl --insecure --user username:password \
https://satellite.example.com/api/v2/compliance/arf_reports/ | python -m json.tool
```

Example response:

```
% Total % Received % Xferd Average Speed Time Time Time Current
          Dload Upload Total Spent Left Speed
100 3252 0 3252 0 0 4319 0 --:--:-- --:--:-- --:--:-- 4318
{
  "page": 1,
  "per_page": 20,
  "results": [
    {
      "created_at": "2017-05-16 13:27:09 UTC",
      "failed": 0,
      "host": "host1.example.com",
      "id": 404,
      "othered": 0,
      "passed": 0,
      "updated_at": "2017-05-16 13:27:09 UTC"
    },
    {
      "created_at": "2017-05-16 13:26:07 UTC",
      "failed": 0,
      "host": "host2.example.com",
      "id": 405,
      "othered": 0,
      "passed": 0,
      "updated_at": "2017-05-16 13:26:07 UTC"
    },
    {
      "created_at": "2017-05-16 13:25:07 UTC",
      "failed": 0,
      "host": "host3.example.com",
      "id": 406,
      "othered": 0,
      "passed": 0,
      "updated_at": "2017-05-16 13:25:07 UTC"
    }
  ],
}
```

```
{
  "created_at": "2017-05-16 13:24:07 UTC",
  "failed": 0,
  "host": "host4.example.com",
  "id": 407,
  "othered": 0,
  "passed": 0,
  "updated_at": "2017-05-16 13:24:07 UTC"
},
],
"search": null,
"sort": {
  "by": null,
  "order": null
},
"subtotal": 29,
"total": 29
```

- Using an ID from the previous step, delete the OpenSCAP report. Repeat for each ID that you want to delete.

Example request:

```
# curl --insecure --user username:password \
--header "Content-Type: application/json" \
--request DELETE https://satellite.example.com/api/v2/compliance/arf_reports/405
```

Example response:

```
HTTP/1.1 200 OK
Date: Thu, 18 May 2017 07:14:36 GMT
Server: Apache/2.4.6 (Red Hat Enterprise Linux)
X-Frame-Options: SAMEORIGIN
X-XSS-Protection: 1; mode=block
X-Content-Type-Options: nosniff
Foreman_version: 1.11.0.76
Foreman_api_version: 2
Apiipie-Checksum: 2d39dc59aed19120d2359f7515e10d76
Cache-Control: max-age=0, private, must-revalidate
X-Request-Id: f47eb877-35c7-41fe-b866-34274b56c506
X-Runtime: 0.661831
X-Powered-By: Phusion Passenger 4.0.18
Set-Cookie: request_method=DELETE; path=/
Set-Cookie: _session_id=d58fe2649e6788b87f46eabf8a461edd; path=/; secure; HttpOnly
ETag: "2574955fc0afc47cb5394ce95553f428"
Status: 200 OK
Vary: Accept-Encoding
Transfer-Encoding: chunked
Content-Type: application/json; charset=utf-8
```

Example BASH Script to Delete All OpenSCAP Reports

Use the following bash script to delete all the OpenSCAP reports:

```
#!/bin/bash
```

```
#this script removes all the arf reports from the satellite server

#settings
USER=username
PASS=password
URI=https://satellite.example.com

#check amount of reports
while [ $(curl --insecure --user $USER:$PASS $URI/api/v2/compliance/arf_reports/ | python -m
json.tool | grep "\\total\\": | cut --fields=2 --delimiter":" | cut --fields=1 --delimiter"," | sed "s/ //g") -gt 0 ];
do

#fetch reports
for i in $(curl --insecure --user $USER:$PASS $URI/api/v2/compliance/arf_reports/ | python -m
json.tool | grep "\\id\\": | cut --fields=2 --delimiter":" | cut --fields=1 --delimiter"," | sed "s/ //g")

#delete reports
do
curl --insecure --user $USER:$PASS --header "Content-Type: application/json" --request DELETE
$URI/api/v2/compliance/arf_reports/$i
done
done
```


APPENDIX A. API RESPONSE CODES

The Red Hat Satellite 6 API provides HTTP response status codes for API calls. The following codes are common for all resources in the Satellite API.

Table A.1. API Response Codes

Response	Explanation
200 OK	For a successful request action: show, index, update, or delete (GET, PUT, DELETE requests).
201 Created	For a successful create action (POST request).
301 Moved Permanently	Redirect when Satellite is restricted to use HTTPS and HTTP is attempted.
400 Bad Request	A required parameter is missing or the search query has invalid syntax.
401 Unauthorized	Failed to authorize the user (for example, incorrect credentials).
403 Forbidden	The user has insufficient permissions to perform the action or read the resource, or the action is unsupported in general.
404 Not Found	The record with the given ID does not exist. It can appear in show and delete actions when the requested record does not exist; or in create, update and delete actions when one of the associated records does not exist.
409 Conflict	Could not delete the record due to existing dependencies (for example, host groups with hosts).
415 Unsupported Media Type	The content type of the HTTP request is not JSON.
422 Unprocessable Entity	Failed to create an entity due to some validation errors. Applies to create or update actions only.
500 Internal Server Error	Unexpected internal server error.
503 Service Unavailable	The server is not running.

APPENDIX B. API PERMISSIONS MATRIX

The Red Hat Satellite 6 API supports numerous actions, many of which require specific permissions. The following table lists the API permission names, the actions associated with those permissions, and the associated resource type.

Table B.1. API Permissions Matrix

Permission Name	Actions	Resource Type
view_activation_keys	<ul style="list-style-type: none"> katello/activation_keys/all katello/activation_keys/index katello/activation_keys/auto_complete_search katello/api/v2/activation_keys/index katello/api/v2/activation_keys/show katello/api/v2/activation_keys/available_host_collections katello/api/v2/activation_keys/available_releases katello/api/v2/activation_keys/product_content 	Katello::ActivationKey
create_activation_keys	<ul style="list-style-type: none"> katello/api/v2/activation_keys/create katello/api/v2/activation_keys/copy 	Katello::ActivationKey
edit_activation_keys	<ul style="list-style-type: none"> katello/api/v2/activation_keys/update katello/api/v2/activation_keys/content_override katello/api/v2/activation_keys/add_subscriptions katello/api/v2/activation_keys/remove_subscriptions 	Katello::ActivationKey

Permission Name	Actions	Resource Type
destroy_activation_keys	<ul style="list-style-type: none"> katello/api/v2/activation_keys/destroy 	Katello::ActivationKey
logout	<ul style="list-style-type: none"> users/logout 	
view_architectures	<ul style="list-style-type: none"> architectures/index architectures/show architectures/auto_complete_search api/v2/architectures/index api/v2/architectures/show 	
create_architectures	<ul style="list-style-type: none"> architectures/new architectures/create api/v2/architectures/create 	
edit_architectures	<ul style="list-style-type: none"> architectures/edit architectures/update api/v2/architectures/update 	
destroy_architectures	<ul style="list-style-type: none"> architectures/destroy api/v2/architectures/destroy 	

Permission Name	Actions	Resource Type
view_audit_logs	<ul style="list-style-type: none"> ● audits/index ● audits/show ● audits/auto_complete_search ● api/v2/audits/index ● api/v2/audits/show 	
view_authenticators	<ul style="list-style-type: none"> ● auth_source_ldaps/index ● auth_source_ldaps/show ● api/v2/auth_source_ldaps/index ● api/v2/auth_source_ldaps/show 	
create_authenticators	<ul style="list-style-type: none"> ● auth_source_ldaps/new ● auth_source_ldaps/create ● api/v2/auth_source_ldaps/create 	
edit_authenticators	<ul style="list-style-type: none"> ● auth_source_ldaps/edit ● auth_source_ldaps/update ● api/v2/auth_source_ldaps/update 	
destroy_authenticators	<ul style="list-style-type: none"> ● auth_source_ldaps/destroy ● api/v2/auth_source_ldaps/destroy 	

Permission Name	Actions	Resource Type
view_bookmarks	<ul style="list-style-type: none">● bookmarks/index● bookmarks/show● api/v2/bookmarks/index● api/v2/bookmarks/show	
create_bookmarks	<ul style="list-style-type: none">● bookmarks/new● bookmarks/create● api/v2/bookmarks/new● api/v2/bookmarks/create	
edit_bookmarks	<ul style="list-style-type: none">● bookmarks/edit● bookmarks/update● api/v2/bookmarks/edit● api/v2/bookmarks/update	
destroy_bookmarks	<ul style="list-style-type: none">● bookmarks/destroy● api/v2/bookmarks/destroy	

Permission Name	Actions	Resource Type
download_bootdisk	<ul style="list-style-type: none"> ● foreman_bootdisk/disks/generic ● foreman_bootdisk/disks/host ● foreman_bootdisk/disks/full_host ● foreman_bootdisk/disks/subnet ● foreman_bootdisk/disks/help ● foreman_bootdisk/api/v2/disks/generic ● foreman_bootdisk/api/v2/disks/host 	
manage_capsule_content	<ul style="list-style-type: none"> ● katello/api/v2/capsule_content/lifecycle_environments ● katello/api/v2/capsule_content/available_lifecycle_environments ● katello/api/v2/capsule_content/add_lifecycle_environment ● katello/api/v2/capsule_content/remove_lifecycle_environment ● katello/api/v2/capsule_content/sync ● katello/api/v2/capsule_content/sync_status ● katello/api/v2/capsule_content/cancel_sync 	SmartProxy
view_capsule_content	<ul style="list-style-type: none"> ● smart_proxies/pulp_storage ● smart_proxies/pulp_status ● smart_proxies/show_with_content 	SmartProxy

Permission Name	Actions	Resource Type
view_compute_profiles	<ul style="list-style-type: none"> ● compute_profiles/index ● compute_profiles/show ● compute_profiles/auto_complete_search ● api/v2/compute_profiles/index ● api/v2/compute_profiles/show 	
create_compute_profiles	<ul style="list-style-type: none"> ● compute_profiles/new ● compute_profiles/create ● api/v2/compute_profiles/create 	
edit_compute_profiles	<ul style="list-style-type: none"> ● compute_profiles/edit ● compute_profiles/update ● api/v2/compute_profiles/update 	
destroy_compute_profiles	<ul style="list-style-type: none"> ● compute_profiles/destroy ● api/v2/compute_profiles/destroy 	

Permission Name	Actions	Resource Type
view_compute_resources	<ul style="list-style-type: none"> ● compute_resources/index ● compute_resources/show ● compute_resources/automatic_complete_search ● compute_resources/ping ● compute_resources/available_images ● api/v2/compute_resources/index ● api/v2/compute_resources/show ● api/v2/compute_resources/available_images ● api/v2/compute_resources/available_clusters ● api/v2/compute_resources/available_folders ● api/v2/compute_resources/available_flavors ● api/v2/compute_resources/available_networks ● api/v2/compute_resources/available_resource_pools ● api/v2/compute_resources/available_security_groups ● api/v2/compute_resources/available_storage_domains ● api/v2/compute_resources/available_zones ● api/v2/compute_resources/available_storage_pods 	

Permission Name	Actions	Resource Type
create_compute_resources	<ul style="list-style-type: none"> ● compute_resources/new ● compute_resources/create ● compute_resources/test_connection ● api/v2/compute_resources/create 	
edit_compute_resources	<ul style="list-style-type: none"> ● compute_resources/edit ● compute_resources/update ● compute_resources/test_connection ● compute_attributes/new ● compute_attributes/create ● compute_attributes/edit ● compute_attributes/update ● api/v2/compute_resources/update ● api/v2/compute_attributes/create ● api/v2/compute_attributes/update 	
destroy_compute_resources	<ul style="list-style-type: none"> ● compute_resources/destroy ● api/v2/compute_resources/destroy 	
view_compute_resources_vms	<ul style="list-style-type: none"> ● compute_resources_vms/index ● compute_resources_vms/show 	

Permission Name	Actions	Resource Type
create_compute_resources_vms	<ul style="list-style-type: none"> ● compute_resources_vms/new ● compute_resources_vms/create 	
edit_compute_resources_vms	<ul style="list-style-type: none"> ● compute_resources_vms/edit ● compute_resources_vms/update 	
destroy_compute_resources_vms	<ul style="list-style-type: none"> ● compute_resources_vms/destroy 	
power_compute_resources_vms	<ul style="list-style-type: none"> ● compute_resources_vms/power ● compute_resources_vms/pause 	
console_compute_resources_vms	<ul style="list-style-type: none"> ● compute_resources_vms/console 	
view_config_groups	<ul style="list-style-type: none"> ● config_groups/index ● config_groups/auto_complete_search ● api/v2/config_groups/index ● api/v2/config_groups/show 	
create_config_groups	<ul style="list-style-type: none"> ● config_groups/new ● config_groups/create ● api/v2/config_groups/create 	

Permission Name	Actions	Resource Type
edit_config_groups	<ul style="list-style-type: none"> ● config_groups/edit ● config_groups/update ● api/v2/config_groups/update 	
destroy_config_groups	<ul style="list-style-type: none"> ● config_groups/destroy ● api/v2/config_groups/destroy 	
view_config_reports	<ul style="list-style-type: none"> ● config_reports/index ● config_reports/show ● config_reports/autocomplete_search ● api/v2/config_reports/index ● api/v2/config_reports/show ● api/v2/config_reports/latest 	
destroy_config_reports	<ul style="list-style-type: none"> ● config_reports/destroy ● api/v2/config_reports/destroy 	
upload_config_reports	<ul style="list-style-type: none"> ● api/v2/config_reports/create 	
view_containers	<ul style="list-style-type: none"> ● containers/index ● containers/show ● api/v2/containers/index ● api/v2/containers/show ● api/v2/containers/logs 	Container

Permission Name	Actions	Resource Type
commit_containers	<ul style="list-style-type: none">● containers/commit	Container
create_containers	<ul style="list-style-type: none">● containers/steps/show● containers/steps/update● containers/new● api/v2/containers/create● api/v2/containers/power	Container
destroy_containers	<ul style="list-style-type: none">● containers/destroy● api/v2/containers/destroy	Container
power_compute_resources_vms	<ul style="list-style-type: none">● containers/power● api/v2/containers/create● api/v2/containers/power	ComputeResource

Permission Name	Actions	Resource Type
view_content_hosts	<ul style="list-style-type: none"> ● katello/content_hosts/automatic_complete_search ● katello/api/v2/systems/index ● katello/api/v2/systems/show ● katello/api/v2/systems/errata ● katello/api/v2/systems/package_profile ● katello/api/v2/systems/product_content ● katello/api/v2/systems/report ● katello/api/v2/systems/releases ● katello/api/v2/systems/available_host_collections ● katello/api/v2/host_collections/systems 	Katello::System
create_content_hosts	<ul style="list-style-type: none"> ● katello/api/v2/systems/create ● katello/api/rhsm/candlepin_proxies/consumer_create ● katello/api/rhsm/candlepin_proxies/consumer_show 	Katello::System

Permission Name	Actions	Resource Type
edit_content_hosts	<ul style="list-style-type: none"> katello/api/v2/systems/update katello/api/v2/systems/content_override katello/api/rhsm/candlepin_proxies/upload_package_profile katello/api/rhsm/candlepin_proxies/regenerate_identity_certificates katello/api/rhsm/candlepin_proxies/hypervisors_update 	Katello::System
destroy_content_hosts	<ul style="list-style-type: none"> katello/api/v2/systems/destroy 	Katello::System
view_content_views	<ul style="list-style-type: none"> katello/api/v2/content_views/index katello/api/v2/content_views/show katello/api/v2/content_views/available_puppet_modules katello/api/v2/content_views/available_puppet_module_names katello/api/v2/content_view_filters/index katello/api/v2/content_view_filters/show katello/api/v2/content_view_filter_rules/index katello/api/v2/content_view_filter_rules/show katello/api/v2/content_view_histories/index katello/api/v2/content_view_puppet_modules/index katello/api/v2/content_view_puppet_modules/show 	Katello::ContentView

Permission Name	Actions	Resource Type
	<ul style="list-style-type: none"> ● katello/api/v2/content_views_versions/index ● katello/api/v2/content_views_versions/show ● katello/api/v2/package_groups/index ● katello/api/v2/package_groups/show ● katello/api/v2/errata/index ● katello/api/v2/errata/show ● katello/api/v2/puppet_modules/index ● katello/api/v2/puppet_modules/show ● katello/content_views/automatic_complete ● katello/content_views/automatic_complete_search ● katello/errata/short_details ● katello/errata/automatic_complete ● katello/packages/details ● katello/packages/automatic_complete ● katello/products/automatic_complete ● katello/repositories/automatic_complete_library ● katello/content_search/index ● katello/content_search/products ● katello/content_search/repos ● katello/content_search/packages ● katello/content_search/errata ● katello/content_search/puppet_modules 	

Permission Name	Actions	Resource Type
	<ul style="list-style-type: none"> ● katello/content_search/packages_items ● katello/content_search/errata_items ● katello/content_search/puppet_modules_items ● katello/content_search/view_packages ● katello/content_search/view_puppet_modules ● katello/content_search/r epo_packages ● katello/content_search/r epo_errata ● katello/content_search/r epo_puppet_modules ● katello/content_search/r epo_compare_errata ● katello/content_search/r epo_compare_packages ● katello/content_search/r epo_compare_puppet_modules ● katello/content_search/view_compare_errata ● katello/content_search/view_compare_packages ● katello/content_search/view_compare_puppet_modules ● katello/content_search/views 	
create_content_views	<ul style="list-style-type: none"> ● katello/api/v2/content_views/create ● katello/api/v2/content_views/copy 	Katello::ContentView

Permission Name	Actions	Resource Type
edit_content_views	<ul style="list-style-type: none"> ● katello/api/v2/content_views/update ● katello/api/v2/content_view_filters/create ● katello/api/v2/content_view_filters/update ● katello/api/v2/content_view_filters/destroy ● katello/api/v2/content_view_filter_rules/create ● katello/api/v2/content_view_filter_rules/update ● katello/api/v2/content_view_filter_rules/destroy ● katello/api/v2/content_view_puppet_modules/create ● katello/api/v2/content_view_puppet_modules/update ● katello/api/v2/content_view_puppet_modules/destroy 	Katello::ContentView
destroy_content_views	<ul style="list-style-type: none"> ● katello/api/v2/content_views/destroy ● katello/api/v2/content_views/remove ● katello/api/v2/content_view_versions/destroy 	Katello::ContentView
publish_content_views	<ul style="list-style-type: none"> ● katello/api/v2/content_views/publish ● katello/api/v2/content_view_versions/incremental_update 	Katello::ContentView

Permission Name	Actions	Resource Type
promote_or_remove_content_views	<ul style="list-style-type: none"> katello/api/v2/content_views_versions/promote katello/api/v2/content_views/remove_from_environment katello/api/v2/content_views/remove 	Katello::ContentView
export_content_views	<ul style="list-style-type: none"> katello/api/v2/content_views_versions/export 	Katello::ContentView
access_dashboard	<ul style="list-style-type: none"> dashboard/index dashboard/save_positions dashboard/reset_default dashboard/create dashboard/destroy api/v2/dashboard/index 	
view_discovered_hosts	<ul style="list-style-type: none"> discovered_hosts/index discovered_hosts/show discovered_hosts/auto_complete_search api/v2/discovered_hosts/index api/v2/discovered_hosts/show 	Host
submit_discovered_hosts	<ul style="list-style-type: none"> api/v2/discovered_hosts/facts api/v2/discovered_hosts/create 	Host

Permission Name	Actions	Resource Type
auto_provision_discovered_hosts	<ul style="list-style-type: none"> ● discovered_hosts/auto_provision ● discovered_hosts/auto_provision_all ● api/v2/discovered_hosts/auto_provision ● api/v2/discovered_hosts/auto_provision_all 	Host
provision_discovered_hosts	<ul style="list-style-type: none"> ● discovered_hosts/edit ● discovered_hosts/update ● api/v2/discovered_hosts/update 	Host
edit_discovered_hosts	<ul style="list-style-type: none"> ● discovered_hosts/update_multiple_location ● discovered_hosts/select_multiple_organization ● discovered_hosts/update_multiple_organization ● discovered_hosts/select_multiple_location ● discovered_hosts/refresh_facts ● discovered_hosts/reboot ● discovered_hosts/reboot_all ● api/v2/discovered_hosts/refresh_facts ● api/v2/discovered_hosts/reboot ● api/v2/discovered_hosts/reboot_all 	Host

Permission Name	Actions	Resource Type
destroy_discovered_hosts	<ul style="list-style-type: none"> discovered_hosts/destroy discovered_hosts/submit_multiple_destroy discovered_hosts/multiple_destroy api/v2/discovered_hosts/destroy 	Host
view_discovery_rules	<ul style="list-style-type: none"> discovery_rules/index discovery_rules/show discovery_rules/auto_complete_search api/v2/discovery_rules/index api/v2/discovery_rules/show 	DiscoveryRule
create_discovery_rules	<ul style="list-style-type: none"> discovery_rules/new discovery_rules/create api/v2/discovery_rules/create 	DiscoveryRule
edit_discovery_rules	<ul style="list-style-type: none"> discovery_rules/edit discovery_rules/update discovery_rules/enable discovery_rules/disable api/v2/discovery_rules/create api/v2/discovery_rules/update 	DiscoveryRule

Permission Name	Actions	Resource Type
execute_discovery_rules	<ul style="list-style-type: none"> ● discovery_rules/auto_provision ● discovery_rules/auto_provision_all ● api/v2/discovery_rules/auto_provision ● api/v2/discovery_rules/auto_provision_all 	DiscoveryRule
destroy_discovery_rules	<ul style="list-style-type: none"> ● discovery_rules/destroy ● api/v2/discovery_rules/destroy 	DiscoveryRule
view_domains	<ul style="list-style-type: none"> ● domains/index ● domains/show ● domains/auto_complete_search ● api/v2/domains/index ● api/v2/domains/show ● api/v2/parameters/index ● api/v2/parameters/show 	
create_domains	<ul style="list-style-type: none"> ● domains/new ● domains/create ● api/v2/domains/create 	

Permission Name	Actions	Resource Type
edit_domains	<ul style="list-style-type: none"> domains/edit domains/update api/v2/domains/update api/v2/parameters/create api/v2/parameters/update api/v2/parameters/destroy api/v2/parameters/reset 	
destroy_domains	<ul style="list-style-type: none"> domains/destroy api/v2/domains/destroy 	
view_environments	<ul style="list-style-type: none"> environments/index environments/show environments/auto_complete_search api/v2/environments/index api/v2/environments/show 	
create_environments	<ul style="list-style-type: none"> environments/new environments/create api/v2/environments/create 	
edit_environments	<ul style="list-style-type: none"> environments/edit environments/update api/v2/environments/update 	

Permission Name	Actions	Resource Type
destroy_environments	<ul style="list-style-type: none"> ● environments/destroy ● api/v2/environments/destroy 	
import_environments	<ul style="list-style-type: none"> ● environments/import_environments ● environments/obsolete_and_new ● api/v2/environments/import_puppetclasses ● api/v2/smart_proxies/import_puppetclasses 	
view_external_usergroups	<ul style="list-style-type: none"> ● external_usergroups/index ● external_usergroups/show ● api/v2/external_usergroups/index ● api/v2/external_usergroups/show 	
create_external_usergroups	<ul style="list-style-type: none"> ● external_usergroups/new ● external_usergroups/create ● api/v2/external_usergroups/new ● api/v2/external_usergroups/create 	

Permission Name	Actions	Resource Type
edit_external_usergroups	<ul style="list-style-type: none">external_usergroups/editexternal_usergroups/updateexternal_usergroups/refreshapi/v2/external_usergroups/updateapi/v2/external_usergroups/refresh	
destroy_external_usergroups	<ul style="list-style-type: none">external_usergroups/destroyapi/v2/external_usergroups/destroy	

Permission Name	Actions	Resource Type
view_external_variables	<ul style="list-style-type: none"> ● lookup_keys/index ● lookup_keys/show ● lookup_keys/auto_complete_search ● puppetclass_lookup_keys/index ● puppetclass_lookup_keys/show ● puppetclass_lookup_keys/auto_complete_search ● variable_lookup_keys/index ● variable_lookup_keys/show ● variable_lookup_keys/auto_complete_search ● lookup_values/index ● api/v2/smart_variables/index ● api/v2/smart_variables/show ● api/v2/smart_class_parameters/index ● api/v2/smart_class_parameters/show ● api/v2/override_values/index ● api/v2/override_values/show 	

Permission Name	Actions	Resource Type
create_external_variables	<ul style="list-style-type: none">● lookup_keys/new● lookup_keys/create● puppetclass_lookup_keys/new● puppetclass_lookup_keys/create● variable_lookup_keys/new● variable_lookup_keys/create● lookup_values/create● api/v2/smart_variables/create● api/v2/smart_class_parameters/create● api/v2/override_values/create	

Permission Name	Actions	Resource Type
edit_external_variables	<ul style="list-style-type: none">● lookup_keys/edit● lookup_keys/update● puppetclass_lookup_keys/edit● puppetclass_lookup_keys/update● variable_lookup_keys/edit● variable_lookup_keys/update● lookup_values/create● lookup_values/update● lookup_values/destroy● api/v2/smart_variables/update● api/v2/smart_class_parameters/update● api/v2/override_values/create● api/v2/override_values/update● api/v2/override_values/destroy	

Permission Name	Actions	Resource Type
destroy_external_variables	<ul style="list-style-type: none"> ● lookup_keys/destroy ● puppetclass_lookup_keys/destroy ● variable_lookup_keys/destroy ● lookup_values/destroy ● api/v2/smart_variables/destroy ● api/v2/smart_class_parameters/destroy ● api/v2/override_values/create ● api/v2/override_values/update ● api/v2/override_values/destroy 	
view_facts	<ul style="list-style-type: none"> ● facts/index ● facts/show ● fact_values/index ● fact_values/show ● fact_values/auto_complete_search ● api/v2/fact_values/index ● api/v2/fact_values/show 	
upload_facts	<ul style="list-style-type: none"> ● api/v2/hosts/facts 	
view_filters	<ul style="list-style-type: none"> ● filters/index ● filters/auto_complete_search ● api/v2/filters/index ● api/v2/filters/show 	

Permission Name	Actions	Resource Type
create_filters	<ul style="list-style-type: none"> filters/new filters/create api/v2/filters/create 	
edit_filters	<ul style="list-style-type: none"> filters/edit filters/update permissions/index api/v2/filters/update api/v2/permissions/index api/v2/permissions/show 	
destroy_filters	<ul style="list-style-type: none"> filters/destroy api/v2/filters/destroy 	
view_arf_reports	<ul style="list-style-type: none"> arf_reports/index arf_reports/show arf_reports/parse_html arf_reports/show_html arf_reports/parse_bzip arf_reports/auto_complete_search api/v2/compliance/arf_reports/index api/v2/compliance/arf_reports/show compliance_hosts/show 	

Permission Name	Actions	Resource Type
destroy_arf_reports	<ul style="list-style-type: none"> ● arf_reports/destroy ● arf_reports/delete_multiple ● arf_reports/submit_delete_multiple ● api/v2/compliance/arf_reports/destroy 	
create_arf_reports	<ul style="list-style-type: none"> ● api/v2/compliance/arf_reports/create 	
view_policies	<ul style="list-style-type: none"> ● policies/index ● policies/show ● policies/parse ● policies/auto_complete_search ● policy_dashboard/index ● compliance_dashboard/index ● api/v2/compliance/policies/index ● api/v2/compliance/policies/show ● api/v2/compliance/policies/content 	ForemanOpenscap::Policy
edit_policies	<ul style="list-style-type: none"> ● policies/edit ● policies/update ● policies/scap_content_selected ● api/v2/compliance/policies/update 	ForemanOpenscap::Policy

Permission Name	Actions	Resource Type
create_policies	<ul style="list-style-type: none"> ● policies/new ● policies/create ● api/v2/compliance/policies/create 	ForemanOpenscap::Policy
destroy_policies	<ul style="list-style-type: none"> ● policies/destroy ● api/v2/compliance/policies/destroy 	ForemanOpenscap::Policy
assign_policies	<ul style="list-style-type: none"> ● policies/select_multiple_hosts ● policies/update_multiple_hosts ● policies/disassociate_multiple_hosts ● policies/remove_policy_from_multiple_hosts 	ForemanOpenscap::Policy
view_scap_contents	<ul style="list-style-type: none"> ● scap_contents/index ● scap_contents/show ● scap_contents/auto_complete_search ● api/v2/compliance/scap_contents/index ● api/v2/compliance/scap_contents/show 	ForemanOpenscap::ScapContent
view_scap_contents	<ul style="list-style-type: none"> ● scap_contents/index ● scap_contents/show ● scap_contents/auto_complete_search ● api/v2/compliance/scap_contents/index ● api/v2/compliance/scap_contents/show 	ForemanOpenscap::ScapContent

Permission Name	Actions	Resource Type
edit_scap_contents	<ul style="list-style-type: none">● scap_contents/edit● scap_contents/update● api/v2/compliance/scap_contents/update	ForemanOpenscap::ScapContent
create_scap_contents	<ul style="list-style-type: none">● scap_contents/new● scap_contents/create● api/v2/compliance/scap_contents/create	ForemanOpenscap::ScapContent
destroy_scap_contents	<ul style="list-style-type: none">● scap_contents/destroy● api/v2/compliance/scap_contents/destroy	ForemanOpenscap::ScapContent
edit_hosts	<ul style="list-style-type: none">● hosts/openscap_proxy_changed	Host
edit_hostgroups	<ul style="list-style-type: none">● hostgroups/openscap_proxy_changed	Host

Permission Name	Actions	Resource Type
view_job_templates	<ul style="list-style-type: none"> ● job_templates/index ● job_templates/show ● job_templates/revision ● job_templates/auto_complete_search ● job_templates/auto_complete_job_category ● job_templates/preview ● job_templates/export ● api/v2/job_templates/index ● api/v2/job_templates/show ● api/v2/job_templates/revision ● api/v2/job_templates/export ● api/v2/template_inputs/index ● api/v2/template_inputs/show ● api/v2/foreign_input_sets/index ● api/v2/foreign_input_sets/show 	JobTemplate
create_job_templates	<ul style="list-style-type: none"> ● job_templates/new ● job_templates/create ● job_templates/clone_template ● job_templates/import ● api/v2/job_templates/create ● api/v2/job_templates/clone ● api/v2/job_templates/import 	JobTemplate

Permission Name	Actions	Resource Type
edit_job_templates	<ul style="list-style-type: none"> ● job_templates/edit ● job_templates/update ● api/v2/job_templates/update ● api/v2/template_inputs/create ● api/v2/template_inputs/update ● api/v2/template_inputs/destroy ● api/v2/foreign_input_sets/create ● api/v2/foreign_input_sets/update ● api/v2/foreign_input_sets/destroy 	
edit_job_templates	<ul style="list-style-type: none"> ● job_templates/edit ● job_templates/update ● api/v2/job_templates/update ● api/v2/template_inputs/create ● api/v2/template_inputs/update ● api/v2/template_inputs/destroy ● api/v2/foreign_input_sets/create ● api/v2/foreign_input_sets/update ● api/v2/foreign_input_sets/destroy 	

Permission Name	Actions	Resource Type
edit_remote_execution_features	<ul style="list-style-type: none"> ● remote_execution_features/index ● remote_execution_features/show ● remote_execution_features/update ● api/v2/remote_execution_features/index ● api/v2/remote_execution_features/show ● api/v2/remote_execution_features/update 	RemoteExecutionFeature
destroy_job_templates	<ul style="list-style-type: none"> ● job_templates/destroy ● api/v2/job_templates/destroy 	JobTemplate
lock_job_templates	<ul style="list-style-type: none"> ● job_templates/lock ● job_templates/unlock 	JobTemplate
create_job_invocations	<ul style="list-style-type: none"> ● job_invocations/new ● job_invocations/create ● job_invocations/refresh ● job_invocations/rerun ● job_invocations/preview_hosts ● api/v2/job_invocations/create 	JobInvocation

Permission Name	Actions	Resource Type
view_job_invocations	<ul style="list-style-type: none"> ● job_invocations/index ● job_invocations/show ● template_invocations/show ● api/v2/job_invocations/index ● api/v2/job_invocations/show ● api/v2/job_invocations/output 	JobInvocation
execute_template_invocation		TemplateInvocation
filter_autocompletion_for_template_invocation	<ul style="list-style-type: none"> ● template_invocations/autocomplete_search ● job_invocations/show ● template_invocations/index 	TemplateInvocation
view_foreman_tasks	<ul style="list-style-type: none"> ● foreman_tasks/tasks/autocomplete_search ● foreman_tasks/tasks/sub_tasks ● foreman_tasks/tasks/index ● foreman_tasks/tasks/show ● foreman_tasks/api/tasks/bulk_search ● foreman_tasks/api/tasks/show ● foreman_tasks/api/tasks/index ● foreman_tasks/api/tasks/summary 	ForemanTasks::Task

Permission Name	Actions	Resource Type
edit_foreman_tasks	<ul style="list-style-type: none"> ● foreman_tasks/tasks/resume ● foreman_tasks/tasks/unlock ● foreman_tasks/tasks/force_unlock ● foreman_tasks/tasks/cancel_step ● foreman_tasks/api/tasks/bulk_resume 	ForemanTasks::Task
create_recurring_logics		ForemanTasks::RecurringLogic
view_recurring_logics	<ul style="list-style-type: none"> ● foreman_tasks/recurring_logics/index ● foreman_tasks/recurring_logics/show ● foreman_tasks/api/recurring_logics/index ● foreman_tasks/api/recurring_logics/show 	ForemanTasks::RecurringLogic
edit_recurring_logics	<ul style="list-style-type: none"> ● foreman_tasks/recurring_logics/cancel ● foreman_tasks/api/recurring_logics/cancel 	ForemanTasks::RecurringLogic
view_globals	<ul style="list-style-type: none"> ● common_parameters/index ● common_parameters/show ● common_parameters/autocomplete_search ● api/v2/common_parameters/index ● api/v2/common_parameters/show 	

Permission Name	Actions	Resource Type
create_globals	<ul style="list-style-type: none"> ● common_parameters/new ● common_parameters/create ● api/v2/common_parameters/create 	
edit_globals	<ul style="list-style-type: none"> ● common_parameters/edit ● common_parameters/update ● api/v2/common_parameters/update 	
destroy_globals	<ul style="list-style-type: none"> ● common_parameters/destroy ● api/v2/common_parameters/destroy 	
view_gpg_keys	<ul style="list-style-type: none"> ● katello/gpg_keys/all ● katello/gpg_keys/index ● katello/gpg_keys/auto_complete_search ● katello/api/v2/gpg_keys/index ● katello/api/v2/gpg_keys/show 	Katello::GpgKey
create_gpg_keys	<ul style="list-style-type: none"> ● katello/api/v2/gpg_keys/create 	Katello::GpgKey
edit_gpg_keys	<ul style="list-style-type: none"> ● katello/api/v2/gpg_keys/update ● katello/api/v2/gpg_keys/content 	Katello::GpgKey

Permission Name	Actions	Resource Type
destroy_gpg_keys	<ul style="list-style-type: none"> katello/api/v2/gpg_keys/destroy 	Katello::GpgKey
view_host_collections	<ul style="list-style-type: none"> katello/api/v2/host_collections/index katello/api/v2/host_collections/show katello/host_collections/auto_complete_search 	Katello::HostCollection
create_host_collections	<ul style="list-style-type: none"> katello/api/v2/host_collections/create katello/api/v2/host_collections/copy 	Katello::HostCollection
edit_host_collections	<ul style="list-style-type: none"> katello/api/v2/host_collections/update katello/api/v2/host_collections/add_systems katello/api/v2/host_collections/remove_systems 	Katello::HostCollection
destroy_host_collections	<ul style="list-style-type: none"> katello/api/v2/host_collections/destroy 	Katello::HostCollection
edit_classes	<ul style="list-style-type: none"> host_editing/edit_classes api/v2/host_classes/index api/v2/host_classes/create api/v2/host_classes/destroy 	

Permission Name	Actions	Resource Type
create_params	<ul style="list-style-type: none">● host_editing/create_params● api/v2/parameters/create	
edit_params	<ul style="list-style-type: none">● host_editing/edit_params● api/v2/parameters/update	
destroy_params	<ul style="list-style-type: none">● host_editing/destroy_params● api/v2/parameters/destroy● api/v2/parameters/reset	
view_hostgroups	<ul style="list-style-type: none">● hostgroups/index● hostgroups/show● hostgroups/auto_complete_search● api/v2/hostgroups/index● api/v2/hostgroups/show	

Permission Name	Actions	Resource Type
create_hostgroups	<ul style="list-style-type: none"> ● hostgroups/new ● hostgroups/create ● hostgroups/clone ● hostgroups/nest ● hostgroups/process_hostgroup ● hostgroups/architecture_selected ● hostgroups/domain_selected ● hostgroups/environment_selected ● hostgroups/medium_selected ● hostgroups/os_selected ● hostgroups/use_image_selected ● hostgroups/process_hostgroup ● hostgroups/puppetclass_parameters ● host/process_hostgroup ● puppetclasses/parameters ● api/v2/hostgroups/create ● api/v2/hostgroups/clone 	

Permission Name	Actions	Resource Type
edit_hostgroups	<ul style="list-style-type: none"> ● hostgroups/edit ● hostgroups/update ● hostgroups/architecture_selected ● hostgroups/process_hostgroup ● hostgroups/architecture_selected ● hostgroups/domain_selected ● hostgroups/environment_selected ● hostgroups/medium_selected ● hostgroups/os_selected ● hostgroups/use_image_selected ● hostgroups/process_hostgroup ● hostgroups/puppetclass_parameters ● host/process_hostgroup ● puppetclasses/parameters ● api/v2/hostgroups/update ● api/v2/parameters/create ● api/v2/parameters/update ● api/v2/parameters/destroy ● api/v2/parameters/reset ● api/v2/hostgroup_classes/index ● api/v2/hostgroup_classes/create ● api/v2/hostgroup_classes/destroy 	

Permission Name	Actions	Resource Type
destroy_hostgroups	<ul style="list-style-type: none"> ● hostgroups/destroy ● api/v2/hostgroups/destroy 	
view_hosts	<ul style="list-style-type: none"> ● hosts/index ● hosts/show ● hosts/errors ● hosts/active ● hosts/out_of_sync ● hosts/disabled ● hosts/pending ● hosts/vm ● hosts/externalNodes ● hosts/pxe_config ● hosts/storeconfig_klasses ● hosts/auto_complete_search ● hosts/bmc ● hosts/runtime ● hosts/resources ● hosts/templates ● hosts/overview ● hosts/nics ● dashboard/OutOfSync ● dashboard/errors ● dashboard/active ● unattended/host_template ● unattended/hostgroup_template ● api/v2/hosts/index ● api/v2/hosts/show ● api/v2/hosts/status/configuration 	

Permission Name	Actions	Resource Type
	<ul style="list-style-type: none"> ● <code>api/v2/hosts/get_status</code> ● <code>api/v2/hosts/vm_compute_attributes</code> ● <code>api/v2/hosts/template</code> ● <code>api/v2/interfaces/index</code> ● <code>api/v2/interfaces/show</code> ● <code>locations/mismatches</code> ● <code>organizations/mismatches</code> ● <code>hosts/puppet_environment_for_content_view</code> ● <code>katello/api/v2/host_auto_complete/auto_complete_search</code> ● <code>katello/api/v2/host_errata/index</code> ● <code>katello/api/v2/host_errata/show</code> ● <code>katello/api/v2/host_errata/auto_complete_search</code> ● <code>katello/api/v2/host_subscriptions/index</code> ● <code>katello/api/v2/host_subscriptions/events</code> ● <code>katello/api/v2/host_subscriptions/product_content</code> ● <code>katello/api/v2/hosts_bulk_actions/installable_errata</code> ● <code>katello/api/v2/hosts_bulk_actions/available_incremental_updates</code> ● <code>katello/api/v2/host_packages/index</code> 	
create_hosts	<ul style="list-style-type: none"> ● <code>hosts/new</code> ● <code>hosts/create</code> ● <code>hosts/clone</code> ● <code>hosts/architecture_selected</code> ● <code>hosts/compute_resource_selected</code> 	

Permission Name	Actions	Resource Type
	<ul style="list-style-type: none"> ● hosts/domain_selected ● hosts/environment_selected ● hosts/hostgroup_or_environment_selected ● hosts/medium_selected ● hosts/os_selected ● hosts/use_image_selected ● hosts/process_hostgroup ● hosts/process_taxonomy ● hosts/current_parameters ● hosts/puppetclass_parameters ● hosts/template_used ● hosts/interfaces ● compute_resources/cluster_selected ● compute_resources/template_selected ● compute_resources/provider_selected ● compute_resources/resource_pools ● puppetclasses/parameters ● subnets/freeip ● interfaces/new ● api/v2/hosts/create ● api/v2/interfaces/create ● api/v2/tasks/index 	
edit_hosts	<ul style="list-style-type: none"> ● hosts/edit ● hosts/update ● hosts/multiple_actions 	

Permission Name	Actions	Resource Type
	<ul style="list-style-type: none"> ● hosts/reset_multiple ● hosts/submit_multiple_enable ● hosts/select_multiple_hostgroup ● hosts/select_multiple_environment ● hosts/submit_multiple_disable ● hosts/multiple_parameters ● hosts/multiple_disable ● hosts/multiple_enable ● hosts/update_multiple_environment ● hosts/update_multiple_hostgroup ● hosts/update_multiple_parameters ● hosts/toggle_manage ● hosts/select_multiple_organization ● hosts/update_multiple_organization ● hosts/disassociate ● hosts/multiple_disassociate ● hosts/update_multiple_disassociate ● hosts/select_multiple_owner ● hosts/update_multiple_owner ● hosts/select_multiple_power_state ● hosts/update_multiple_power_state ● hosts/select_multiple_puppet_proxy ● hosts/update_multiple_puppet_proxy ● hosts/select_multiple_puppet_ca_proxy 	

Permission Name	Actions	Resource Type
	<ul style="list-style-type: none"> ● hosts/update_multiple_puppet_ca_proxy ● hosts/select_multiple_location ● hosts/update_multiple_location ● hosts/architecture_selected ● hosts/compute_resource_selected ● hosts/domain_selected ● hosts/environment_selected ● hosts/hostgroup_or_environment_selected ● hosts/medium_selected ● hosts/os_selected ● hosts/use_image_selected ● hosts/process_hostgroup ● hosts/process_taxonomy ● hosts/current_parameters ● hosts/puppetclass_parameters ● hosts/template_used ● hosts/interfaces ● compute_resources/associate ● compute_resources/[:cluster_selected, :template_selected, :provider_selected, :resource_pools] ● compute_resources_vms/associate ● puppetclasses/parameters ● subnets/freeip ● interfaces/new ● api/v2/hosts/update 	

Permission Name	Actions	Resource Type
	<ul style="list-style-type: none"> ● api/v2/hosts/disassociate ● api/v2/interfaces/create ● api/v2/interfaces/update ● api/v2/interfaces/destroy ● api/v2/compute_resources/associate ● api/v2/hosts/host_collections ● katello/api/v2/host_errata/apply ● katello/api/v2/host_packages/install ● katello/api/v2/host_packages/upgrade ● katello/api/v2/host_packages/upgrade_all ● katello/api/v2/host_packages/remove ● katello/api/v2/host_subscriptions/auto_attach ● katello/api/v2/host_subscriptions/add_subscriptions ● katello/api/v2/host_subscriptions/remove_subscriptions ● katello/api/v2/host_subscriptions/content_override ● katello/api/v2/hosts_bulk_actions/bulk_add_host_collections ● katello/api/v2/hosts_bulk_actions/bulk_remove_host_collections ● katello/api/v2/hosts_bulk_actions/install_content ● katello/api/v2/hosts_bulk_actions/update_content ● katello/api/v2/hosts_bulk_actions/remove_content 	

Permission Name	Actions	Resource Type
	<ul style="list-style-type: none"> katello/api/v2/hosts_bulk_actions/environment_content_view 	
destroy_hosts	<ul style="list-style-type: none"> hosts/destroy hosts/multiple_actions hosts/reset_multiple hosts/multiple_destroy hosts/submit_multiple_destroy api/v2/hosts/destroy api/v2/interfaces/destroy katello/api/v2/hosts_bulk_actions/destroy_hosts 	
build_hosts	<ul style="list-style-type: none"> hosts/setBuild hosts/cancelBuild hosts/multiple_build hosts/submit_multiple_build hosts/review_before_build hosts/rebuild_config hosts/submit_rebuild_config tasks/show api/v2/tasks/index api/v2/hosts/rebuild_config 	
power_hosts	<ul style="list-style-type: none"> hosts/power api/v2/hosts/power 	
console_hosts	<ul style="list-style-type: none"> hosts/console 	

Permission Name	Actions	Resource Type
ipmi_boot	<ul style="list-style-type: none"> ● hosts/ipmi_boot ● api/v2/hosts/boot 	
puppetrun_hosts	<ul style="list-style-type: none"> ● hosts/puppetrun ● hosts/multiple_puppetrun ● hosts/update_multiple_puppetrun ● api/v2/hosts/puppetrun 	
search_repository_image_search	<ul style="list-style-type: none"> ● image_search/auto_complete_repository_name ● image_search/auto_complete_image_tag ● image_search/search_repository 	Docker/ImageSearch
view_images	<ul style="list-style-type: none"> ● images/index ● images/show ● images/auto_complete_search ● api/v2/images/index ● api/v2/images/show 	
create_images	<ul style="list-style-type: none"> ● images/new ● images/create ● api/v2/images/create 	
edit_images	<ul style="list-style-type: none"> ● images/edit ● images/update ● api/v2/images/update 	

Permission Name	Actions	Resource Type
destroy_images	<ul style="list-style-type: none"> images/destroy api/v2/images/destroy 	
view_lifecycle_environments	<ul style="list-style-type: none"> katello/api/v2/environments/index katello/api/v2/environments/show katello/api/v2/environments/paths katello/api/v2/environments/repositories katello/api/rhsm/candlepin_proxies/rhsm_index katello/environments/auto_complete_search 	Katello::KTEEnvironment
create_lifecycle_environments	<ul style="list-style-type: none"> katello/api/v2/environments/create 	Katello::KTEEnvironment
edit_lifecycle_environments	<ul style="list-style-type: none"> katello/api/v2/environments/update 	Katello::KTEEnvironment
destroy_lifecycle_environments	<ul style="list-style-type: none"> katello/api/v2/environments/destroy 	Katello::KTEEnvironment
promote_or_remove_content_views_to_environments		Katello::KTEEnvironment
view_locations	<ul style="list-style-type: none"> locations/index locations/show locations/auto_complete_search api/v2/locations/index api/v2/locations/show 	

Permission Name	Actions	Resource Type
create_locations	<ul style="list-style-type: none"> ● locations/new ● locations/create ● locations/clone_taxonomy ● locations/step2 ● locations/nest ● api/v2/locations/create 	
edit_locations	<ul style="list-style-type: none"> ● locations/edit ● locations/update ● locations/import_mismatches ● locations/parent_taxonomy_selected ● api/v2/locations/update 	
destroy_locations	<ul style="list-style-type: none"> ● locations/destroy ● api/v2/locations/destroy 	
assign_locations	<ul style="list-style-type: none"> ● locations/assign_all_hosts ● locations/assign_hosts ● locations/assign_selected_hosts 	
view_mail_notifications	<ul style="list-style-type: none"> ● mail_notifications/index ● mail_notifications/auto_complete_search ● mail_notifications/show ● api/v2/mail_notifications/index ● api/v2/mail_notifications/show 	

Permission Name	Actions	Resource Type
view_media	<ul style="list-style-type: none"> ● media/index ● media/show ● media/auto_complete_search ● api/v2/media/index ● api/v2/media/show 	
create_media	<ul style="list-style-type: none"> ● media/new ● media/create ● api/v2/media/create 	
edit_media	<ul style="list-style-type: none"> ● media/edit ● media/update ● api/v2/media/update 	
destroy_media	<ul style="list-style-type: none"> ● media/destroy ● api/v2/media/destroy 	
view_models	<ul style="list-style-type: none"> ● models/index ● models/show ● models/auto_complete_search ● api/v2/models/index ● api/v2/models/show 	
create_models	<ul style="list-style-type: none"> ● models/new ● models/create ● api/v2/models/create 	

Permission Name	Actions	Resource Type
edit_models	<ul style="list-style-type: none"> models/edit models/update api/v2/models/update 	
destroy_models	<ul style="list-style-type: none"> models/destroy api/v2/models/destroy 	
view_operatingsystems	<ul style="list-style-type: none"> operatingsystems/index operatingsystems/show operatingsystems/bootfiles operatingsystems/auto_complete_search api/v2/operatingsystems/index api/v2/operatingsystems/show api/v2/operatingsystems/bootfiles api/v2/os_default_templates/index api/v2/os_default_templates/show 	
create_operatingsystems	<ul style="list-style-type: none"> operatingsystems/new operatingsystems/create api/v2/operatingsystems/create api/v2/os_default_templates/create 	

Permission Name	Actions	Resource Type
edit_operatingsystems	<ul style="list-style-type: none"> ● operatingsystems/edit ● operatingsystems/update ● api/v2/operatingsystems/update ● api/v2/parameters/create ● api/v2/parameters/update ● api/v2/parameters/destroy ● api/v2/parameters/reset ● api/v2/os_default_templates/create ● api/v2/os_default_templates/update ● api/v2/os_default_templates/destroy 	
destroy_operatingsystems	<ul style="list-style-type: none"> ● operatingsystems/destroy ● api/v2/operatingsystems/destroy ● api/v2/os_default_templates/create 	

Permission Name	Actions	Resource Type
view_organizations	<ul style="list-style-type: none"> ● organizations/index ● organizations/show ● organizations/auto_complete_search ● api/v2/organizations/index ● api/v2/organizations/show ● katello/api/v2/organizations/index ● katello/api/v2/organizations/show ● katello/api/v2/organizations/redhat_provider ● katello/api/v2/organizations/download_debug_certificate ● katello/api/v2/tasks/index 	
create_organizations	<ul style="list-style-type: none"> ● organizations/new ● organizations/create ● organizations/clone_taxonomy ● organizations/step2 ● organizations/nest ● api/v2/organizations/create ● katello/api/v2/organizations/create 	

Permission Name	Actions	Resource Type
edit_organizations	<ul style="list-style-type: none"> ● organizations/edit ● organizations/update ● organizations/import_mismatches ● organizations/parent_taxonomy_selected ● api/v2/organizations/update ● katello/api/v2/organizations/update ● katello/api/v2/organizations/autoattach_subscriptions 	
destroy_organizations	<ul style="list-style-type: none"> ● organizations/destroy ● api/v2/organizations/destroy ● katello/api/v2/organizations/destroy 	
assign_organizations	<ul style="list-style-type: none"> ● organizations/assign_all_hosts ● organizations/assign_hosts ● organizations/assign_selected_hosts 	

Permission Name	Actions	Resource Type
view_ptables	<ul style="list-style-type: none"> ● ptables/index ● ptables/show ● ptables/auto_complete_search ● ptables/revision ● ptables/preview ● api/v2/ptables/index ● api/v2/ptables/show ● api/v2/ptables/revision 	
create_ptables	<ul style="list-style-type: none"> ● ptables/new ● ptables/create ● ptables/clone_template ● api/v2/ptables/create ● api/v2/ptables/clone 	
edit_ptables	<ul style="list-style-type: none"> ● ptables/edit ● ptables/update ● api/v2/ptables/update 	
destroy_ptables	<ul style="list-style-type: none"> ● ptables/destroy ● api/v2/ptables/destroy 	
lock_ptables	<ul style="list-style-type: none"> ● ptables/lock ● ptables/unlock ● api/v2/ptables/lock ● api/v2/ptables/unlock 	
view_plugins	<ul style="list-style-type: none"> ● plugins/index ● api/v2/plugins/index 	

view_products Permission Name	Actions	Katello::Product Resource Type
	<ul style="list-style-type: none"> ● katello/products/auto_complete ● katello/products/auto_complete_search ● katello/api/v2/products/index ● katello/api/v2/products/show ● katello/api/v2/repositories/index ● katello/api/v2/repositories/show ● katello/api/v2/packages/index ● katello/api/v2/packages/show ● katello/api/v2/distributions/index ● katello/api/v2/distributions/show ● katello/api/v2/package_groups/index ● katello/api/v2/package_groups/show ● katello/api/v2/errata/index ● katello/api/v2/errata/show ● katello/api/v2/puppet_modules/index ● katello/api/v2/puppet_modules/show ● katello/errata/short_details ● katello/errata/auto_complete ● katello/packages/details ● katello/packages/auto_complete ● katello/puppet_modules/show ● katello/repositories/auto_complete_library 	

Permission Name	Actions	Resource Type
	<ul style="list-style-type: none"> ● katello/repositories/repository_types ● katello/content_search/index ● katello/content_search/products ● katello/content_search/repos ● katello/content_search/packages ● katello/content_search/errata ● katello/content_search/puppet_modules ● katello/content_search/packages_items ● katello/content_search/errata_items ● katello/content_search/puppet_modules_items ● katello/content_search/epo_packages ● katello/content_search/epo_errata ● katello/content_search/epo_puppet_modules ● katello/content_search/epo_compare_errata ● katello/content_search/epo_compare_packages ● katello/content_search/epo_compare_puppet_modules 	
create_products	<ul style="list-style-type: none"> ● katello/api/v2/products/create ● katello/api/v2/repositories/create 	Katello::Product

Permission Name	Actions	Resource Type
edit_products	<ul style="list-style-type: none"> ● katello/api/v2/products/update ● katello/api/v2/repositories/update ● katello/api/v2/repositories/remove_content ● katello/api/v2/repositories/import_uploads ● katello/api/v2/repositories/upload_content ● katello/api/v2/products_bulk_actions/update_sync_plans ● katello/api/v2/content_uploads/create ● katello/api/v2/content_uploads/update ● katello/api/v2/content_uploads/destroy ● katello/api/v2/organizations/repo_discover ● katello/api/v2/organizations/cancel_repo_discover 	Katello::Product
destroy_products	<ul style="list-style-type: none"> ● katello/api/v2/products/destroy ● katello/api/v2/repositories/destroy ● katello/api/v2/products_bulk_actions/destroy_products ● katello/api/v2/repositories_bulk_actions/destroy_repositories 	Katello::Product

Permission Name	Actions	Resource Type
sync_products	<ul style="list-style-type: none"> ● katello/api/v2/products/sync ● katello/api/v2/repositories/sync ● katello/api/v2/products_bulk_actions/sync_products ● katello/api/v2/repositories_bulk_actions/sync_repositories ● katello/api/v2/sync/index ● katello/api/v2/sync_plans/sync ● katello/sync_management/index ● katello/sync_management/sync_status ● katello/sync_management/product_status ● katello/sync_management/sync ● katello/sync_management/destroy 	Katello::Product
export_products	<ul style="list-style-type: none"> ● katello/api/v2/repositories/export 	Katello::Product

Permission Name	Actions	Resource Type
view_provisioning_templates	<ul style="list-style-type: none"> ● provisioning_templates/index ● provisioning_templates/show ● provisioning_templates/revision ● provisioning_templates/auto_complete_search ● provisioning_templates/preview ● api/v2/provisioning_templates/index ● api/v2/provisioning_templates/show ● api/v2/provisioning_templates/revision ● api/v2/template_combinations/index ● api/v2/template_combinations/show ● api/v2/template_kinds/index 	
create_provisioning_templates	<ul style="list-style-type: none"> ● provisioning_templates/new ● provisioning_templates/create ● provisioning_templates/clone_template ● api/v2/provisioning_templates/create ● api/v2/provisioning_templates/clone ● api/v2/template_combinations/create 	

Permission Name	Actions	Resource Type
edit_provisioning_templates	<ul style="list-style-type: none"> provisioning_templates/edit provisioning_templates/update api/v2/provisioning_templates/update api/v2/template_combinations/update 	
destroy_provisioning_templates	<ul style="list-style-type: none"> provisioning_templates/destroy api/v2/provisioning_templates/destroy api/v2/template_combinations/destroy 	
deploy_provisioning_templates	<ul style="list-style-type: none"> provisioning_templates/build_pxe_default api/v2/provisioning_templates/build_pxe_default 	
lock_provisioning_templates	<ul style="list-style-type: none"> provisioning_templates/lock provisioning_templates/unlock api/v2/provisioning_templates/lock api/v2/provisioning_templates/unlock 	
user_logout	<ul style="list-style-type: none"> users/logout 	
my_account	<ul style="list-style-type: none"> users/edit katello/api/v2/tasks/show 	

Permission Name	Actions	Resource Type
api_status	<ul style="list-style-type: none"> ● api/v2/home/status/ 	
view_puppetclasses	<ul style="list-style-type: none"> ● puppetclasses/index ● puppetclasses/show ● puppetclasses/auto_complete_search ● api/v2/puppetclasses/index ● api/v2/puppetclasses/show ● api/v2/smart_variables/index ● api/v2/smart_variables/show ● api/v2/smart_class_parameters/index ● api/v2/smart_class_parameters/show 	
create_puppetclasses	<ul style="list-style-type: none"> ● puppetclasses/new ● puppetclasses/create ● api/v2/puppetclasses/create 	

Permission Name	Actions	Resource Type
edit_puppetclasses	<ul style="list-style-type: none"> ● puppetclasses/edit ● puppetclasses/update ● puppetclasses/override ● api/v2/puppetclasses/update ● api/v2/smart_variables/create ● api/v2/smart_variables/update ● api/v2/smart_variables/destroy ● api/v2/smart_class_parameters/create ● api/v2/smart_class_parameters/update ● api/v2/smart_class_parameters/destroy 	
destroy_puppetclasses	<ul style="list-style-type: none"> ● puppetclasses/destroy ● api/v2/puppetclasses/destroy 	
import_puppetclasses	<ul style="list-style-type: none"> ● puppetclasses/import_environments ● puppetclasses/obsolete_and_new ● api/v2/environments/import_puppetclasses ● api/v2/smart_proxies/import_puppetclasses 	

Permission Name	Actions	Resource Type
view_realms	<ul style="list-style-type: none"> ● realms/index ● realms/show ● realms/auto_complete_search ● api/v2/realms/index ● api/v2/realms/show 	
create_realms	<ul style="list-style-type: none"> ● realms/new ● realms/create ● api/v2/realms/create 	
edit_realms	<ul style="list-style-type: none"> ● realms/edit ● realms/update ● api/v2/realms/update 	
destroy_realms	<ul style="list-style-type: none"> ● realms/destroy ● api/v2/realms/destroy 	
view_search	<ul style="list-style-type: none"> ● redhat_access/search/index 	
view_cases	<ul style="list-style-type: none"> ● redhat_access/cases/index ● redhat_access/cases/create 	
attachments	<ul style="list-style-type: none"> ● redhat_access/attachments/index ● redhat_access/attachments/create 	

Permission Name	Actions	Resource Type
configuration	<ul style="list-style-type: none"> ● redhat_access/configuration/index 	
app_root	<ul style="list-style-type: none"> ● redhat_access/redhat_access/index 	
view_log_viewer	<ul style="list-style-type: none"> ● redhat_access/logviewer/index 	
logs	<ul style="list-style-type: none"> ● redhat_access/logs/index 	
rh_telemetry_api	<ul style="list-style-type: none"> ● redhat_access/api/telemetry_api/proxy ● redhat_access/api/telemetry_api/connection_status 	
rh_telemetry_view	<ul style="list-style-type: none"> ● redhat_access/analytics_dashboard/index 	
rh_telemetry_configurations	<ul style="list-style-type: none"> ● redhat_access/telemetry_configurations/show ● redhat_access/telemetry_configurations/update 	
view_roles	<ul style="list-style-type: none"> ● roles/index ● roles/auto_complete_search ● api/v2/roles/index ● api/v2/roles/show 	

Permission Name	Actions	Resource Type
create_roles	<ul style="list-style-type: none">● roles/new● roles/create● roles/clone● api/v2/roles/create	
edit_roles	<ul style="list-style-type: none">● roles/edit● roles/update● api/v2/roles/update	
destroy_roles	<ul style="list-style-type: none">● roles/destroy● api/v2/roles/destroy	
access_settings	<ul style="list-style-type: none">● home/settings	

Permission Name	Actions	Resource Type
view_smart_proxies	<ul style="list-style-type: none"> ● smart_proxies/index ● smart_proxies/ping ● smart_proxies/auto_complete_search ● smart_proxies/version ● smart_proxies/show ● smart_proxies/plugin_version ● smart_proxies/tftp_server ● smart_proxies/puppet_environments ● smart_proxies/puppet_dashboard ● smart_proxies/log-pane ● smart_proxies/failed_modules ● smart_proxies/errors_card ● smart_proxies/modules_card ● api/v2/smart_proxies/index ● api/v2/smart_proxies/show ● api/v2/smart_proxies/version ● api/v2/smart_proxies/log 	
create_smart_proxies	<ul style="list-style-type: none"> ● smart_proxies/new ● smart_proxies/create ● api/v2/smart_proxies/create 	

Permission Name	Actions	Resource Type
edit_smart_proxies	<ul style="list-style-type: none"> ● smart_proxies/edit ● smart_proxies/update ● smart_proxies/refresh ● smart_proxies/expire_logs ● api/v2/smart_proxies/update ● api/v2/smart_proxies/refresh 	
destroy_smart_proxies	<ul style="list-style-type: none"> ● smart_proxies/destroy ● api/v2/smart_proxies/destroy 	
view_smart_proxies_autosign	<ul style="list-style-type: none"> ● autosign/index ● autosign/show ● autosign/counts ● api/v2/autosign/index 	
create_smart_proxies_autosign	<ul style="list-style-type: none"> ● autosign/new ● autosign/create 	
destroy_smart_proxies_autosign	<ul style="list-style-type: none"> ● autosign/destroy 	
view_smart_proxies_puppetca	<ul style="list-style-type: none"> ● puppetca/index ● puppetca/counts ● puppetca/expiry 	
edit_smart_proxies_puppetca	<ul style="list-style-type: none"> ● puppetca/update 	

Permission Name	Actions	Resource Type
destroy_smart_proxies_puppetca	<ul style="list-style-type: none"> ● puppetca/destroy 	
view_statistics	<ul style="list-style-type: none"> ● statistics/index ● api/v2/statistics/index 	
view_subnets	<ul style="list-style-type: none"> ● subnets/index ● subnets/show ● subnets/auto_complete_search ● api/v2/subnets/index ● api/v2/subnets/show 	
create_subnets	<ul style="list-style-type: none"> ● subnets/new ● subnets/create ● api/v2/subnets/create 	
edit_subnets	<ul style="list-style-type: none"> ● subnets/edit ● subnets/update ● api/v2/subnets/update 	
destroy_subnets	<ul style="list-style-type: none"> ● subnets/destroy ● api/v2/subnets/destroy 	
import_subnets	<ul style="list-style-type: none"> ● subnets/import ● subnets/create_multiple 	

Permission Name	Actions	Resource Type
view_subscriptions	<ul style="list-style-type: none"> ● katello/api/v2/subscriptions/index ● katello/api/v2/subscriptions/show ● katello/api/v2/subscriptions/available ● katello/api/v2/subscriptions/manifest_history ● katello/api/v2/subscriptions/auto_complete_search ● katello/api/v2/repository_sets/index ● katello/api/v2/repository_sets/show ● katello/api/v2/repository_sets/available_repositories 	Organization
attach_subscriptions	<ul style="list-style-type: none"> ● katello/api/v2/subscriptions/create 	Organization
unattach_subscriptions	<ul style="list-style-type: none"> ● katello/api/v2/subscriptions/destroy 	Organization

Permission Name	Actions	Resource Type
import_manifest	<ul style="list-style-type: none"> katello/products/available_repositories katello/products/toggle_repository katello/providers/redhat_provider katello/providers/redhat_provider_tab katello/api/v2/subscriptions/upload katello/api/v2/subscriptions/refresh_manifest katello/api/v2/repository_sets/enable katello/api/v2/repository_sets/disable 	Organization
delete_manifest	<ul style="list-style-type: none"> katello/api/v2/subscriptions/delete_manifest 	Organization
view_sync_plans	<ul style="list-style-type: none"> katello/sync_plans/all katello/sync_plans/index katello/sync_plans/auto_complete_search katello/api/v2/sync_plans/index katello/api/v2/sync_plans/show katello/api/v2/sync_plans/add_products katello/api/v2/sync_plans/remove_products katello/api/v2/sync_plans/available_products katello/api/v2/products/index 	Katello::SyncPlan

Permission Name	Actions	Resource Type
create_sync_plans	<ul style="list-style-type: none"> katello/api/v2/sync_plans/create 	Katello::SyncPlan
edit_sync_plans	<ul style="list-style-type: none"> katello/api/v2/sync_plans/update 	Katello::SyncPlan
destroy_sync_plans	<ul style="list-style-type: none"> katello/api/v2/sync_plans/destroy 	Katello::SyncPlan
view_tasks	<ul style="list-style-type: none"> trends/show 	
view_trends	<ul style="list-style-type: none"> trends/index trends/show 	
create_trends	<ul style="list-style-type: none"> trends/new trends/create 	
edit_trends	<ul style="list-style-type: none"> trends/edit trends/update 	
destroy_trends	<ul style="list-style-type: none"> trends/destroy 	
update_trends	<ul style="list-style-type: none"> trends/count 	
my_organizations	<ul style="list-style-type: none"> katello/api/rhsm/candlepin_proxies/list_owners 	

Permission Name	Actions	Resource Type
view_usergroups	<ul style="list-style-type: none"> ● usergroups/index ● usergroups/show ● usergroups/auto_complete_search ● api/v2/usergroups/index ● api/v2/usergroups/show 	
create_usergroups	<ul style="list-style-type: none"> ● usergroups/new ● usergroups/create ● api/v2/usergroups/create 	
edit_usergroups	<ul style="list-style-type: none"> ● usergroups/edit ● usergroups/update ● api/v2/usergroups/update 	
destroy_usergroups	<ul style="list-style-type: none"> ● usergroups/destroy ● api/v2/usergroups/destroy 	
view_users	<ul style="list-style-type: none"> ● users/index ● users/show ● users/auto_complete_search ● api/v2/users/index ● api/v2/users/show 	

Permission Name	Actions	Resource Type
create_users	<ul style="list-style-type: none">● users/new● users/create● users/auth_source_selected● api/v2/users/create	
edit_users	<ul style="list-style-type: none">● users/edit● users/update● users/auth_source_selected● users/test_mail● api/v2/users/update	
destroy_users	<ul style="list-style-type: none">● users/destroy● api/v2/users/destroy	