Deployment Guide

RUCKUS WAN Gateway – REST API

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Rev. 0

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Changes

- No changes – initial document version

Intended Audience

The audience for this document is System Engineers and developers who needs to control RWG programmatically or develop applications using REST API . It is expected that the reader possesses a working knowledge on REST API and the RUCKUS WAN Gateway.

For more information on how to configure RUCKUS products, please refer to the appropriate RUCKUS user guide available on the RUCKUS support site at https://support.ruckuswireless.com/

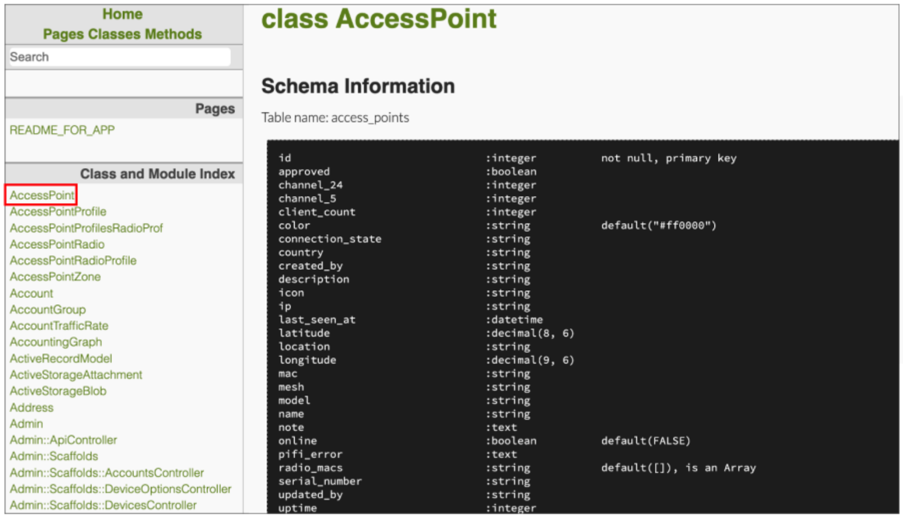
The RWG documentation is embedded into the product.
You can access the embedded documentation at https://{your RWG_IP_address}/admin/manual/help_online

The RWG REST API

The API Documentation

RWG offers a very rich REST API using CRUD calls to manage every operation. The RWG nodes come with a built-in API documentation. To see the API documentation, navigate to https://{RWG_FQDN}/rdoc/

Click on any class at the left menu to see its details:



class AccessPoint

Schema Information

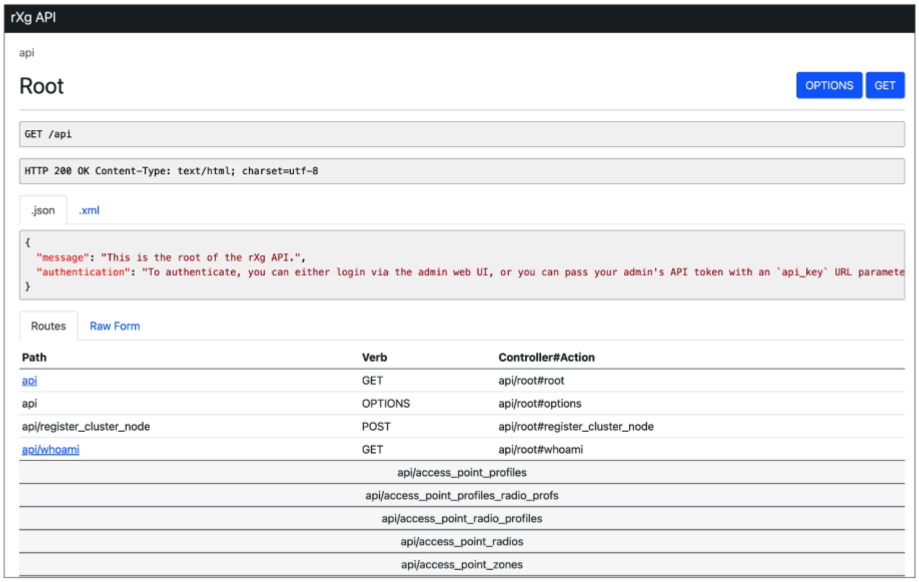
Table name: access_points

```
id                            :integer          not null, primary key
approved                      :boolean
channel_24                    :integer
channel_5                     :integer
client_count                  :integer
color                         :string           default("#ff0000")
connection_state              :string
country                       :string
created_by                    :string
description                   :string
icon                          :string
ip                            :string
last_seen_at                  :datetime
latitude                      :decimal(8, 6)
location                      :string
longitude                     :decimal(9, 6)
mac                           :string
mesh                          :string
model                         :string
name                          :string
note                          :text
online                        :boolean          default(FALSE)
pifi_error                    :text
radio_macs                    :string           default([]), is an Array
serial_number                 :string
updated_by                    :string
uptime                        :integer
```

Figure 1 – API Documentation

The API Browser

You can also browse the API directly by navigating to https://{RWG_FQDN}/api. Click on any line to drill down into a class, execute an API call or see the API call schema.



Root

```
GET /api
```

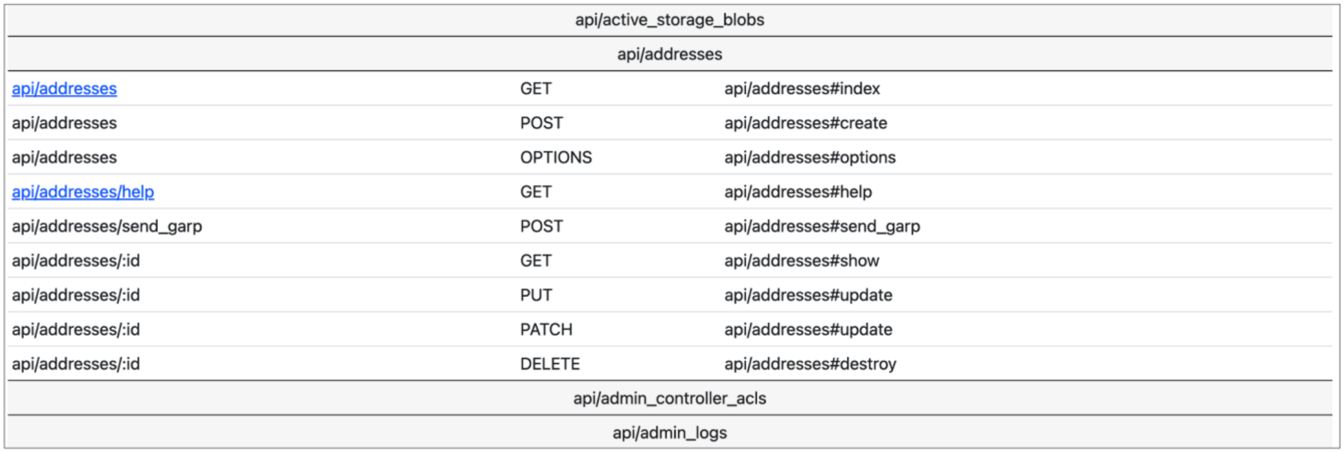
```
HTTP 200 OK Content-Type: text/html; charset=utf-8
```

```
{
  "message": "This is the root of the rXg API.",
  "authentication": "To authenticate, you can either login via the admin web UI, or you can pass your admin's API token with an `api_key` URL paramete
}
```

Path	Verb	Controller#Action
api	GET	api/root#root
api	OPTIONS	api/root#options
api/register_cluster_node	POST	api/root#register_cluster_node
api/whoami	GET	api/root#whoami
api/access_point_profiles		
api/access_point_profiles_radio_profs		
api/access_point_radio_profiles		
api/access_point_radios		
api/access_point_zones		

Figure 2 – API Browser

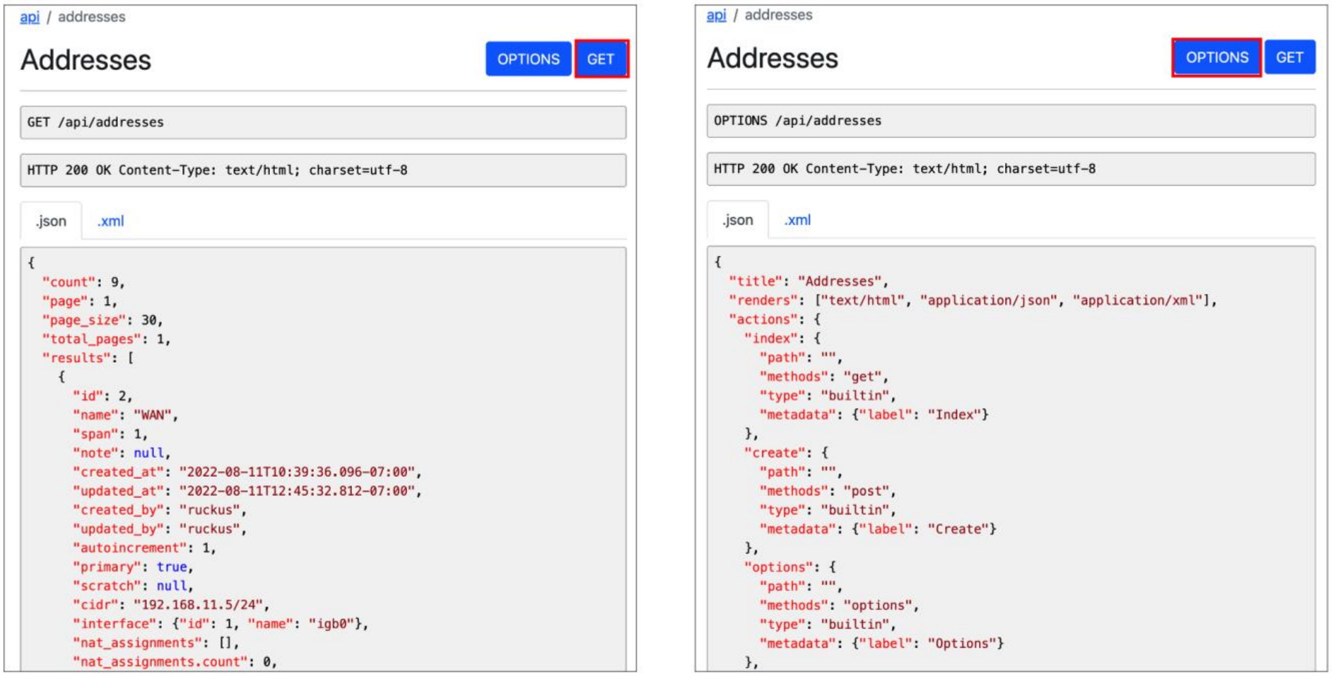
The lines with a hyperlink indicate an API call that can be executed directly. You need to pass an API key in the URL as a parameter, or get an authentication session for the API call to work. The simplest way is to open another browser tab and authenticate using the RWG UI.



api/active_storage_blobs		
api/addresses		
api/addresses	GET	api/addresses#index
api/addresses	POST	api/addresses#create
api/addresses	OPTIONS	api/addresses#options
api/addresses/help	GET	api/addresses#help
api/addresses/send_garp	POST	api/addresses#send_garp
api/addresses/:id	GET	api/addresses#show
api/addresses/:id	PUT	api/addresses#update
api/addresses/:id	PATCH	api/addresses#update
api/addresses/:id	DELETE	api/addresses#destroy
api/admin_controller_acls		
api/admin_logs		

FIGURE 3 – HYPERLINKS INDICATE EXECUTABLE API CALLS

Once you are authenticated, you can use **GET** and **OPTIONS**. If you click GET, you will run the GET call for the class. If you click OPTIONS, you will see the API schema for all methods in the class. Here is an example using the endpoint api/addresses:



```
GET /api/addresses
```

```
HTTP 200 OK Content-Type: text/html; charset=utf-8
```

```
{
  "count": 9,
  "page": 1,
  "page_size": 30,
  "total_pages": 1,
  "results": [
    {
      "id": 2,
      "name": "WAN",
      "span": 1,
      "note": null,
      "created_at": "2022-08-11T10:39:36.096-07:00",
      "updated_at": "2022-08-11T12:45:32.812-07:00",
      "created_by": "ruckus",
      "updated_by": "ruckus",
      "autoincrement": 1,
      "primary": true,
      "scratch": null,
      "cidr": "192.168.11.5/24",
      "interface": {"id": 1, "name": "igb0"},
      "nat_assignments": [],
      "nat_assignments.count": 0,
```

```
OPTIONS /api/addresses
```

```
HTTP 200 OK Content-Type: text/html; charset=utf-8
```

```
{
  "title": "Addresses",
  "renders": ["text/html", "application/json", "application/xml"],
  "actions": {
    "index": {
      "path": "",
      "methods": "get",
      "type": "builtin",
      "metadata": {"label": "Index"}
    },
    "create": {
      "path": "",
      "methods": "post",
      "type": "builtin",
      "metadata": {"label": "Create"}
    },
    "options": {
      "path": "",
      "methods": "options",
      "type": "builtin",
      "metadata": {"label": "Options"}
    },
```

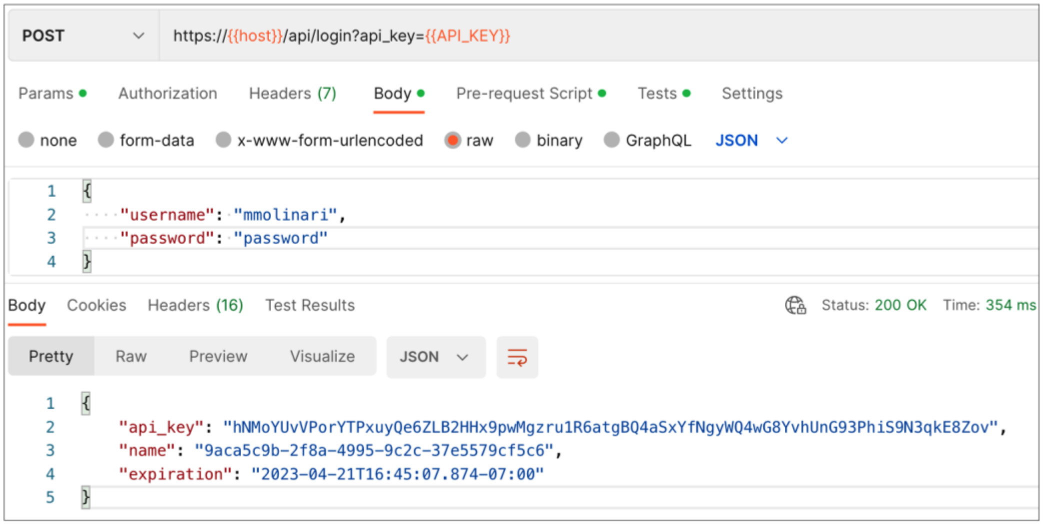
FIGURE 4 – GET AND OPTIONS

Examples

API Authentication

Every API call needs to include an API key as a parameter in the URL. You can use the **/api/login** endpoint to obtain an API key. The body contains the credentials for a valid RWG administrative account.

The API keys are valid for one week.



POST https://{{host}}/api/login?api_key={{API_KEY}}

```
{
    "username": "mmolinari",
    "password": "password"
}
```

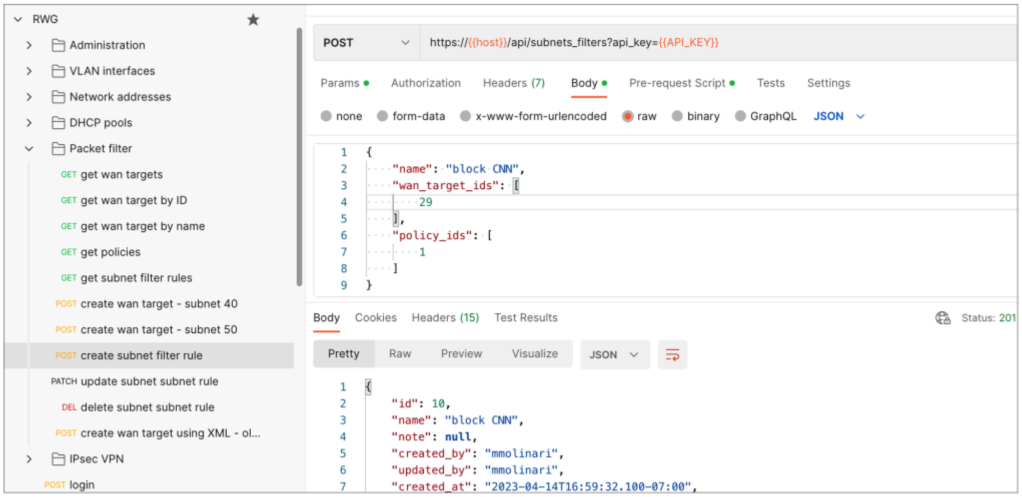
Status: 200 OK Time: 354 ms

```
{
    "api_key": "hNMoYUvVPorYTPxuyQe6ZLB2HHx9pwMgzru1R6atgBQ4aSxYfNgyWQ4wG8YvhUnG93PhiS9N3qkE8Zov",
    "name": "9aca5c9b-2f8a-4995-9c2c-37e5579cf5c6",
    "expiration": "2023-04-21T16:45:07.874-07:00"
}
```

Figure 5 – Get the API Key

Postman Collection

A postman collection with a sample of API calls is available at https://github.com/commscope-ruckus/RUCKUS-RWG-Postman



POST https://{{host}}/api/subnets_filters?api_key={{API_KEY}}

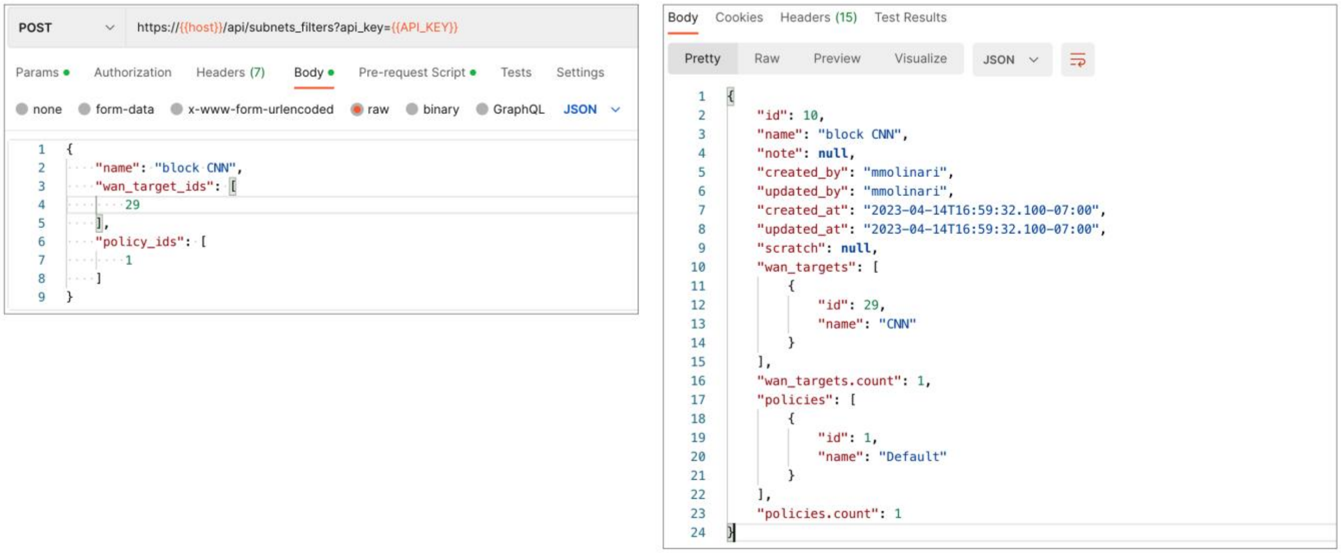
```
{
    "name": "block CNN",
    "wan_target_ids": [
        29
    ],
    "policy_ids": [
        1
    ]
}
```

Status: 201

```
{
    "id": 10,
    "name": "block CNN",
    "note": null,
    "created_by": "mmolinari",
    "updated_by": "mmolinari",
    "created_at": "2023-04-14T16:59:32.100-07:00",
```

Figure 6 – Postman Collection for RWG

Example 1 – Create Subnet Filter Rule



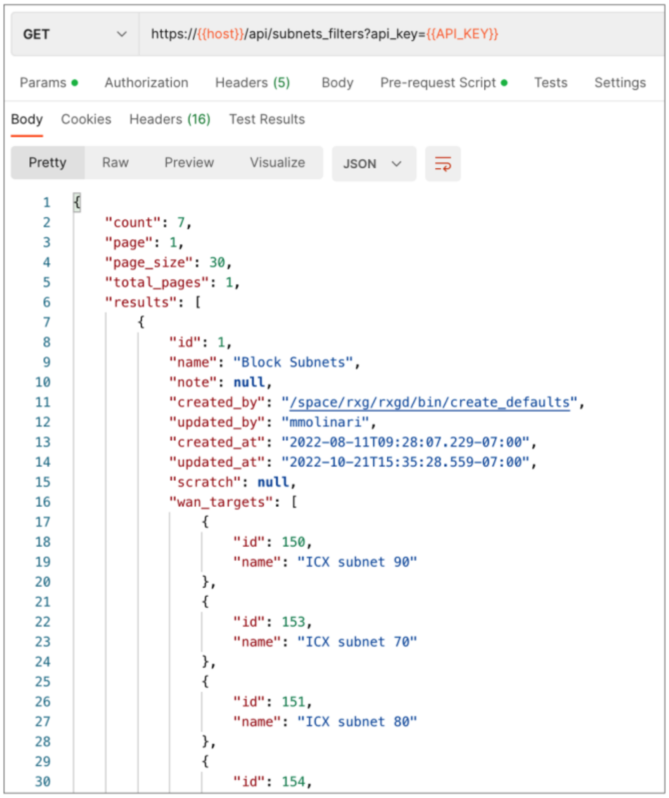
```
POST https://{{host}}/api/subnets_filters?api_key={{API_KEY}}
```

```
{
    "name": "block CNN",
    "wan_target_ids": [
        29
    ],
    "policy_ids": [
        1
    ]
}
```

```
{
    "id": 10,
    "name": "block CNN",
    "note": null,
    "created_by": "mmolinari",
    "updated_by": "mmolinari",
    "created_at": "2023-04-14T16:59:32.100-07:00",
    "updated_at": "2023-04-14T16:59:32.100-07:00",
    "scratch": null,
    "wan_targets": [
        {
            "id": 29,
            "name": "CNN"
        }
    ],
    "wan_targets.count": 1,
    "policies": [
        {
            "id": 1,
            "name": "Default"
        }
    ],
    "policies.count": 1
}
```

FIGURE 7 – CREATE SUBNET FILTER RULE

Example 2 – Read Subnet Filter Rules



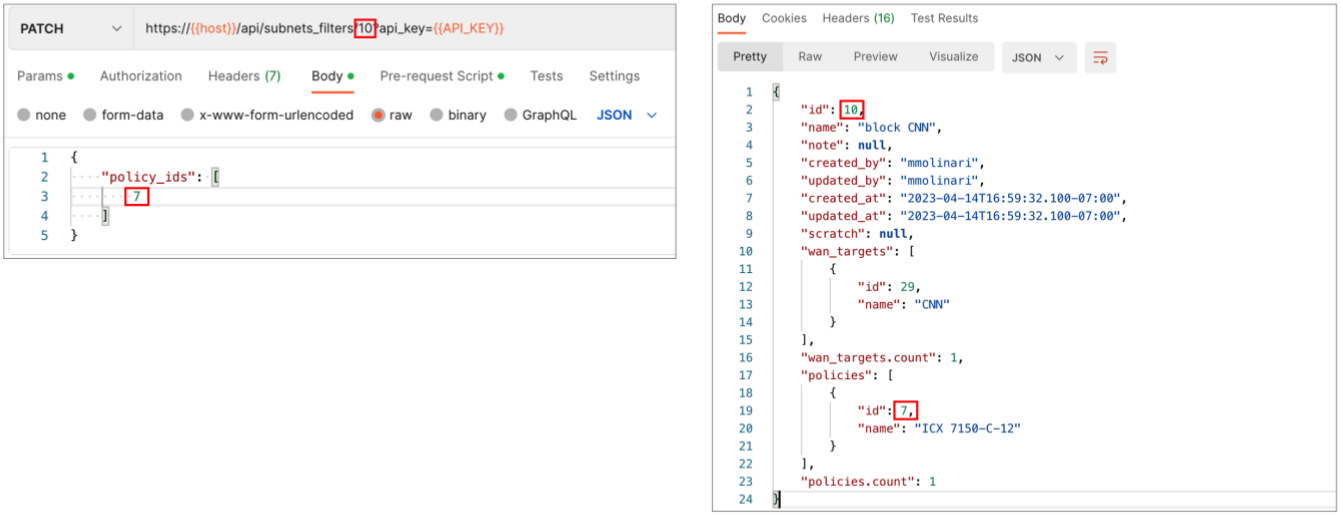
```
GET https://{{host}}/api/subnets_filters?api_key={{API_KEY}}
```

```
{
    "count": 7,
    "page": 1,
    "page_size": 30,
    "total_pages": 1,
    "results": [
        {
            "id": 1,
            "name": "Block Subnets",
            "note": null,
            "created_by": "/space/rxg/rxgd/bin/create_defaults",
            "updated_by": "mmolinari",
            "created_at": "2022-08-11T09:28:07.229-07:00",
            "updated_at": "2022-10-21T15:35:28.559-07:00",
            "scratch": null,
            "wan_targets": [
                {
                    "id": 150,
                    "name": "ICX subnet 90"
                },
                {
                    "id": 153,
                    "name": "ICX subnet 70"
                },
                {
                    "id": 151,
                    "name": "ICX subnet 80"
                },
                {
                    "id": 154,
```

FIGURE 8 – READ SUBNET FILTER RULE

Example 3 – Edit Subnet Filter Rule

The endpoint includes the filter ID, and the body includes the policy ID.



PATCH https://{{host}}/api/subnets_filters/10?api_key={{API_KEY}}

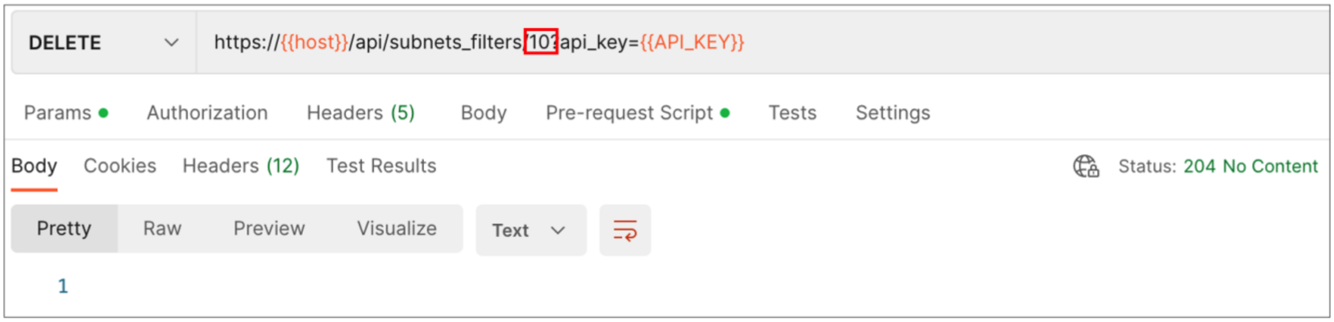
```
{
    "policy_ids": [
        7
    ]
}
```

```
{
    "id": 10,
    "name": "block CNN",
    "note": null,
    "created_by": "mmolinari",
    "updated_by": "mmolinari",
    "created_at": "2023-04-14T16:59:32.100-07:00",
    "updated_at": "2023-04-14T16:59:32.100-07:00",
    "scratch": null,
    "wan_targets": [
        {
            "id": 29,
            "name": "CNN"
        }
    ],
    "wan_targets.count": 1,
    "policies": [
        {
            "id": 7,
            "name": "ICX 7150-C-12"
        }
    ],
    "policies.count": 1
}
```

FIGURE 9 – EDIT SUBNET FILTER RULE

Example 4 – Delete Subnet Filter Rule

The endpoint includes the filter ID.



DELETE https://{{host}}/api/subnets_filters/10?api_key={{API_KEY}}

Status: 204 No Content

FIGURE 10 – DELETE SUBNET FILTER RULE

RUCKUS solutions are part of CommScope's comprehensive portfolio for Enterprise environments (indoor and outdoor).

We encourage you to visit commscope.com to learn more about:

- RUCKUS Wi-Fi Access Points
- RUCKUS ICX switches
- SYSTIMAX and NETCONNECT: Structured cabling solutions (copper and fiber)
- imVision: Automated Infrastructure Management
- Era and OneCell in-building cellular solutions
- Our extensive experience about supporting PoE and IoT

www.ruckusnetworks.com

Visit our website or contact your local RUCKUS representative for more information.