#### Please specify the protocol for file://file://onos/v1/docs/apisv1/swagger.json

# ONOS Core REST API

ONOS Core REST API

GET

# docs: REST API documentation

/docs/index.html

```
Get Swagger UI main index page
Response Messages
HTTP Status
                Reason
                                                                                               Headers
                                          Response Model
Code
200
                successful operation
default
                Unexpected error
            Hide Response
 Try it out!
Curl
 curl -X GET --header 'Accept: text/html' 'http://192.168.186.138:9922/onos/v1/docs/index.html'
Request URL
 http://192.168.186.138:9922/onos/v1/docs/index.html
Response Body
  <!-- Adapted from Swagger UI -->
  <!DOCTYPE html>
  <html>
  <head>
      <title>ONOS API Docs</title>
      <link rel="icon" type="image/png" href="images/onos-logo.png"/>
      <link href='css/typography.css' media='screen' rel='stylesheet' type='text/css'/>
      <link href='css/reset.css' media='screen' rel='stylesheet' type='text/css'/>
      <link href='css/screen.css' media='screen' rel='stylesheet' type='text/css'/>
      <link href='css/reset.css' media='print' rel='stylesheet' type='text/css'/>
      <link href='css/print.css' media='print' rel='stylesheet' type='text/css'/>
      <script src='lib/object-assign-pollyfill.js' type='text/javascript'></script>
      <script src='lib/jquery-1.8.0.min.js' type='text/javascript'></script>
```

<script src='lib/jquery.slideto.min.js' type='text/javascript'></script> <script src='lib/jquery.wiggle.min.js' type='text/javascript'></script> <script src='lib/jquery.ba-bbq.min.js' type='text/javascript'></script> <script src='lib/handlebars-4.0.5.js' type='text/javascript'></script> <script src='lib/lodash.min.js' type='text/javascript'></script> receipt enc- 11 ih/hackhana min is' tyno- 'toyt / iayasenint 'x / senint

#### Response Code

200

```
Response Headers

{
    "server": "StarOS.xyz",
    "connection": "Close",
    "content-length": "4633",
    "content-type": "text/html"
}
```

| GET /docs/apis/{key: .*?}/swagger.json |                      |                      |                   | Get Sw    | Get Swagger UI JSON |  |
|--|----------------------|----------------------|-------------------|-----------|---------------------|--|
| Parameters                             |                      |                      |                   |           |                     |  |
| Parameter                              | Value                | Description          | Parameter<br>Type | Data Type |                     |  |
| key                                    | (required)           | REST API web context | path              | string    |                     |  |
| Response M<br>HTTP Status<br>Code      | lessages<br>Reason   | Response Model       |                   |           | Headers             |  |
| 200                                    | successful operation |                      |                   |           |                     |  |
| default  Try it out!                   | Unexpected error     |                      |                   |           |                     |  |

| GET /docs                         | s/apis/{key: .*?}/model.jsor | 1                    | Get RE            |           |         |
|-----------------------------------|------------------------------|----------------------|-------------------|-----------|---------|
| Parameters                        |                              |                      |                   |           |         |
| Parameter                         | Value                        | Description          | Parameter<br>Type | Data Type |         |
| name                              | (required)                   | REST API web context | path              | string    |         |
| Response M<br>HTTP Status<br>Code | essages<br>Reason            | Response Model       |                   |           | Headers |
| 200                               | successful operation         |                      |                   |           |         |
| default  Try it out!              | Unexpected error             |                      |                   |           |         |

GET /docs/apis

Get all registered REST API docs

## **Implementation Notes**

Returns array of all registered API docs.

| Response Messages    |                      |                |         |  |
|----------------------|----------------------|----------------|---------|--|
| HTTP Status<br>Code  | Reason               | Response Model | Headers |  |
| 200                  | successful operation | tion           |         |  |
| default  Try it out! | Unexpected error     |                |         |  |

| GET /docs           |                      |                | Get Swagger UI main index page |
|---------------------|----------------------|----------------|--------------------------------|
| Response Me         | essages              |                |                                |
| HTTP Status<br>Code | Reason               | Response Model | Headers                        |
| 200                 | successful operation |                |                                |
| default             | Unexpected error     |                |                                |
| Try it out!         |                      |                |                                |

| GET /docs           | s/{resource: .*}     |                      |                   | Get Swagger UI resou |
|---------------------|----------------------|----------------------|-------------------|----------------------|
| Parameters          |                      |                      |                   |                      |
| Parameter           | Value                | Description          | Parameter<br>Type | Data Type            |
| resource            | (required)           | path of the resource | path              | string               |
| Response M          | essages              |                      |                   |                      |
| HTTP Status<br>Code | Reason               | Response Model       |                   | Headers              |
| 200                 | successful operation |                      |                   |                      |
| default             | Unexpected error     |                      |                   |                      |
| Try it out!         |                      |                      |                   |                      |

# applications : Manage inventory of applications



| Parameter           | Value                | Description      | Parameter<br>Type | Data Type |  |
|---------------------|----------------------|------------------|-------------------|-----------|--|
| name                | (required)           | application name | path              | string    |  |
|                     |                      |                  |                   |           |  |
| Response M          | lessages             |                  |                   |           |  |
| HTTP Status<br>Code | Reason               | Response Model   |                   | Headers   |  |
| 200                 | successful operation |                  |                   |           |  |
| default             | Unexpected error     |                  |                   |           |  |
| Try it out!         |                      |                  |                   |           |  |

GET /applications/{name}

Get application details

### Implementation Notes

Returns details of the specified application.

## Response Class (Status 200)

successful operation

#### Model Example Value

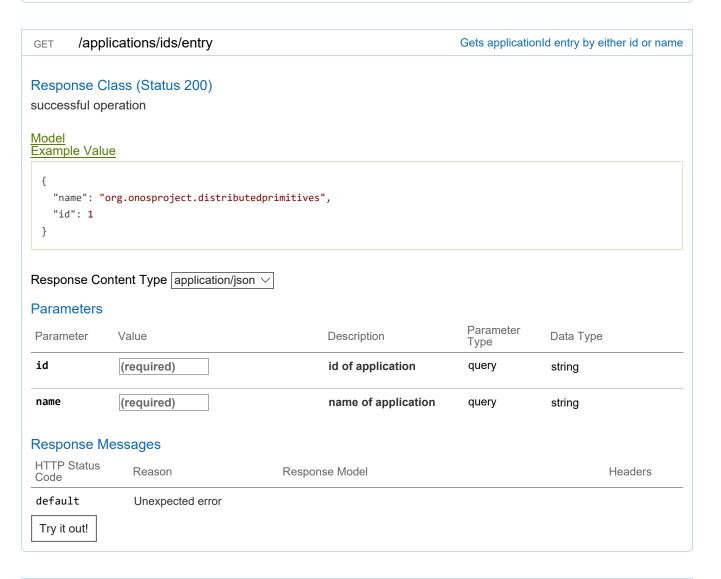
```
"name": "org.onosproject.distributedprimitives",
  "id": 1,
  "version": "1.2.3",
  "category": "default",
 "description": "ONOS app to test distributed primitives",
  "readme": "ONOS app to test distributed primitives.",
  "origin": "ON.Lab",
  "url": "http://onosproject.org",
  "permissions": [
  ],
  "featuresRepo": "mvn:org.onosproject/onos-app-cip/1.2.3/xml/features",
  "features": [
    "onos-app-distributed-primitives"
  ],
  "requiredApps": [
  ],
  "state": "ACTIVE"
}
```

### Response Content Type application/json V

#### **Parameters**

Parameter Value Description Parameter Type Data Type

| Parameter           | Value            | Description      | Parameter<br>Type | Data Type |
|---------------------|------------------|------------------|-------------------|-----------|
| name                | (required)       | application name | path              | string    |
| Response M          | lessages         |                  |                   |           |
| HTTP Status<br>Code | Reason           | Response Model   |                   | Headers   |
| default             | Unexpected error |                  |                   |           |
| Try it out!         |                  |                  |                   |           |





```
Model
Example Value
   "applications": [
       "name": "org.onosproject.distributedprimitives",
       "id": 1,
       "version": "1.2.3",
       "category": "default",
       "description": "ONOS app to test distributed primitives",
       "readme": "ONOS app to test distributed primitives.",
       "origin": "ON.Lab",
       "url": "http://onosproject.org",
       "permissions": [
       ],
       "featuresRepo": "mvn:org.onosproject/onos-app-cip/1.2.3/xml/features",
       "features": [
         "onos-app-distributed-primitives"
       "requiredApps": [
       ],
       "state": "ACTIVE"
   ]
 }
Response Content Type application/json V
Response Messages
```

HTTP Status Code Reason Response Model Headers

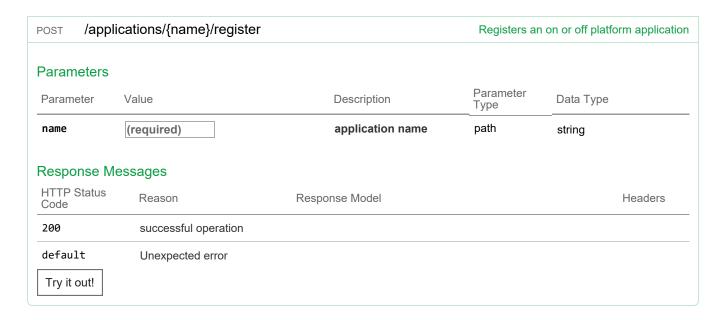
default

Unexpected error

Try it out!

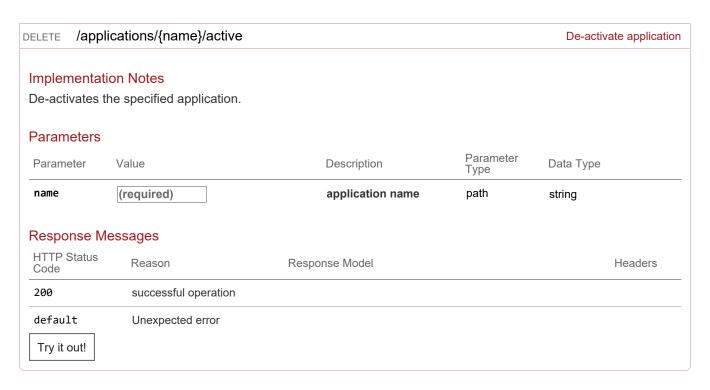
| POST /ap   | plications  |                              |                   | Install a new application |  |  |
|--|-------------|------------------------------|-------------------|---------------------------|--|--|
| Implementa   | ation Notes |                              |                   |                           |  |  |
| Uploads application archive stream and optionally activates the application. |             |                              |                   |                           |  |  |
| Parameters   | S           |                              |                   |                           |  |  |
| Parameter  | Value       | Description                  | Parameter<br>Type | Data Type                 |  |  |
| activate   | true 🗸      | true to activate app<br>also | query             | boolean                   |  |  |
| stream   |             |                              | body              | undefined                 |  |  |

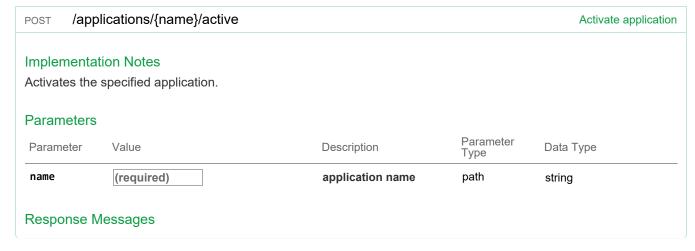
| Parameter           | Value                      | Description        | Parameter<br>Type | Data Type |
|---------------------|----------------------------|--------------------|-------------------|-----------|
|                     | (required)                 | application archiv | /e                |           |
|                     |                            | stream             |                   |           |
|                     |                            |                    |                   |           |
|                     |                            |                    |                   |           |
|                     |                            |                    |                   |           |
|                     | Parameter content type:    |                    |                   |           |
|                     | application/octet_stream ∨ |                    |                   |           |
| Response M          | lessages                   |                    |                   |           |
| HTTP Status<br>Code | Reason                     | Response Model     |                   | Headers   |
| 200                 | successful operation       |                    |                   |           |
| default             | Unexpected error           |                    |                   |           |
| Try it out!         |                            |                    |                   |           |





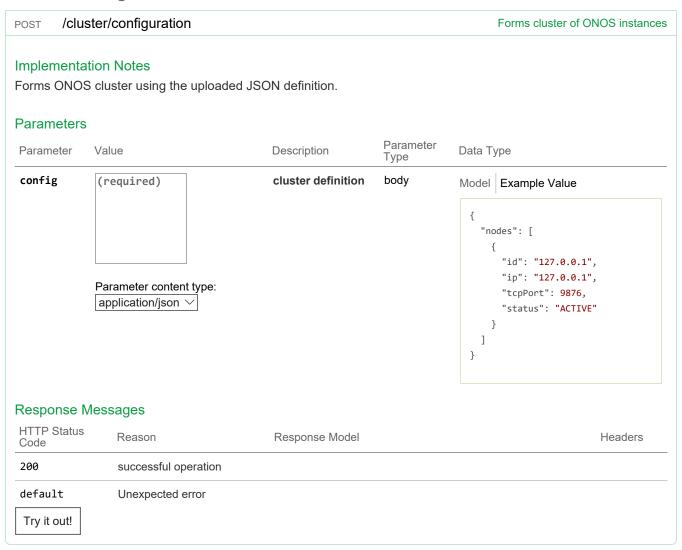
```
{
        "name": "org.onosproject.distributedprimitives",
       "id": 1
     }
   ]
 }
Response Content Type application/json V
Response Messages
HTTP Status
                 Reason
                                           Response Model
                                                                                                   Headers
Code
default
                 Unexpected error
 Try it out!
```





| HTTP Status<br>Code  | Reason          | Response Model | Headers |
|----------------------|-----------------|----------------|---------|
| 200                  | successful oper | ration         |         |
| default  Try it out! | Unexpected err  | ror            |         |

# cluster: Manage cluster of ONOS instances



GET /cluster Get all cluster nodes

Implementation Notes
Returns array of all cluster nodes.

Response Class (Status 200)

successful operation

```
Model
Example Value
   "nodes": [
    {
      "id": "127.0.0.1",
       "ip": "127.0.0.1",
       "tcpPort": 9876,
       "status": "ACTIVE"
   ]
 }
Response Content Type application/json V
Response Messages
HTTP Status
                 Reason
                                          Response Model
                                                                                                  Headers
Code
default
                 Unexpected error
 Try it out!
```

# GET /cluster/{id} Get cluster node details Implementation Notes Returns details of the specified cluster node. Response Class (Status 200) successful operation Model Example Value "id": "127.0.0.1", "ip": "127.0.0.1", "tcpPort": 9876, "status": "ACTIVE" } Response Content Type application/json V **Parameters** Parameter Parameter Value Description Data Type Type cluster node identifier id path (required) string Response Messages

| HTTP Status<br>Code | Reason           | Response Model | Headers |
|---------------------|------------------|----------------|---------|
| default             | Unexpected error |                |         |
| Try it out!         |                  |                |         |

# configuration : Manage component configurations

| DELETE /confi       | iguration/{compor  | Selectively of     | Selectively clears configuration properties |           |         |  |  |
|---------------------|--|--------------------|---|-----------|---------|--|--|
|                     | Implementation Notes Clears only the properties present in the JSON request. |                    |   |           |         |  |  |
| Parameters          |  |                    |   |           |         |  |  |
| Parameter           | Value  | Description        | Parameter<br>Type                           | Data Type |         |  |  |
| component           | (required)   | component name     | path  | string    |         |  |  |
| request             | (required)   | JSON configuration | body  | undefined |         |  |  |
|                     |  |                    |   |           |         |  |  |
|                     | Parameter content application/json ~   | rpe:               |   |           |         |  |  |
| Response Mo         | essages  |                    |   |           |         |  |  |
| HTTP Status<br>Code | Reason   | Response Model     |   |           | Headers |  |  |
| 200                 | successful opera   | ion                |   |           |         |  |  |
| default             | Unexpected erro  |                    |   |           |         |  |  |
| Try it out!         |  |                    |   |           |         |  |  |

| GET /configuration/{component} |                      |                | Gets configuration of the specified component |           |         |
|--------------------------------|----------------------|----------------|---|-----------|---------|
| Parameters                     |                      |                |   |           |         |
| Parameter                      | Value                | Description    | Parameter<br>Type                             | Data Type |         |
| component                      | (required)           | component name | path  | string    |         |
| Response Me                    | essages              |                |   |           |         |
| HTTP Status<br>Code            | Reason               | Response Model |   |           | Headers |
| 200                            | successful operation |                |   |           |         |

| HTTP Status<br>Code | Reason           | Response Model | Headers |
|---------------------|------------------|----------------|---------|
| default             | Unexpected error |                |         |
| Try it out!         |                  |                |         |

| POST /conf           | figuration/{component}        |                             | Selectivel        | y sets configura | ation propertie |
|----------------------|-------------------------------|-----------------------------|-------------------|------------------|-----------------|
| Implementat          | tion Notes                    |                             |                   |                  |                 |
| Sets only the        | properties present in the JSC | ON request.                 |                   |                  |                 |
| Parameters           |                               |                             |                   |                  |                 |
| Parameter            | Value                         | Description                 | Parameter<br>Type | Data Type        |                 |
| component            | (required)                    | component name              | path              | string           |                 |
| preset               | true ∨                        | preset the property if true | query             | boolean          |                 |
| request              | (required)                    | JSON configuration          | body              | undefined        |                 |
|                      | Parameter content type:       |                             |                   |                  |                 |
| Response M           | lessages                      |                             |                   |                  |                 |
| HTTP Status<br>Code  | Reason                        | Response Model              |                   |                  | Headers         |
| 200                  | successful operation          |                             |                   |                  |                 |
| default  Try it out! | Unexpected error              |                             |                   |                  |                 |

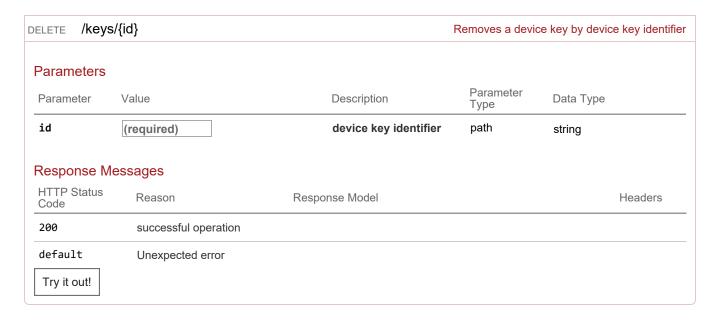
| GET /config         | guration               |                          | Gets all component configurations |
|---------------------|------------------------|--------------------------|-----------------------------------|
| Implementation      | on Notes               |                          |                                   |
| Returns collect     | on of all registered c | omponent configurations. |                                   |
| Response Me         | ssages                 |                          |                                   |
| HTTP Status<br>Code | Reason                 | Response Model           | Headers                           |
| 200                 | successful operatio    | n                        |                                   |
| default             | Unexpected error       |                          |                                   |

# keys: Query and Manage Device Keys

```
GET
        /keys
                                                                                              Gets all device keys
Implementation Notes
Returns array of all device keys.
Response Class (Status 200)
successful operation
Model
Example Value
   "keys": [
     {
       "id": "Device key unique identifier",
       "type": "COMMUNITY_NAME, OR USERNAME_PASSWORD",
       "label": "Device key user label",
       "community_name": "Device key community name",
       "username": "Device key username",
       "password": "Device key password"
   ]
 }
Response Content Type application/json V
Response Messages
HTTP Status
                 Reason
                                           Response Model
                                                                                                   Headers
Code
default
                 Unexpected error
 Try it out!
```



```
Parameter
                                      Description
Parameter
            Value
                                                                  Data Type
                                                      Type
             Parameter content type:
                                                                      "community_name": "Device key community name",
             application/json >
                                                                      "username": "Device key username",
                                                                      "password": "Device key password"
Response Messages
HTTP Status
                  Reason
                                               Response Model
                                                                                                           Headers
Code
200
                  successful operation
default
                  Unexpected error
 Try it out!
```



```
Implementation Notes
Returns the specified device key.

Response Class (Status 200)
successful operation

Model

Example Value

{
    "id": "Device key unique identifier",
    "type": "COMMUNITY_NAME, OR USERNAME_PASSWORD",
    "label": "Device key user label",
```

```
"community_name": "Device key community name",
   "username": "Device key username",
   "password": "Device key password"
 }
Response Content Type application/json V
Parameters
                                                                           Parameter
Parameter
               Value
                                                   Description
                                                                                          Data Type
                                                                           Type
id
                                                   device key identifier
                                                                           path
               (required)
                                                                                          string
Response Messages
HTTP Status
                 Reason
                                           Response Model
                                                                                                    Headers
Code
default
                 Unexpected error
 Try it out!
```

# devices: Manage inventory of infrastructure devices

```
/devices
                                                                                        Gets all infrastructure devices
GET
Implementation Notes
Returns array of all discovered infrastructure devices.
Response Class (Status 200)
successful operation
Model
Example Value
   "devices": [
       "id": "of:00000000000000001",
       "type": "SWITCH",
       "available": true,
       "role": "of:00000000000000001",
       "mfr": "Nicira, Inc.",
       "hw": "Open vSwitch",
       "sw": "2.3.1",
       "serial": "123",
        "driver": "ovs",
       "chassisId": "1",
        "annotations": {
          "managementAddress": "123",
          "protocol": "OF_13",
          "channelId": "10.128.12.4:34689"
```

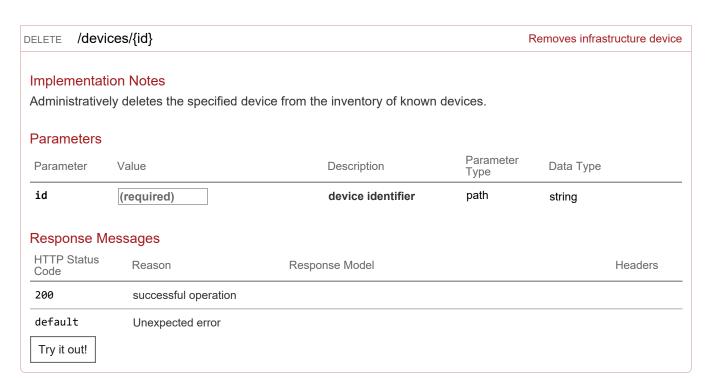
```
Response Content Type application/json ∨

Response Messages

HTTP Status Reason Response Model Headers

default Unexpected error

Try it out!
```





```
"role": "of:00000000000000001",
    "mfr": "Nicira, Inc.",
    "hw": "Open vSwitch",
    "sw": "2.3.1",
   "serial": "123",
   "driver": "ovs",
    "chassisId": "1",
    "annotations": {
     "managementAddress": "123",
     "protocol": "OF_13",
     "driver": "ovs",
     "channelId": "10.128.12.4:34689"
    }
 }
Response Content Type application/json V
Parameters
                                                                            Parameter
Parameter
               Value
                                                    Description
                                                                                           Data Type
                                                                            Type
id
                                                    device identifier
                                                                            path
               (required)
                                                                                           string
Response Messages
HTTP Status
                  Reason
                                            Response Model
                                                                                                     Headers
Code
 default
                  Unexpected error
 Try it out!
```

### GET /devices/{id}/ports

Gets ports of infrastructure device

### Implementation Notes

Returns details of the specified infrastructure device.

### Response Class (Status 200)

successful operation

#### Model

#### Example Value

```
"id": "of:00000000000001",
   "type": "SWITCH",
   "available": true,
   "role": "of:00000000000001",
   "mfr": "Nicira, Inc.",
   "hw": "Open vSwitch",
   "sw": "2.3.1",
   "serial": "123",
   "driver": "ovs",
```

```
"chassisId": "1",
   "annotations": {
     "managementAddress": "123",
     "protocol": "OF_13",
     "channelId": "10.128.12.4:34689"
   },
   "ports": [
     {
       "element": "of:0000000000000001",
       "port": "2",
       "isEnabled": true,
       "type": "copper",
       "portSpeed": 0,
       "annotations": {
          "portName": "s1"
   ]
 }
Response Content Type application/json V
Parameters
                                                                            Parameter
Parameter
               Value
                                                    Description
                                                                                           Data Type
                                                                            Type
id
               (required)
                                                    device identifier
                                                                            path
                                                                                           string
Response Messages
HTTP Status
                 Reason
                                            Response Model
                                                                                                     Headers
Code
                 Unexpected error
default
 Try it out!
```

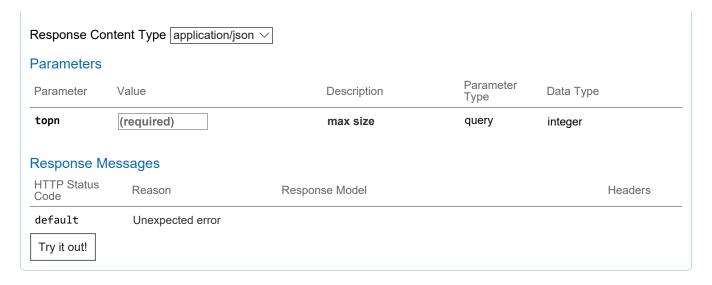
# dpis: Query the latest DPI statistics info

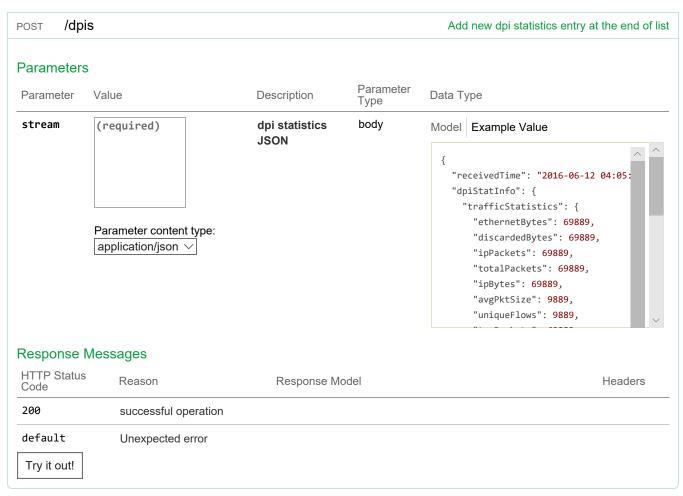
```
Response Class (Status 200)
successful operation

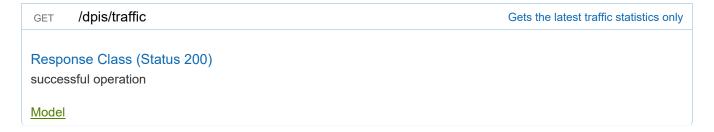
Model
Example Value

{
    "receivedTime": "2016-06-12 04:05:05",
    "dpiStatInfo": {
        "trafficStatistics": {
            "ethernetBytes": 69889,
            "discardedBytes": 69889,
```

```
"ipPackets": 69889,
      "totalPackets": 69889,
      "ipBytes": 69889,
      "avgPktSize": 9889,
      "uniqueFlows": 9889,
      "tcpPackets": 69889,
      "udpPackets": 69889,
      "dpiThroughputPps": 69889.12,
      "dpiThroughputBps": 69889.12,
      "trafficThroughputPps": 69889.12,
      "trafficThroughputBps": 69889.12,
      "trafficDurationSec": 69889.12,
      "guessedFlowProtos": 9889
    },
    "detectedProtos": [
        "name": "TCP",
        "breed": "Acceptable",
        "packets": 69889,
        "bytes": 69889,
        "flows": 9889
      }
    ],
    "knownFlows": [
      {
        "protocol": "TCP",
        "hostAName": "10.0.20.50",
        "hostAPort": 9889,
        "hostBName": "10.0.20.10",
        "hostBPort": 8181,
        "detectedProtocol": 80,
        "detectedProtocolName": "HTTP",
        "packets": 69889,
        "bytes": 69889,
        "hostSeverName": "raptor"
      }
    ],
    "unknownFlows": [
        "protocol": "TCP",
        "hostAName": "10.0.20.50",
        "hostAPort": 9889,
        "hostBName": "10.0.20.10",
        "hostBPort": 8181,
        "detectedProtocol": 80,
        "detectedProtocolName": "HTTP",
        "packets": 69889,
        "bytes": 69889,
        "hostSeverName": "raptor"
    ]
  }
}
```







```
Example Value
   "receivedTime": "2016-06-12 04:05:05",
   "dpiStatInfo": {
     "trafficStatistics": {
       "ethernetBytes": 69889,
       "discardedBytes": 69889,
       "ipPackets": 69889,
       "totalPackets": 69889,
       "ipBytes": 69889,
       "avgPktSize": 9889,
       "uniqueFlows": 9889,
       "tcpPackets": 69889,
       "udpPackets": 69889,
       "dpiThroughputPps": 69889.12,
       "dpiThroughputBps": 69889.12,
       "trafficThroughputPps": 69889.12,
       "trafficThroughputBps": 69889.12,
       "trafficDurationSec": 69889.12,
       "guessedFlowProtos": 9889
   }
 }
Response Content Type | application/json >
Response Messages
HTTP Status
                 Reason
                                           Response Model
                                                                                                    Headers
Code
default
                 Unexpected error
 Try it out!
```

GET /dpis/unknownFlows

Gets the latest unknown flows statistics only

### Response Class (Status 200)

successful operation

#### Model Example

Example Value

```
"hostBPort": 8181,
         "detectedProtocol": 80,
          "detectedProtocolName": "HTTP",
          "packets": 69889,
         "bytes": 69889,
         "hostSeverName": "raptor"
     ]
   }
 }
Response Content Type application/json V
Parameters
                                                                           Parameter
Parameter
               Value
                                                   Description
                                                                                          Data Type
                                                                           Type
                                                   max size
topn
               (required)
                                                                           query
                                                                                          integer
Response Messages
HTTP Status
                 Reason
                                           Response Model
                                                                                                    Headers
Code
default
                 Unexpected error
 Try it out!
```

GET /dpis/protocols

Gets the latest detected protocol statistics only

### Response Class (Status 200)

Response Content Type application/json V

successful operation

#### Model

#### Example Value

#### **Parameters** Parameter Parameter Value Description Data Type Type topn (required) max size query integer Response Messages **HTTP Status** Reason Response Model Headers Code default Unexpected error Try it out!

GET /dpis/knownFlows

Gets the latest known flows statistics only

### Response Class (Status 200)

successful operation

#### Model

Example Value

```
"receivedTime": "2016-06-12 04:05:05",
  "dpiStatInfo": {
    "knownFlows": [
        "protocol": "TCP",
        "hostAName": "10.0.20.50",
        "hostAPort": 9889,
        "hostBName": "10.0.20.10",
        "hostBPort": 8181,
        "detectedProtocol": 80,
        "detectedProtocolName": "HTTP",
        "packets": 69889,
        "bytes": 69889,
        "hostSeverName": "raptor"
   ]
  }
}
```

### Response Content Type application/json V

#### **Parameters**

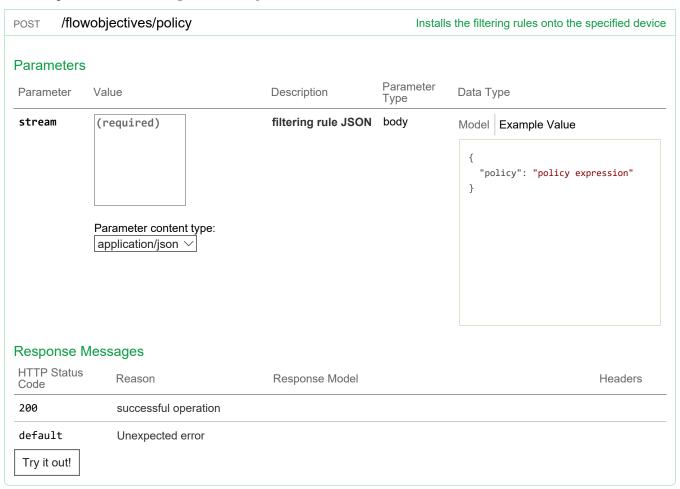
Parameter Value Description Parameter Type Data Type

topn (required) max size query integer

#### Response Messages

| HTTP Status<br>Code  | Reason           | Response Model | Headers |
|----------------------|------------------|----------------|---------|
| default  Try it out! | Unexpected error |                |         |

# flowobjectives : Manage flow objectives



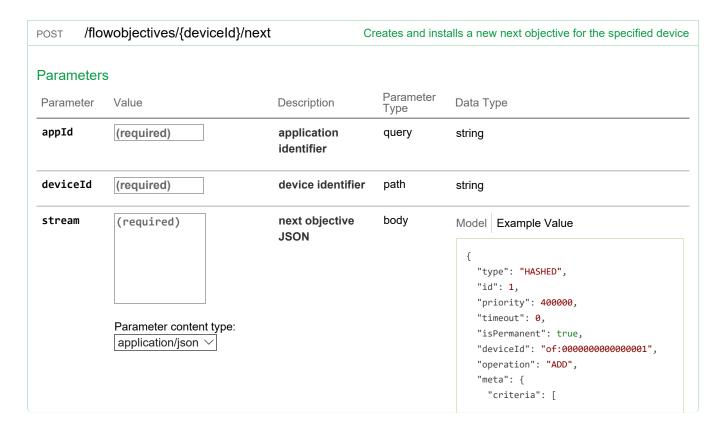
| POST /flo | wobjectives/{deviceId}/ | forward Creates              | and installs a    | new forwarding objective for the specified device |
|-----------|-------------------------|------------------------------|-------------------|---|
| Parameter | s                       |                              |                   |   |
| Parameter | Value                   | Description                  | Parameter<br>Type | Data Type   |
| appId     | (required)              | application<br>identifier    | query             | string  |
| deviceId  | (required)              | device identifier            | path              | string  |
| stream    |                         | forwarding<br>objective JSON | body              | Model Example Value                               |

```
Parameter
Parameter
             Value
                                            Description
                                                                            Data Type
                                                               Туре
              (required)
                                                                                "flag": "SPECIFIC",
                                                                                "priority": 40000,
                                                                                "timeout": 0,
                                                                                "isPermanent": true,
                                                                                "deviceId": "of:0000000000000001",
                                                                                "operation": "ADD",
              Parameter content type:
                                                                                "selector": {
              application/json ∨
                                                                                  "criteria": [
                                                                                      "type": "ETH_TYPE",
Response Messages
HTTP Status
                  Reason
                                               Response Model
                                                                                                           Headers
Code
200
                  successful operation
default
                  Unexpected error
 Try it out!
```

```
GET
       /flowobjectives/next
                                                                                 Returns the globally unique nextld
Response Class (Status 200)
successful operation
Model
Example Value
   "nextId": 3
 }
Response Content Type application/json V
Response Messages
HTTP Status
                 Reason
                                          Response Model
                                                                                                 Headers
Code
default
                 Unexpected error
 Try it out!
```

| POST /flowobjectives/{deviceId}/filter Creates and inst | talls a new filtering objective for the specified device |
|---|--|
| Parameters  |  |
| Parameter Value Description Parameter Type              | eter Data Type   |

| Parameter            | Value   | Description                 | Parameter<br>Type | Data Type  |
|----------------------|---|-----------------------------|-------------------|--|
| appId                | (required)  | application<br>identifier   | query             | string   |
| deviceId             | (required)  | device identifier           | path              | string   |
| stream               | (required)  Parameter content type:  application/json ✓ | filtering objective<br>JSON | body              | Model Example Value  {     "type": "PERMIT",     "priority": 400000,     "timeout": 0,     "isPermanent": true,     "deviceId": "of:000000000000000000000000000000000000 |
| Response I           | Messages  |                             |                   |  |
| HTTP Status<br>Code  | Reason  | Response Model              |                   | Headers  |
| 200                  | successful operation                                    |                             |                   |  |
| default  Try it out! | Unexpected error  |                             |                   |  |



| Parameter \          | /alue                | Description | Parameter<br>Type | Data Type |         |
|----------------------|----------------------|-------------|-------------------|-----------|---------|
| Response Me          | essages              |             |                   |           |         |
| HTTP Status<br>Code  | Reason               | Response M  | lodel             |           | Headers |
| 200                  | successful operation |             |                   |           |         |
| default  Try it out! | Unexpected error     |             |                   |           |         |

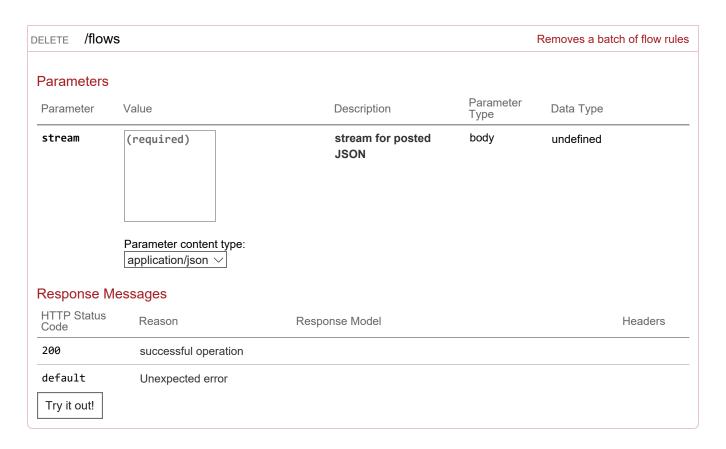
# flows: Query and program flow rules

| DELETE /flows/application/{appld}  Removes flow rules by application ID |                      |                                  |                   |           |         |  |
|---|----------------------|----------------------------------|-------------------|-----------|---------|--|
| Implementat<br>Removes a co   |                      | erated by the given application. |                   |           |         |  |
| Parameters  |                      |                                  |                   |           |         |  |
| Parameter   | Value                | Description                      | Parameter<br>Type | Data Type |         |  |
| appId   | (required)           | application identifier           | path              | string    |         |  |
| Response M  | essages              |                                  |                   |           |         |  |
| HTTP Status<br>Code   | Reason               | Response Model                   |                   |           | Headers |  |
| 200   | successful operation |                                  |                   |           |         |  |
| default   | Unexpected error     |                                  |                   |           |         |  |
| Try it out!   |                      |                                  |                   |           |         |  |



```
"tableId": 3,
"appId": "org.onosproject.core",
"groupId": 0,
"priority": 40000,
"timeout": 0,
"isPermanent": true,
"deviceId": "of:0000000000000003",
"liveType": "UNKNOWN",
"treatment": {
  "instructions": [
      "type": "OUTPUT",
      "port": "CONTROLLER"
   }
  ],
  "deferred": [
   "string"
  ]
},
"selector": {
  "criteria": [
      "type": "ETH_TYPE",
      "ethType": "0x88cc",
      "mac": "00:00:11:00:00:01",
      "port": 1,
      "metadata": "0xabcdL",
      "vlanId": "0x1000",
      "priority": 1,
      "protocol": 1,
      "ip": "10.1.1.0/24",
      "tcpPort": 1,
      "udpPort": 1,
      "sctpPort": 1,
      "icmpType": 1,
      "icmpCode": 1,
      "flowLabel": "0xffffe",
      "icmpv6Type": 1,
      "icmpv6Code": 1,
      "targetAddress": "10.1.1.0/24",
      "label": 1,
      "exthdrFlags": 1,
      "lambda": 1,
      "gridType": "DWDM",
      "channelSpacing": 100,
      "spacingMultiplier": 4,
      "slotGranularity": 8,
      "ochSignalId": 1,
      "tunnelId": 5,
      "ochSignalType": 1,
      "oduSignalId": 1,
      "tributaryPortNumber": 11,
      "tributarySlotLen": 80,
```

```
"tributarySlotBitmap": [
              ],
              "oduSignalType": 4
         ]
     }
   ]
 }
Response Content Type application/json V
Parameters
                                                                             Parameter
Parameter
               Value
                                                    Description
                                                                                            Data Type
                                                                             Туре
appId
               (required)
                                                    application identifier
                                                                             path
                                                                                            string
Response Messages
HTTP Status
Code
                                            Response Model
                                                                                                      Headers
                  Reason
default
                  Unexpected error
 Try it out!
```



Gets all flow entries

#### Implementation Notes

Returns array of all flow rules in the system.

### Response Class (Status 200)

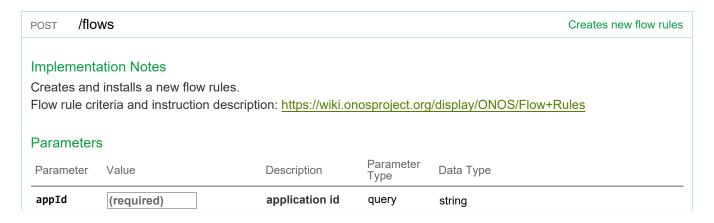
successful operation

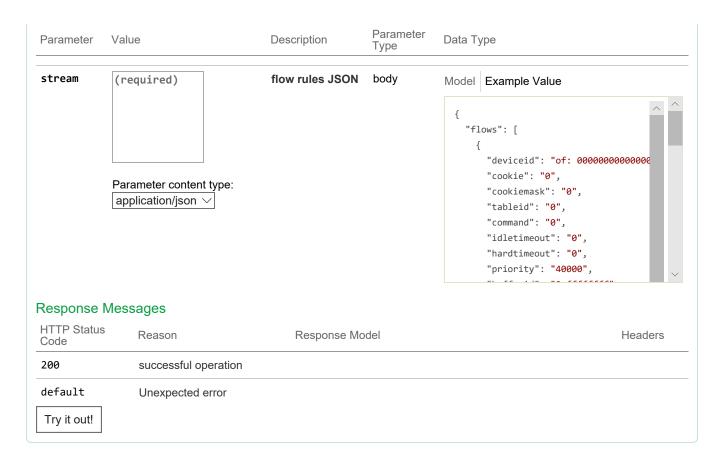
#### Model

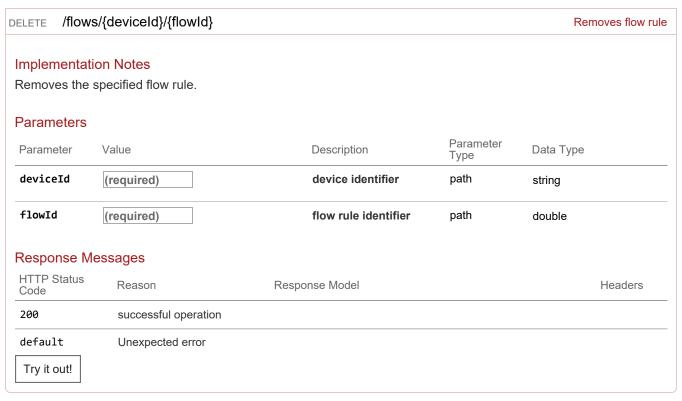
Example Value

```
"flows": [
    "id": "12103425214920339",
    "tableId": 3,
    "appId": "org.onosproject.core",
    "groupId": 0,
    "priority": 40000,
    "timeout": 0,
    "isPermanent": true,
    "deviceId": "of:0000000000000003",
    "state": "ADDED",
    "life": 69889,
    "packets": 22546,
    "bytes": 1826226,
    "liveType": "UNKNOWN",
    "lastSeen": 1447892365670,
    "treatment": {
      "instructions": [
       {
          "type": "OUTPUT",
          "port": "CONTROLLER"
        }
      ],
      "deferred": [
        "string"
      ]
    },
    "selector": {
      "criteria": [
          "type": "ETH_TYPE",
          "ethType": "0x88cc",
          "mac": "00:00:11:00:00:01",
          "port": 1,
          "metadata": "OxabcdL",
          "vlanId": "0x1000",
          "priority": 1,
          "protocol": 1,
          "ip": "10.1.1.0/24",
          "tcpPort": 1,
          "udpPort": 1,
```

```
"sctpPort": 1,
              "icmpType": 1,
              "icmpCode": 1,
              "flowLabel": "0xffffe",
              "icmpv6Type": 1,
             "icmpv6Code": 1,
              "targetAddress": "10.1.1.0/24",
              "label": 1,
              "exthdrFlags": 1,
              "lambda": 1,
              "gridType": "DWDM",
              "channelSpacing": 100,
              "spacingMultiplier": 4,
             "slotGranularity": 8,
              "ochSignalId": 1,
             "tunnelId": 5,
              "ochSignalType": 1,
              "oduSignalId": 1,
              "tributaryPortNumber": 11,
              "tributarySlotLen": 80,
              "tributarySlotBitmap": [
             ],
              "oduSignalType": 4
         1
     }
   ]
 }
Response Content Type application/json V
Response Messages
HTTP Status
                 Reason
                                            Response Model
                                                                                                     Headers
Code
default
                  Unexpected error
 Try it out!
```







#### **Implementation Notes**

Returns the flow entry specified by the device id and flow rule id.

### Response Class (Status 200)

successful operation

#### Model Example Value

```
"flows": [
 {
   "id": "12103425214920339",
   "tableId": 3,
   "appId": "org.onosproject.core",
   "groupId": ∅,
    "priority": 40000,
   "timeout": 0,
   "isPermanent": true,
    "deviceId": "of:0000000000000003",
   "state": "ADDED",
   "life": 69889,
   "packets": 22546,
    "bytes": 1826226,
    "liveType": "UNKNOWN",
   "lastSeen": 1447892365670,
    "treatment": {
      "instructions": [
          "type": "OUTPUT",
          "port": "CONTROLLER"
       }
      ],
      "deferred": [
       "string"
      ]
   },
    "selector": {
      "criteria": [
          "type": "ETH_TYPE",
          "ethType": "0x88cc",
          "mac": "00:00:11:00:00:01",
          "port": 1,
          "metadata": "0xabcdL",
          "vlanId": "0x1000",
          "priority": 1,
          "protocol": 1,
          "ip": "10.1.1.0/24",
          "tcpPort": 1,
          "udpPort": 1,
          "sctpPort": 1,
```

```
"icmpType": 1,
              "icmpCode": 1,
              "flowLabel": "0xffffe",
             "icmpv6Type": 1,
              "icmpv6Code": 1,
              "targetAddress": "10.1.1.0/24",
              "label": 1,
              "exthdrFlags": 1,
             "lambda": 1,
              "gridType": "DWDM",
             "channelSpacing": 100,
              "spacingMultiplier": 4,
              "slotGranularity": 8,
              "ochSignalId": 1,
              "tunnelId": 5,
              "ochSignalType": 1,
              "oduSignalId": 1,
              "tributaryPortNumber": 11,
              "tributarySlotLen": 80,
              "tributarySlotBitmap": [
               1
              "oduSignalType": 4
         1
   ]
 }
Response Content Type application/json V
Parameters
                                                                            Parameter
Parameter
               Value
                                                    Description
                                                                                          Data Type
                                                                            Type
deviceId
               (required)
                                                    device identifier
                                                                            path
                                                                                          string
flowId
               (required)
                                                    flow rule identifier
                                                                            path
                                                                                          double
Response Messages
HTTP Status
                 Reason
                                            Response Model
                                                                                                     Headers
Code
default
                  Unexpected error
```

GET /flows/{deviceId}

Try it out!

#### **Implementation Notes**

Returns array of all flow rules for the specified device.

### Response Class (Status 200)

successful operation

#### Model Example Value

```
"flows": [
 {
   "id": "12103425214920339",
   "tableId": 3,
    "appId": "org.onosproject.core",
   "groupId": 0,
    "priority": 40000,
   "timeout": 0,
   "isPermanent": true,
    "deviceId": "of:0000000000000003",
   "state": "ADDED",
   "life": 69889,
   "packets": 22546,
    "bytes": 1826226,
    "liveType": "UNKNOWN",
    "lastSeen": 1447892365670,
    "treatment": {
      "instructions": [
          "type": "OUTPUT",
          "port": "CONTROLLER"
       }
      ],
      "deferred": [
       "string"
      ]
   },
    "selector": {
      "criteria": [
          "type": "ETH_TYPE",
          "ethType": "0x88cc",
          "mac": "00:00:11:00:00:01",
          "port": 1,
          "metadata": "0xabcdL",
          "vlanId": "0x1000",
          "priority": 1,
          "protocol": 1,
          "ip": "10.1.1.0/24",
          "tcpPort": 1,
          "udpPort": 1,
          "sctpPort": 1,
```

```
"icmpType": 1,
              "icmpCode": 1,
              "flowLabel": "0xffffe",
             "icmpv6Type": 1,
              "icmpv6Code": 1,
             "targetAddress": "10.1.1.0/24",
              "label": 1,
              "exthdrFlags": 1,
             "lambda": 1,
              "gridType": "DWDM",
             "channelSpacing": 100,
             "spacingMultiplier": 4,
             "slotGranularity": 8,
              "ochSignalId": 1,
              "tunnelId": 5,
              "ochSignalType": 1,
              "oduSignalId": 1,
              "tributaryPortNumber": 11,
              "tributarySlotLen": 80,
              "tributarySlotBitmap": [
               1
              ],
              "oduSignalType": 4
          ]
   ]
 }
Response Content Type application/json V
Parameters
                                                                            Parameter
Parameter
               Value
                                                    Description
                                                                                           Data Type
                                                                            Type
deviceId
               (required)
                                                    device identifier
                                                                            path
                                                                                           string
Response Messages
HTTP Status
                 Reason
                                            Response Model
                                                                                                     Headers
Code
                  Unexpected error
default
 Try it out!
```

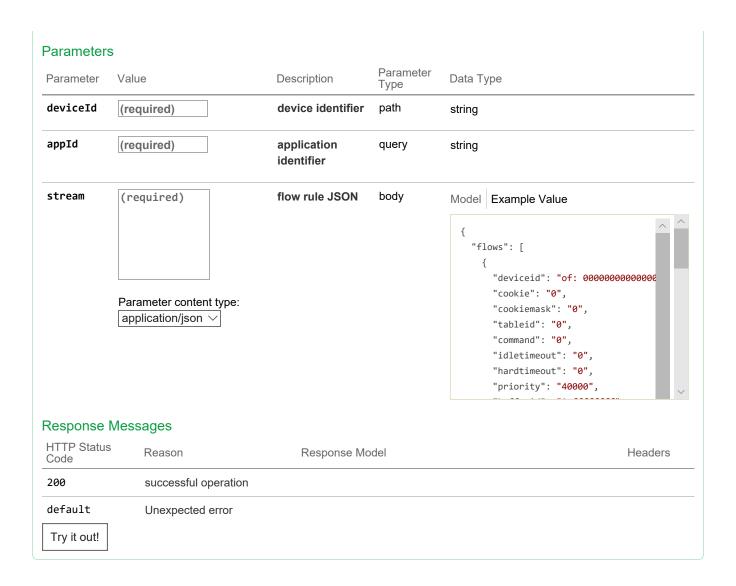
POST /flows/{deviceId}

Creates new flow rule

# Implementation Notes

Creates and installs a new flow rule for the specified device.

Flow rule criteria and instruction description: https://wiki.onosproject.org/display/ONOS/Flow+Rules



## groups: Query and program group rules

```
/groups
                                                                                     Returns all groups of all devices
GET
Response Class (Status 200)
successful operation
Model
Example Value
   "groups": [
     {
       "id": "1",
       "state": "PENDING_ADD",
       "life": 69889,
       "packets": 22546,
       "bytes": 1826226,
       "referenceCount": 1826226,
       "type": "ALL",
```

```
"deviceId": "of:0000000000000003",
       "appId": "org.onosproject.rest",
       "appCookie": "0x1234abcd",
       "buckets": [
         {
           "treatment": {
             "instructions": [
                 "type": "OUTPUT",
                 "port": "2"
               }
             ]
           },
           "weight": "1.0",
           "watchPort": "2",
           "watchGroup": "1"
       ]
     }
   ]
 }
Response Content Type application/json V
Response Messages
HTTP Status
                 Reason
                                           Response Model
                                                                                                   Headers
Code
default
                 Unexpected error
 Try it out!
```

/groups/{deviceId} GET

Returns all groups associated with the given device

#### Response Class (Status 200)

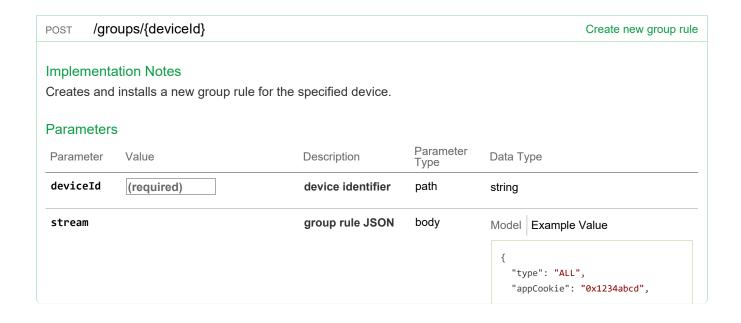
successful operation

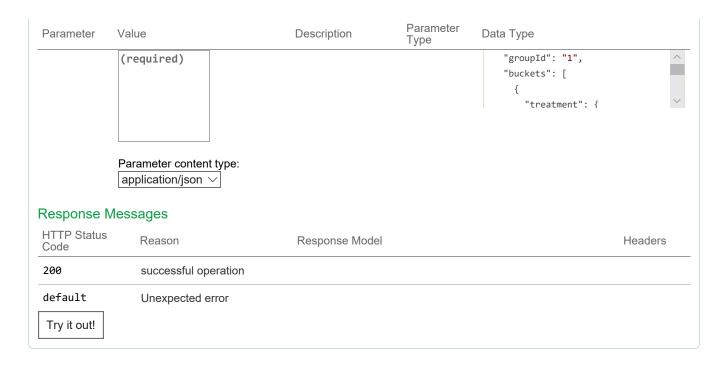
## Model

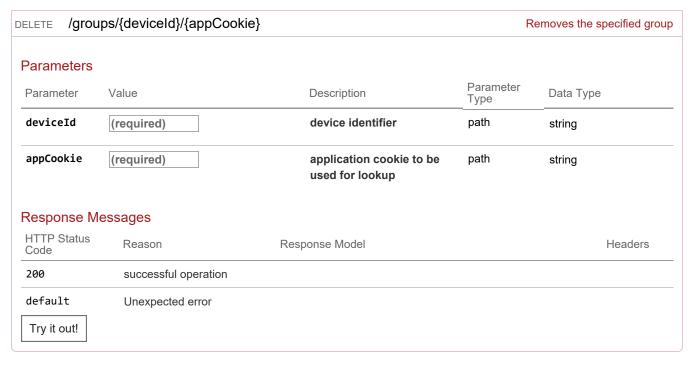
Example Value

```
"groups": [
   "id": "1",
   "state": "PENDING_ADD",
   "life": 69889,
   "packets": 22546,
    "bytes": 1826226,
    "referenceCount": 1826226,
    "type": "ALL",
    "deviceId": "of:0000000000000003",
    "appId": "org.onosproject.rest",
```

```
"appCookie": "0x1234abcd",
        "buckets": [
            "treatment": {
              "instructions": [
                  "type": "OUTPUT",
                  "port": "2"
                }
             ]
           },
            "weight": "1.0",
           "watchPort": "2",
            "watchGroup": "1"
       ]
   ]
 }
Response Content Type application/json V
Parameters
                                                                            Parameter
Parameter
               Value
                                                    Description
                                                                                           Data Type
                                                                            Type
deviceId
               (required)
                                                    device identifier
                                                                            path
                                                                                           string
Response Messages
HTTP Status
                 Reason
                                            Response Model
                                                                                                     Headers
Code
default
                  Unexpected error
 Try it out!
```









```
"state": "PENDING_ADD",
   "life": 69889,
   "packets": 22546,
   "bytes": 1826226,
   "referenceCount": 1826226,
   "type": "ALL",
   "deviceId": "of:0000000000000003",
   "appId": "org.onosproject.rest",
   "appCookie": "0x1234abcd",
   "buckets": [
     {
        "treatment": {
          "instructions": [
              "type": "OUTPUT",
             "port": "2"
          ]
       },
        "weight": "1.0",
       "watchPort": "2",
       "watchGroup": "1"
     }
   ]
 }
Response Content Type application/json V
Parameters
                                                                            Parameter
               Value
Parameter
                                                    Description
                                                                                           Data Type
                                                                             Type
deviceId
                                                    device identifier
               (required)
                                                                             path
                                                                                           string
appCookie
                                                                             path
               (required)
                                                    group key
                                                                                           string
Response Messages
HTTP Status
                                                                                                     Headers
                  Reason
                                            Response Model
Code
default
                  Unexpected error
 Try it out!
```

## hosts: Manage inventory of end-station hosts

DELETE /hosts/{mac}/{vlan}

Removes infrastructure device

#### Implementation Notes

Administratively deletes the specified device from the inventory of known devices.

## Response Class (Status 200)

successful operation

#### Model

Example Value

```
"id": "46:E4:3C:A4:17:C8/-1",
 "mac": "46:E4:3C:A4:17:C8",
 "vlan": "-1",
 "ipAddresses": [
   "127.0.0.1"
 ],
 "location": {
   "elementId": "of:000000000000000000002",
    "port": "3"
 }
}
```

## Response Content Type application/json V

#### **Parameters**

| Parameter | Value      | Description          | Parameter<br>Type | Data Type |
|-----------|------------|----------------------|-------------------|-----------|
| mac       | (required) | host MAC address     | path              | string    |
| vlan      | (required) | host VLAN identifier | path              | string    |

#### Response Messages

| Code    |                  |  |
|---------|------------------|--|
| default | Unexpected error |  |
| aetauit | Unexpected error |  |

Try it out!

#### /hosts/{mac}/{vlan} GET

Get details of end-station host with MAC/VLAN

#### Implementation Notes

Returns detailed properties of the specified end-station host.

#### Response Class (Status 200)

successful operation

## Model Example Value

```
"id": "46:E4:3C:A4:17:C8/-1",
"mac": "46:E4:3C:A4:17:C8",
```

```
"vlan": "-1",
   "ipAddresses": [
     "127.0.0.1"
   ],
   "location": {
     "elementId": "of:0000000000000000000002",
     "port": "3"
   }
 }
Response Content Type application/json V
Parameters
                                                                               Parameter
Parameter
               Value
                                                     Description
                                                                                              Data Type
                                                                               Type
mac
               (required)
                                                      host MAC address
                                                                               path
                                                                                              string
                                                      host VLAN identifier
vlan
                (required)
                                                                               path
                                                                                              string
```

Response Model

GET /hosts/{id}

Response Messages

Reason

Unexpected error

**HTTP Status** 

Try it out!

Code default

Get details of end-station host

Headers

#### Implementation Notes

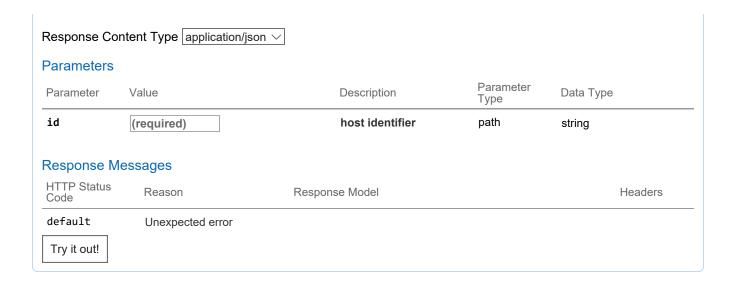
Returns detailed properties of the specified end-station host.

## Response Class (Status 200)

successful operation

#### Model

Example Value



GET /hosts Get all end-station hosts

#### Implementation Notes

Returns array of all known end-station hosts.

## Response Class (Status 200)

successful operation

#### Model

#### Example Value

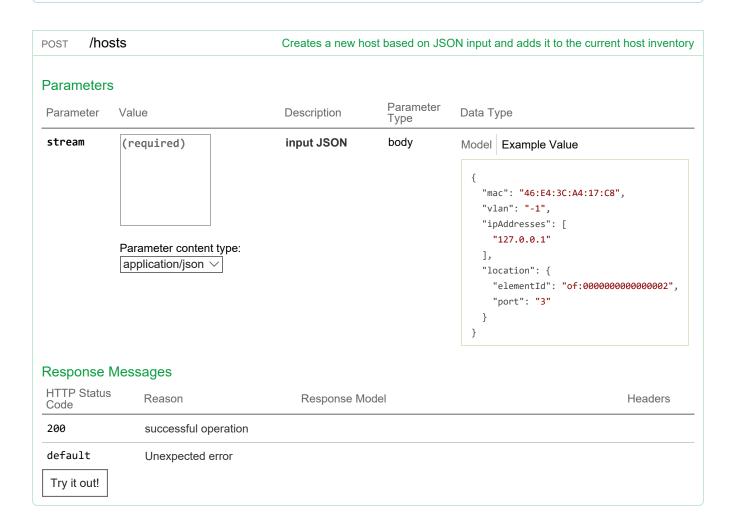
```
{
  "hosts": [
    {
      "id": "46:E4:3C:A4:17:C8/-1",
      "mac": "46:E4:3C:A4:17:C8",
      "vlan": "-1",
      "ipAddresses": [
        "127.0.0.1"
      ],
      "location": {
        "elementId": "of:0000000000000000000002",
         "port": "3"
      }
    }
  ]
}
```

Response Content Type application/json V

#### Response Messages

HTTP Status Code Reason Response Model Headers

default Unexpected error



## intents: Query, submit and withdraw network intents

```
Implementation Notes
Returns all flow entries of the specified intent.

Response Class (Status 200)
successful operation

Model
Example Value

{
    "id": "0x5",
    "appId": "org.onosproject.ovsdb",
    "type": "HostToHostIntent",
    "paths": [
    [
```

```
"id": "12103425214920339",
        "tableId": 3,
        "appId": "org.onosproject.core",
        "groupId": 0,
        "priority": 40000,
        "timeout": 0,
        "isPermanent": true,
        "deviceId": "of:0000000000000003",
        "state": "ADDED",
        "life": 69889,
        "packets": 22546,
        "bytes": 1826226,
        "lastSeen": 1447892365670,
        "treatment": {
          "instructions": [
              "type": "OUTPUT",
              "port": "CONTROLLER"
            }
          ],
          "deferred": [
           "string"
          ]
        },
        "selector": {
          "criteria": [
              "type": "ETH_TYPE",
              "ethType": "0x88cc",
              "mac": "00:00:11:00:00:01",
              "port": 1
            }
          ]
  ]
}
```

## Response Content Type application/json V

#### **Parameters**

| Parameter | Value      | Description            | Parameter<br>Type | Data Type |
|-----------|------------|------------------------|-------------------|-----------|
| appId     | (required) | application identifier | path              | string    |
| key       | (required) | intent key             | path              | string    |

#### Response Messages

HTTP Status Code Reason Response Model Headers

HTTP Status Code Reason Response Model Headers

default Unexpected error

Try it out!

GET /intents Gets all intents

#### Implementation Notes

Returns array containing all the intents in the system.

#### Response Class (Status 200)

successful operation

#### Model

#### Example Value

Response Content Type application/json V

#### Response Messages

HTTP Status Code Reason Response Model Headers

default Ur

Unexpected error

Try it out!

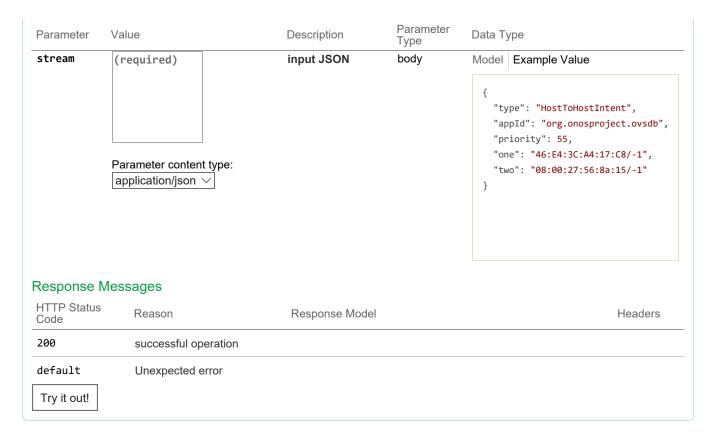
POST /intents Submits a new intent

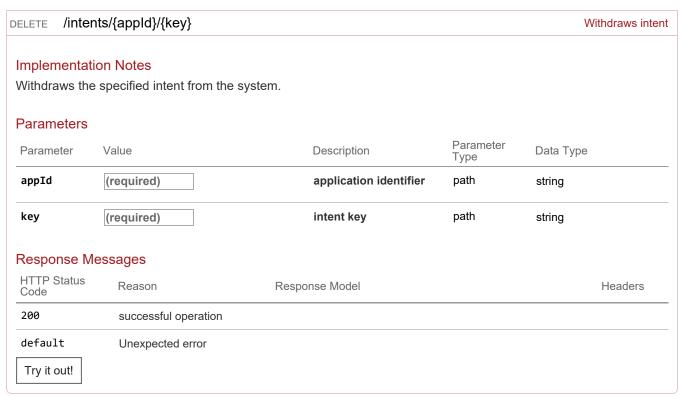
#### Implementation Notes

Creates and submits intent from the JSON request.

#### **Parameters**

Parameter Value Description Parameter Type Data Type





#### Implementation Notes

Returns details of the specified intent.

## Response Class (Status 200)

successful operation

## Model

#### Example Value

## Response Content Type application/json >

#### **Parameters**

| Parameter | Value      | Description            | Parameter<br>Type | Data Type |
|-----------|------------|------------------------|-------------------|-----------|
| appId     | (required) | application identifier | path              | string    |
| key       | (required) | intent key             | path              | string    |

#### Response Messages

| Code Code | Reason | Response Model | Headers |
|-----------|--------|----------------|---------|
|           |        |                |         |

default

Unexpected error

Try it out!

## links : Manage inventory of infrastructure links

GET /links Gets infrastructure links

## **Implementation Notes**

Returns array of all links, or links for the specified device or port.

## Response Class (Status 200)

successful operation

#### Model

Example Value

#### Response Content Type application/json V

#### **Parameters**

| Parameter | Value | Description                    | Parameter<br>Type | Data Type |
|-----------|-------|--------------------------------|-------------------|-----------|
| device    |       | (optional) device identifier   | query             | string    |
| port      |       | (optional) port number         | query             | string    |
| direction |       | (optional) direction qualifier | query             | string    |

#### Response Messages

| Code | Reason | Response Model | Headers |
|------|--------|----------------|---------|
|      |        |                |         |

default

Unexpected error

Try it out!

## mastership: Manage the mastership of ONOS instances

GET /mastership/{deviceId}/role

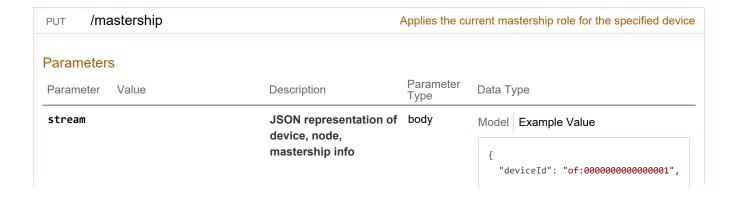
Returns controllers connected to a given device, in order of preference

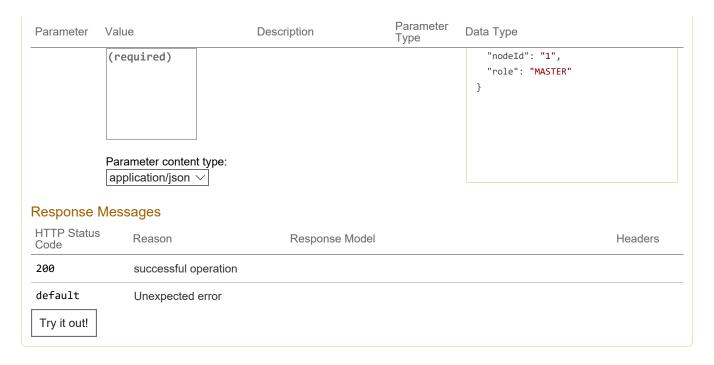
#### **Implementation Notes**

The first entry in the list is the current master.

```
Response Class (Status 200)
successful operation
Model
Example Value
    "master": "1",
    "backups": [
     "1"
    ]
 }
Response Content Type application/json \vee
Parameters
                                                                            Parameter
Parameter
               Value
                                                    Description
                                                                                           Data Type
                                                                            Туре
 deviceId
               (required)
                                                    device identifier
                                                                            path
                                                                                           string
Response Messages
HTTP Status
                  Reason
                                            Response Model
                                                                                                     Headers
Code
 default
                  Unexpected error
 Try it out!
```

| GET /mastership     |                  | Balances the mastership to be shared as ever | nly as possibly by all online instances |
|---------------------|------------------|--|---|
| Response Me         | ssages           |  |   |
| HTTP Status<br>Code | Reason           | Response Model                               | Headers                                 |
| 200                 | successful opera | tion   |   |
| default             | Unexpected erro  | r  |   |
| Try it out!         |                  |  |   |





```
/mastership/{deviceId}/request
GET
                    Returns the mastership status of the local controller for a given device forcing master selection if necessary
Response Class (Status 200)
successful operation
Model
Example Value
    "role": "MASTER"
Response Content Type application/json V
Parameters
                                                                             Parameter
Parameter
               Value
                                                    Description
                                                                                           Data Type
                                                                             Type
deviceId
                                                     device identifier
                                                                             path
               (required)
                                                                                            string
Response Messages
HTTP Status
                  Reason
                                            Response Model
                                                                                                      Headers
Code
 default
                  Unexpected error
 Try it out!
```

```
Response Class (Status 200)
successful operation
Model
Example Value
   "nodeId": "1"
 }
Response Content Type application/json V
Parameters
                                                                          Parameter
Parameter
              Value
                                                  Description
                                                                                        Data Type
                                                                          Type
deviceId
               (required)
                                                   device identifier
                                                                          path
                                                                                        string
Response Messages
HTTP Status
                 Reason
                                          Response Model
                                                                                                  Headers
Code
default
                 Unexpected error
 Try it out!
```

#### GET /mastership/{nodeld}/device Returns the devices for which a controller is master Response Class (Status 200) successful operation Model Example Value "deviceIds": [ "of:00000000000000001" ] } Response Content Type application/json V **Parameters** Parameter Parameter Value Description Data Type Type nodeId (required) controller identifier path string Response Messages **HTTP Status** Reason Response Model Headers Code

| HTTP Status<br>Code | Reason           | Response Model | Headers |
|---------------------|------------------|----------------|---------|
| default             | Unexpected error |                |         |
| Try it out!         |                  |                |         |

| GET /mas            | tership/{deviceId}    | relinquish                                  |                     |                   |              |
|---------------------|-----------------------|---|---------------------|-------------------|--------------|
|                     | Abandor               | s mastership of the specified device on the | local node thus for | cing selection of | a new master |
|                     |                       |   |                     |                   |              |
| Implementat         | ion Notes             |   |                     |                   |              |
| If the local no     | de is not a master fo | r this device, no master selection will o   | ccur.               |                   |              |
|                     |                       |   |                     |                   |              |
| Parameters          |                       |   |                     |                   |              |
| Parameter           | Value                 | Description                                 | Parameter<br>Type   | Data Type         |              |
| deviceId            | (required)            | device identifier                           | path                | string            |              |
| Response M          | essages               |   |                     |                   |              |
| HTTP Status<br>Code | Reason                | Response Model                              |                     |                   | Headers      |
| 200                 | successful opera      | ion   |                     |                   |              |
| default             | Unexpected erro       |   |                     |                   |              |
| Try it out!         |                       |   |                     |                   |              |

## /mastership/{deviceId}/local GET Returns the role of the local node for the specified device Response Class (Status 200) successful operation Model Example Value "role": "MASTER" } Response Content Type application/json V **Parameters** Parameter Parameter Value Description Data Type Туре deviceId (required) device identifier path string Response Messages

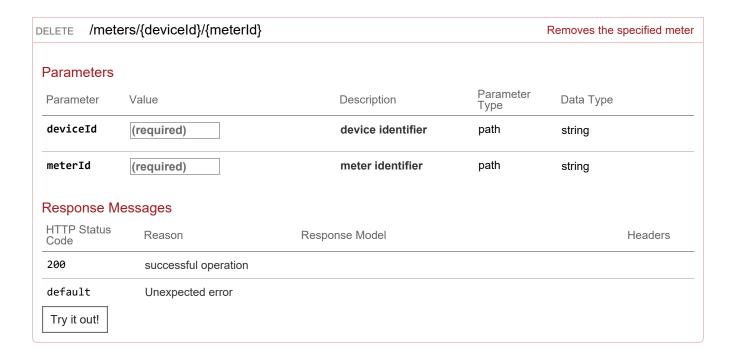
HTTP Status Code Reason Response Model Headers

default Unexpected error

Try it out!

## meters: Query and program meter rules

```
GET
        /meters
                                                                                     Returns all meters of all devices
Response Class (Status 200)
successful operation
Model
Example Value
   "meters": [
     {
       "id": "1",
       "appId": "org.onosproject.rest",
       "deviceId": "of:0000000000000001",
       "unit": "KB_PER_SEC",
       "burst": true,
       "state": "ADDED",
       "life": 0,
       "refCount": 0,
       "packets": 0,
       "bytes": 0,
       "bands": [
           "type": "REMARK",
           "rate": 0,
           "burstSize": 0,
           "prec": 0,
           "packets": 0,
           "bytes": 0
       ]
     }
   ]
 }
Response Content Type application/json V
Response Messages
HTTP Status
                 Reason
                                           Response Model
                                                                                                    Headers
Code
default
                 Unexpected error
 Try it out!
```



# GET /meters/{deviceId}/{meterId}

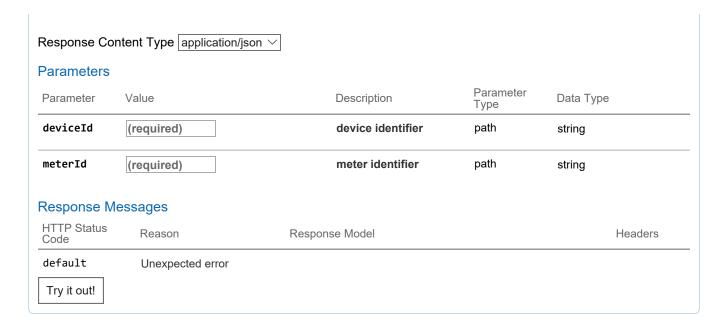
Returns a meter by the meter id

## Response Class (Status 200)

successful operation

#### Model Example Value

```
"id": "1",
 "appId": "org.onosproject.rest",
 "deviceId": "of:0000000000000001",
 "unit": "KB_PER_SEC",
 "burst": true,
 "state": "ADDED",
 "life": 0,
 "refCount": 0,
 "packets": 0,
 "bytes": 0,
 "bands": [
   {
      "type": "REMARK",
      "rate": 0,
     "burstSize": 0,
      "prec": 0,
      "packets": 0,
      "bytes": 0
   }
 ]
}
```



/meters/{deviceId} GET

Returns a collection of meters by the device id

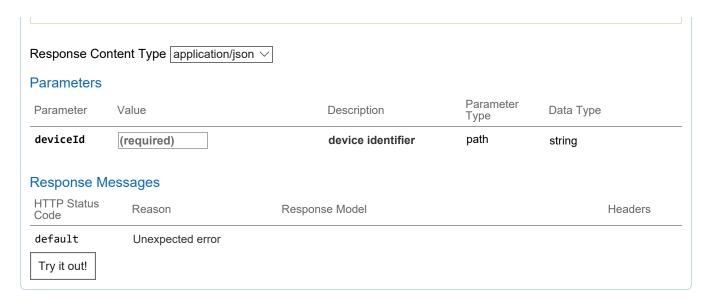
## Response Class (Status 200)

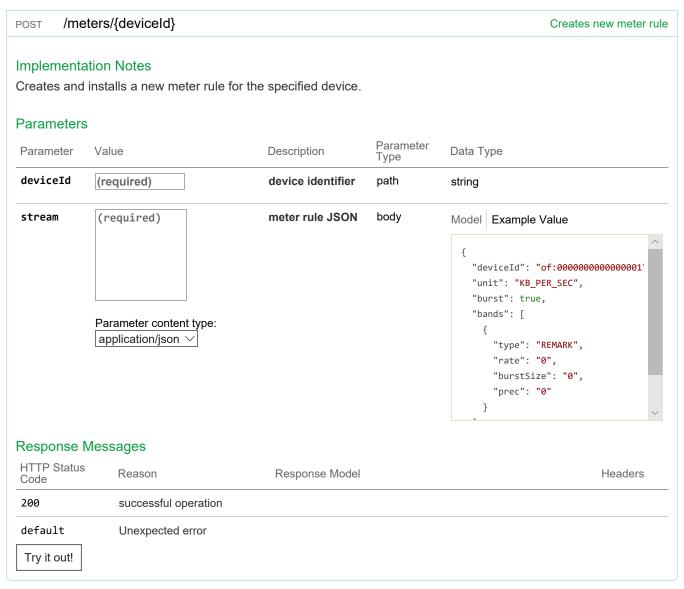
successful operation

## Model

Example Value

```
"meters": [
 {
   "id": "1",
   "appId": "org.onosproject.rest",
    "deviceId": "of:0000000000000001",
   "unit": "KB_PER_SEC",
   "burst": true,
   "state": "ADDED",
   "life": 0,
    "refCount": 0,
    "packets": 0,
   "bytes": 0,
    "bands": [
        "type": "REMARK",
        "rate": 0,
        "burstSize": 0,
        "prec": 0,
        "packets": 0,
        "bytes": 0
 }
]
```





## metrics: Query metrics

GET /metrics/{metricName}

Gets stats information of a metric

#### Implementation Notes

Returns array of all information for the specified metric.

## Response Class (Status 200)

successful operation

#### Model

Example Value

```
{
  "metric": {
    "timer": {
        "counter": "1",
        "mean_rate": "1.0",
        "1_min_rate": "1.0",
        "15_min_rate": "1.0",
        "mean": "1.0",
        "mean": "1.0",
        "max": "1.0",
        "stddev": "1.0"
    }
}
```

Response Content Type application/json V

#### **Parameters**

Parameter Value Description Parameter Type Data Type

metricName (required) metric name path string

#### Response Messages

HTTP Status Code Reason Response Model Headers

default

Unexpected error

Try it out!

GET /metrics

Gets stats information of all metrics

#### **Implementation Notes**

Returns array of all information for all metrics.

```
Response Class (Status 200)
successful operation
Model
Example Value
   "metrics": [
     {
       "metric": {
         "timer": {
           "counter": "1",
           "mean_rate": "1.0",
           "1_min_rate": "1.0",
           "5_min_rate": "1.0",
           "15_min_rate": "1.0",
           "mean": "1.0",
           "min": "1.0",
           "max": "1.0",
           "stddev": "1.0"
       }
     }
   ]
Response Content Type application/json V
Response Messages
HTTP Status
                 Reason
                                          Response Model
                                                                                                  Headers
Code
 default
                 Unexpected error
 Try it out!
```

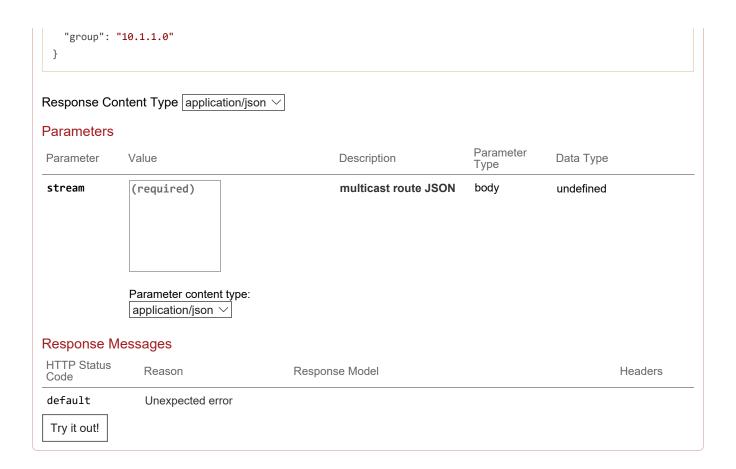
## mcast: Manage the multicast routing information

```
Implementation Notes
Removes a route from the multicast RIB.

Response Class (Status 200)
successful operation

Model
Example Value

{
    "source": "10.1.1.0",
```



GET /mcast Get all multicast routes

#### Implementation Notes

Returns array of all known multicast routes.

## Response Class (Status 200)

successful operation

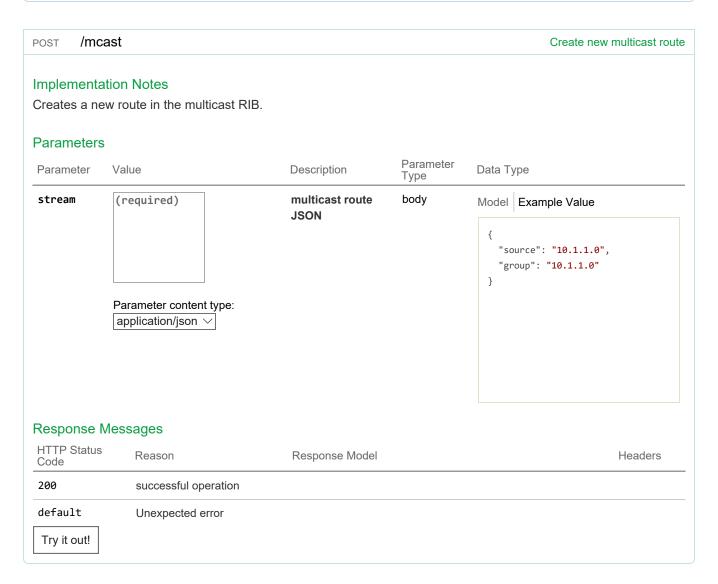
#### Model

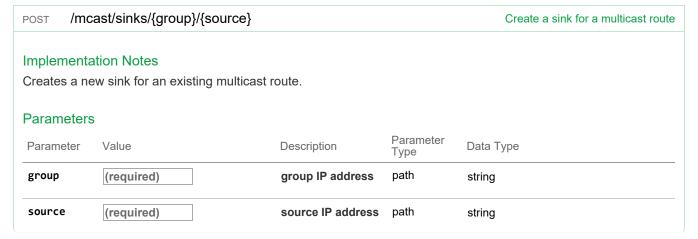
#### Example Value

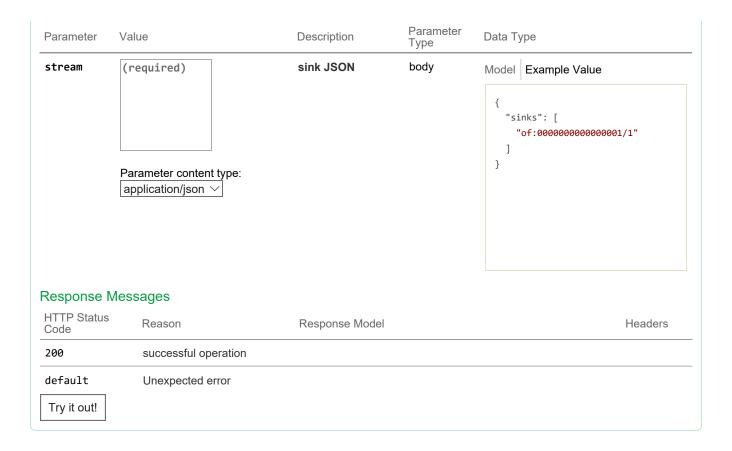
Response Content Type application/json V

Response Messages

| HTTP Status<br>Code | Reason           | Response Model | Headers |
|---------------------|------------------|----------------|---------|
| default             | Unexpected error |                |         |
| Try it out!         |                  |                |         |







## network/configuration: Manage network configurations

| DELETE /netwo        | ork/configuration    |                | Clear entire network configuration base |
|----------------------|----------------------|----------------|---|
| Response Me          | essages              |                |   |
| HTTP Status<br>Code  | Reason               | Response Model | Headers                                 |
| 200                  | successful operation |                |   |
| default  Try it out! | Unexpected error     |                |   |

| GET /netwo           | ork/configuration    |                | Gets entire network configuration base |
|----------------------|----------------------|----------------|--|
| Response Me          | essages              |                |  |
| HTTP Status<br>Code  | Reason               | Response Model | Headers                                |
| 200                  | successful operation |                |  |
| default  Try it out! | Unexpected error     |                |  |

| POST /netv          | work/configuration                  |   | Uploads           | bulk network configuration |
|---------------------|-------------------------------------|---|-------------------|----------------------------|
| Parameters          |                                     |   |                   |                            |
| Parameter           | Value                               | Description                                       | Parameter<br>Type | Data Type                  |
| request             | (required)  Parameter content type: | network configuration JSON rooted at the top node | body              | undefined                  |
|                     | application/json ∨                  |   |                   |                            |
| Response M          | lessages                            |   |                   |                            |
| HTTP Status<br>Code | Reason                              | Response Model                                    |                   | Headers                    |
| 200                 | successful operation                |   |                   |                            |
| default             | Unexpected error                    |   |                   |                            |
| Try it out!         |                                     |   |                   |                            |

| DELETE /network/configuration/{subjectClassKey} |                      |                  | Clear all network conf | igurations for a subject class |
|---|----------------------|------------------|------------------------|--------------------------------|
| Parameters                                      |                      |                  |                        |                                |
| Parameter                                       | Value                | Description      | Parameter<br>Type      | Data Type                      |
| subjectClassKe                                  | y (required)         | subject class ke | path                   | string                         |
| Response Mes                                    | sages<br>Reason      | Response Model   |                        | Headers                        |
| Code  |                      | Tresponse Model  |                        | Tieaders                       |
| 200   | successful operation |                  |                        |                                |
| default<br>                                     | Unexpected error     |                  |                        |                                |
| Try it out!                                     |                      |                  |                        |                                |

| GET /network/   | /configuration/{subjectClassKey} | Gets              | all network confi | iguration for a subject class |
|-----------------|----------------------------------|-------------------|-------------------|-------------------------------|
| Parameters      |                                  |                   |                   |                               |
| Parameter       | Value                            | Description       | Parameter<br>Type | Data Type                     |
| subjectClassKey | (required)                       | subject class key | path              | string                        |
| Response Messa  | ages                             |                   |                   |                               |

| HTTP Status<br>Code  | Reason         | Response Model | Headers |
|----------------------|----------------|----------------|---------|
| 200                  | successful ope | ration         |         |
| default  Try it out! | Unexpected er  | ror            |         |

| POST /network       | /configuration/{subjectC                    | lassKey} Upload multiple n                        | etwork configu    | rations for a subject class |
|---------------------|---|---|-------------------|-----------------------------|
| Parameters          |   |   |                   |                             |
| Parameter           | Value                                       | Description                                       | Parameter<br>Type | Data Type                   |
| subjectClassKey     | (required)                                  | subject class key                                 | path              | string                      |
| request             | (required)                                  | network configuration JSON rooted at the top node | body              | undefined                   |
|                     |   |   |                   |                             |
|                     | Parameter content type:  application/json ∨ |   |                   |                             |
| Response Mess       | ages  |   |                   |                             |
| HTTP Status<br>Code | Reason                                      | Response Model                                    |                   | Headers                     |
| 200                 | successful operation                        |   |                   |                             |
| default             | Unexpected error                            |   |                   |                             |
| Try it out!         |   |   |                   |                             |

#### /network/configuration/{subjectClassKey}/{subjectKey}/{configKey} DELETE Clear specific network configuration for a subjectKey **Parameters** Parameter Type Parameter Value Description Data Type **subjectClassKey** (required) subjectKey class key path string subjectKey (required) subjectKey key path string configKey (required) configuration class key path string Response Messages **HTTP Status** Reason Response Model Headers Code

| HTTP Status<br>Code  | Reason               | Response Model | Headers |
|----------------------|----------------------|----------------|---------|
| 200                  | successful operation |                |         |
| default  Try it out! | Unexpected error     |                |         |

| GET /network        | /configuration/{subjectC | lassKey}/{subjectKey}/{configKe | ∋y}               |                              |
|---------------------|--------------------------|---------------------------------|-------------------|------------------------------|
|                     |                          | Gets spec                       | cific network co  | nfiguration for a subjectKey |
|                     |                          | ·                               |                   |                              |
| Parameters          |                          |                                 |                   |                              |
| Parameter           | Value                    | Description                     | Parameter<br>Type | Data Type                    |
| subjectClassKey     | (required)               | subjectKey class key            | path              | string                       |
| subjectKey          | (required)               | subjectKey key                  | path              | string                       |
| configKey           | (required)               | configuration class key         | path              | string                       |
| Response Mess       | ages                     |                                 |                   |                              |
| HTTP Status<br>Code | Reason                   | Response Model                  |                   | Headers                      |
| 200                 | successful operation     |                                 |                   |                              |
| default             | Unexpected error         |                                 |                   |                              |
| Try it out!         |                          |                                 |                   |                              |

#### /network/configuration/{subjectClassKey}/{subjectKey}/{configKey} POST Upload specific network configuration for a subjectKey **Parameters** Parameter Value Description Data Type Parameter Туре subjectClassKey (required) subjectKey class key path string subjectKey subjectKey key path (required) string configKey (required) configuration class key path string (required) network configuration JSON request body undefined rooted at the top node

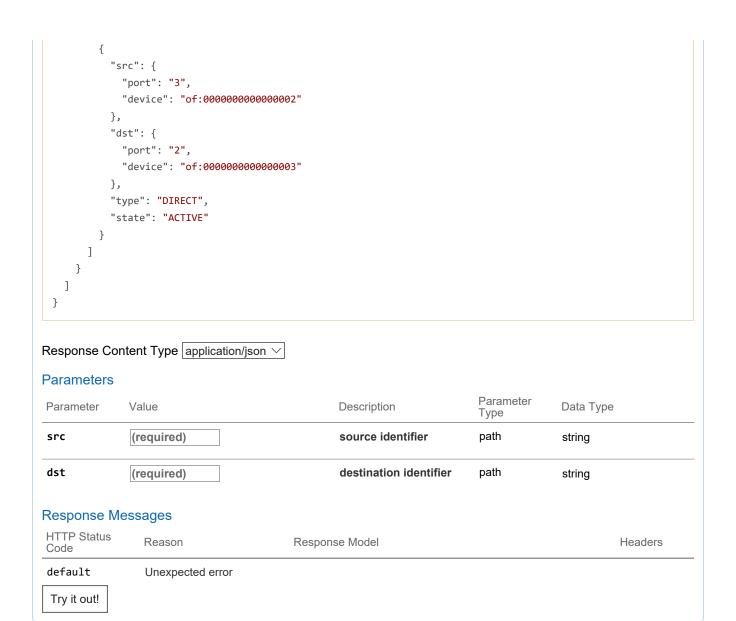
| Parameter           | Value   | Description    | Parameter<br>Type | Data Type |
|---------------------|---|----------------|-------------------|-----------|
|                     | Parameter content type:<br>application/json ✓ |                |                   |           |
| Response Me         | ssages  |                |                   |           |
| HTTP Status<br>Code | Reason  | Response Model |                   | Headers   |
| 200                 | successful operation                          |                |                   |           |
| default             | Unexpected error                              |                |                   |           |
| Try it out!         |   |                |                   |           |

| DELETE /network     | c/configuration/{subject( | ClassKey}/{subjectKey} Clea | r all network cor | nfigurations for a subjectKey |
|---------------------|---------------------------|-----------------------------|-------------------|-------------------------------|
| Parameters          |                           |                             |                   |                               |
| Parameter           | Value                     | Description                 | Parameter<br>Type | Data Type                     |
| subjectClassKey     | (required)                | subjectKey class key        | path              | string                        |
| subjectKey          | (required)                | subjectKey key              | path              | string                        |
| Response Mess       | ages                      |                             |                   |                               |
| HTTP Status<br>Code | Reason                    | Response Model              |                   | Headers                       |
| 200                 | successful operation      |                             |                   |                               |
| default             | Unexpected error          |                             |                   |                               |
| Try it out!         |                           |                             |                   |                               |

| GET /network        | /configuration/{subject0 | ClassKey}/{subjectKey} Ge | ts all network co | onfiguration for a subjectKe |
|---------------------|--------------------------|---------------------------|-------------------|------------------------------|
| Parameters          |                          |                           |                   |                              |
| Parameter           | Value                    | Description               | Parameter<br>Type | Data Type                    |
| subjectClassKey     | (required)               | subjectKey class key      | path              | string                       |
| subjectKey          | (required)               | subjectKey key            | path              | string                       |
| Response Mess       | ages                     |                           |                   |                              |
| HTTP Status<br>Code | Reason                   | Response Model            |                   | Headers                      |
| 200                 | successful operation     |                           |                   |                              |
| default             | Unexpected error         |                           |                   |                              |

|                      |                         | Upload mutliple                                   | network config    | gurations for a subjectKe |
|----------------------|-------------------------|---|-------------------|---------------------------|
| Parameters           |                         |   |                   |                           |
| Parameter            | Value                   | Description                                       | Parameter<br>Type | Data Type                 |
| subjectClassKey      | (required)              | subjectKey class key                              | path              | string                    |
| subjectKey           | (required)              | subjectKey key                                    | path              | string                    |
| request              | Parameter content type: | network configuration JSON rooted at the top node | body              | undefined                 |
| Response Mess        | ages                    |   |                   |                           |
| HTTP Status<br>Code  | Reason                  | Response Model                                    |                   | Headers                   |
| 200                  | successful operation    |   |                   |                           |
| default  Try it out! | Unexpected error        |   |                   |                           |

## paths: Compute paths in the network graph



## GET /paths/{src}/{dst}

Gets all shortest paths between any two hosts or devices

#### Implementation Notes

Returns array of all shortest paths between any two elements.

#### Response Class (Status 200)

successful operation

#### <u>Model</u>

## Example Value

```
{
    "paths": [
    {
        "cost": 2,
        "links": [
        {
```

```
"src": {
              "port": "3",
              "device": "of:0000000000000000000002"
            "dst": {
              "port": "2",
              "device": "of:0000000000000003"
            "type": "DIRECT",
            "state": "ACTIVE"
        ]
     }
   ]
 }
Response Content Type application/json V
Parameters
                                                                             Parameter
               Value
                                                    Description
                                                                                            Data Type
Parameter
                                                                             Type
                                                    source identifier
                                                                              path
src
               (required)
                                                                                            string
dst
                                                    destination identifier
               (required)
                                                                              path
                                                                                            string
Response Messages
HTTP Status
                  Reason
                                                                                                      Headers
                                            Response Model
Code
default
                  Unexpected error
 Try it out!
```

## regions: Manages region and device membership

```
Response Class (Status 200)
successful operation

Model
Example Value

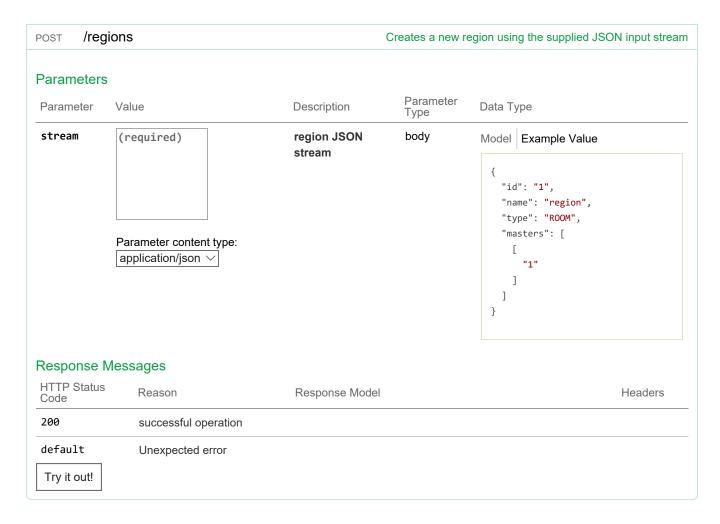
{
    "regions": [
    {
        "id": "1",
        "name": "region",
        "type": "ROOM",
        "masters": [
        [
```

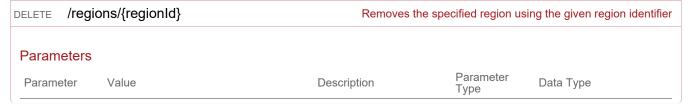
```
Response Content Type application/json >

Response Messages
HTTP Status Reason Response Model Headers

default Unexpected error

Try it out!
```

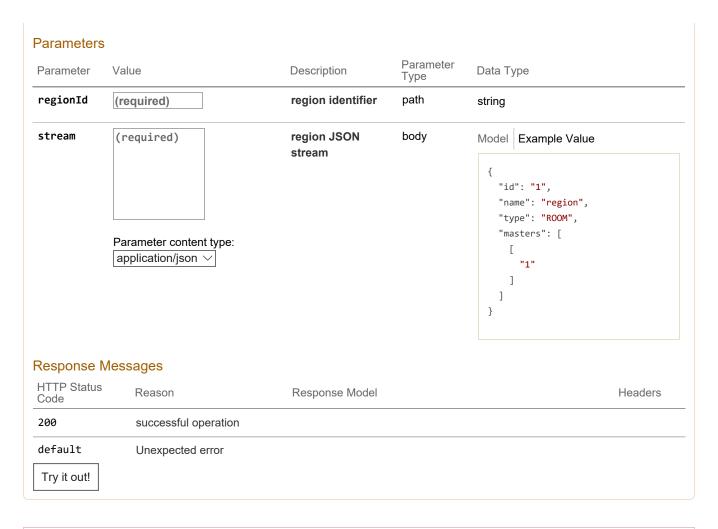




| Parameter           | Value                | Description       | Parameter<br>Type | Data Type |         |
|---------------------|----------------------|-------------------|-------------------|-----------|---------|
| regionId            | (required)           | region identifier | path              | string    |         |
|                     |                      |                   |                   |           |         |
| Response Messages   |                      |                   |                   |           |         |
| HTTP Status<br>Code | Reason               | Response Model    |                   |           | Headers |
| 200                 | successful operation |                   |                   |           |         |
| default             | Unexpected error     |                   |                   |           |         |
| Try it out!         |                      |                   |                   |           |         |

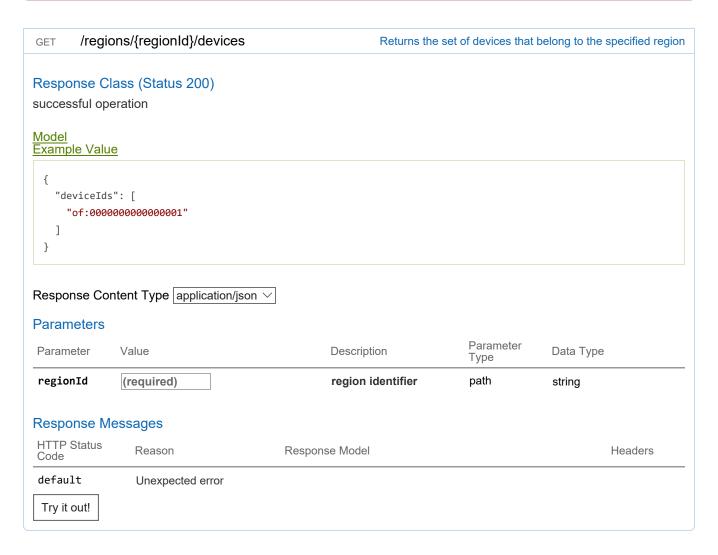
```
/regions/{regionId}
GET
                                                                          Returns the region with the specified identifier
Response Class (Status 200)
successful operation
Model
Example Value
    "id": "1",
   "name": "region",
   "type": "ROOM",
   "masters": [
        "1"
     ]
    ]
Response Content Type application/json V
Parameters
                                                                            Parameter
Parameter
               Value
                                                    Description
                                                                                           Data Type
                                                                            Туре
 regionId
               (required)
                                                                            path
                                                    region identifier
                                                                                           string
Response Messages
HTTP Status
                                                                                                     Headers
                 Reason
                                            Response Model
Code
default
                  Unexpected error
 Try it out!
```

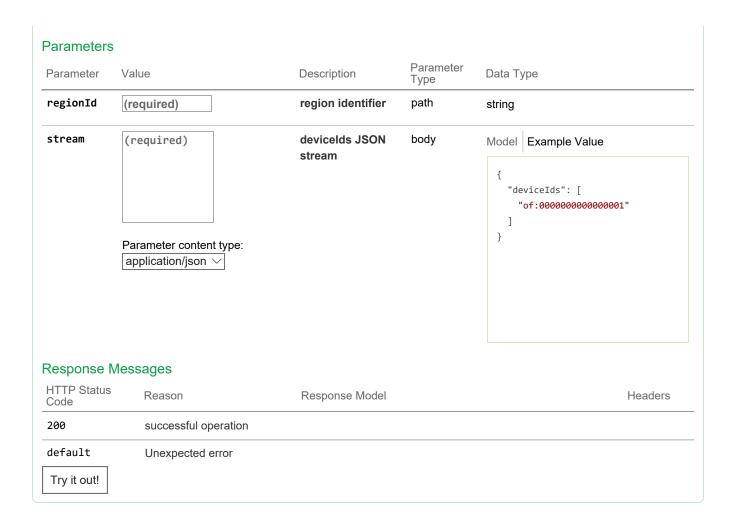
PUT



```
/regions/{regionId}/devices
DELETE
                                                               Removes the specified collection of devices from the region
 Response Class (Status 200)
 successful operation
 Model
 Example Value
    "deviceIds": [
      "of:0000000000000000001"
    ]
   }
 Response Content Type application/json V
 Parameters
                                                                             Parameter
 Parameter
                Value
                                                     Description
                                                                                            Data Type
                                                                              Туре
 regionId
                (required)
                                                     region identifier
                                                                             path
                                                                                            string
                                                                             body
 stream
                                                                                            undefined
```

| Parameter           | Value                   | Description    | Parameter<br>Type | Data Type |
|---------------------|-------------------------|----------------|-------------------|-----------|
|                     | (required)              | devicelds JSON |                   |           |
|                     |                         | stream         |                   |           |
|                     |                         |                |                   |           |
|                     |                         |                |                   |           |
|                     |                         |                |                   |           |
|                     |                         |                |                   |           |
|                     | Parameter content type: |                |                   |           |
|                     | application/json ∨      |                |                   |           |
| D                   |                         |                |                   |           |
| Response M          | iessages                |                |                   |           |
| HTTP Status<br>Code | Reason                  | Response Model |                   | Headers   |
| default             | Unexpected error        |                |                   |           |
| Try it out!         |                         |                |                   |           |





# statistics: Query flow statistics

```
/statistics/ports/{deviceId}
                                                                                Gets port statistics of a specified devices
GET
Response Class (Status 200)
successful operation
Model
Example Value
    "statistics": [
        "deviceId": "of:00000000000000001",
        "ports": [
          {
            "port": 1,
            "packetsReceived": 98,
            "packetsSent": 98,
            "bytesReceived": 9162,
            "bytesSent": 9162,
            "packetsRxDropped": 0,
            "packetsTxDropped": 0,
```

```
"packetsRxErrors": 0,
           "packetsTxErrors": 0,
           "durationSec": 90
       ]
     }
 }
Response Content Type application/json V
Parameters
                                                                           Parameter
Parameter
               Value
                                                   Description
                                                                                          Data Type
                                                                           Type
deviceId
               (required)
                                                   device ID
                                                                           path
                                                                                          string
Response Messages
HTTP Status
                 Reason
                                           Response Model
                                                                                                    Headers
Code
default
                 Unexpected error
 Try it out!
```

/statistics/delta/ports/{deviceId}/{port} GET

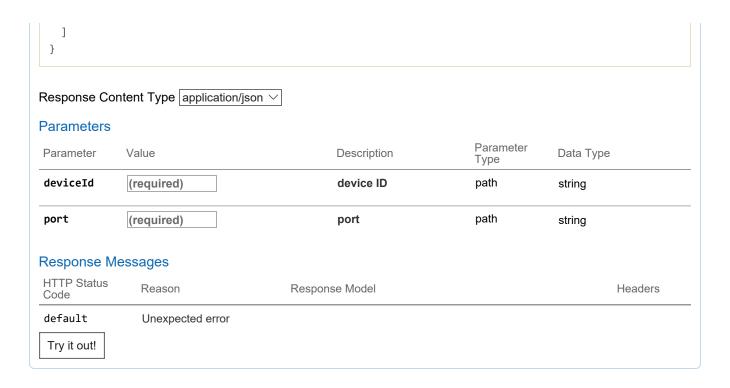
Gets port delta statistics of a specified device and port

# Response Class (Status 200)

successful operation

# Model

```
Example Value
   "statistics": [
        "deviceId": "of:0000000000000001",
        "ports": [
            "port": 1,
            "packetsReceived": 98,
            "packetsSent": 98,
            "bytesReceived": 9162,
            "bytesSent": 9162,
            "packetsRxDropped": 0,
            "packetsTxDropped": 0,
            "packetsRxErrors": 0,
            "packetsTxErrors": 0,
            "durationSec": 90
          }
       ]
     }
```



GET /statistics/ports

Gets port statistics of all devices

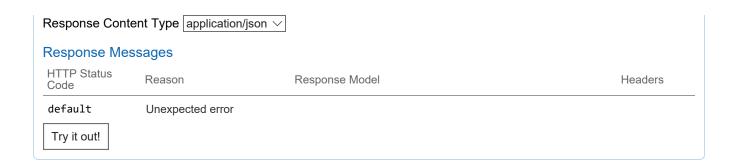
# Response Class (Status 200)

successful operation

# Model

# Example Value

```
{
  "statistics": [
      "deviceId": "of:0000000000000001",
      "ports": [
        {
          "port": 1,
          "packetsReceived": 98,
          "packetsSent": 98,
          "bytesReceived": 9162,
          "bytesSent": 9162,
          "packetsRxDropped": 0,
          "packetsTxDropped": 0,
          "packetsRxErrors": 0,
          "packetsTxErrors": 0,
          "durationSec": 90
      ]
  ]
}
```



GET /statistics/delta/ports/{deviceId}

Gets port delta statistics of a specified devices

# Response Class (Status 200)

successful operation

# Model

Example Value

```
"statistics": [
   {
      "deviceId": "of:0000000000000001",
      "ports": [
        {
          "port": 1,
          "packetsReceived": 98,
          "packetsSent": 98,
          "bytesReceived": 9162,
          "bytesSent": 9162,
          "packetsRxDropped": 0,
          "packetsTxDropped": 0,
          "packetsRxErrors": 0,
          "packetsTxErrors": 0,
          "durationSec": 90
   }
  ]
}
```

# Response Content Type application/json V

# **Parameters**

Parameter Value Description Parameter Type Data Type

deviceId (required) device ID path string

# Response Messages

HTTP Status Code Reason Response Model Headers

default Unexpected error

GET /statistics/ports/{deviceId}/{port} Gets port statistics of a specified device and port

# Response Class (Status 200)

successful operation

# Model Example Value

```
"statistics": [
   {
      "deviceId": "of:0000000000000001",
      "ports": [
          "port": 1,
          "packetsReceived": 98,
          "packetsSent": 98,
          "bytesReceived": 9162,
          "bytesSent": 9162,
          "packetsRxDropped": 0,
          "packetsTxDropped": 0,
          "packetsRxErrors": 0,
          "packetsTxErrors": 0,
          "durationSec": 90
        }
      ]
   }
  ]
}
```

# Response Content Type application/json V

# **Parameters**

| Parameter | Value      | Description | Type | Data Type |
|-----------|------------|-------------|------|-----------|
| deviceId  | (required) | device ID   | path | string    |
| port      | (required) | port        | path | string    |

# Response Messages

**HTTP Status** Reason Response Model Headers Code

default

Unexpected error

Try it out!

# Response Class (Status 200)

successful operation

# Model

# Example Value

# Response Content Type application/json >

# **Parameters**

Parameter Value Description Parameter Type Data Type

deviceId (required) device ID path string

# Response Messages

HTTP Status Code Reason Response Model Headers

default Unexpected error

Try it out!

# Response Class (Status 200) successful operation Model Example Value { "statistics": [ {

```
"deviceId": "of:0000000000000001",
        "ports": [
           "port": 1,
           "packetsReceived": 98,
           "packetsSent": 98,
           "bytesReceived": 9162,
           "bytesSent": 9162,
           "packetsRxDropped": 0,
           "packetsTxDropped": 0,
           "packetsRxErrors": 0,
           "packetsTxErrors": 0,
           "durationSec": 90
         }
       ]
     }
   ]
 }
Response Content Type application/json V
Response Messages
HTTP Status
                 Reason
                                           Response Model
                                                                                                    Headers
Code
default
                 Unexpected error
 Try it out!
```

GET /statistics/flows/link

Gets load statistics for all links or for a specific link

# Response Class (Status 200)

successful operation

# Model Example Value

Response Content Type application/json V

| Parameters          |                  |   |                   |           |  |
|---------------------|------------------|---|-------------------|-----------|--|
| Parameter           | Value            | Description                                 | Parameter<br>Type | Data Type |  |
| device              |                  | (optional) device ID for a specific link    | query             | string    |  |
| port                |                  | (optional) port number for a specified link | query             | string    |  |
| Response Me         | essages          |   |                   |           |  |
| HTTP Status<br>Code | Reason           | Response Model                              |                   | Headers   |  |
| default             | Unexpected error |   |                   |           |  |
| Try it out!         |                  |   |                   |           |  |

/statistics/flows/tables GET

Gets table statistics for all tables of all devices

# Response Class (Status 200)

successful operation

Model Example Value

```
"statistics": [
     "deviceId": "of:0000000000000001",
      "table": [
       {
          "tableId": 0,
          "deviceId": "of:0000000000000001",
          "activeEntries": 3,
          "packetsLookedUp": 458530,
          "packetsMathced": 458501
     ]
   }
  ]
}
```

# Response Content Type application/json V

# Response Messages

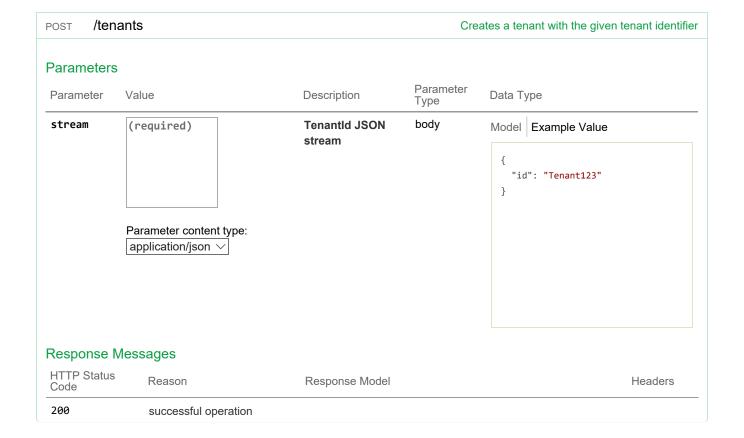
HTTP Status Reason Response Model Headers Code

default Unexpected error

Try it out!

# tenants: Query and manage tenants of virtual networks

```
/tenants
GET
                                                                                       Returns all tenant identifiers
Response Class (Status 200)
successful operation
Model
Example Value
   "tenants": [
       "id": "Tenant123"
   ]
 }
Response Content Type application/json V
Response Messages
HTTP Status
                 Reason
                                          Response Model
                                                                                                  Headers
Code
default
                 Unexpected error
 Try it out!
```



| HTTP Status<br>Code | Reason           | Response Model | Headers |
|---------------------|------------------|----------------|---------|
| default             | Unexpected error |                |         |
| Try it out!         |                  |                |         |

| DELETE /tenants/{tenantId}        |                      | Removes the specified tenant with the specified tenant iden |                   |           | enant identi |
|-----------------------------------|----------------------|---|-------------------|-----------|--------------|
| Parameters                        |                      |   |                   |           |              |
| Parameter                         | Value                | Description   | Parameter<br>Type | Data Type |              |
| tenantId                          | (required)           | tenant identifier   | path              | string    |              |
| Response M<br>HTTP Status<br>Code | Reason               | Response Model  |                   |           | Headers      |
| 200                               | successful operation |   |                   |           |              |
| default                           | Unexpected error     |   |                   |           |              |
| Try it out!                       |                      |   |                   |           |              |

# topology: Query network topology graph and its components

```
/topology/clusters
                                                                                    Gets overview of topology SCCs
GET
Response Class (Status 200)
successful operation
Model
Example Value
   "clusters": [
       "id": 1,
       "deviceCount": 3,
       "linkCount": 4,
       "root": "of:0000000000000000000001"
     }
   ]
 }
Response Content Type application/json V
Response Messages
HTTP Status
                 Reason
                                           Response Model
                                                                                                   Headers
Code
```

| HTTP Status<br>Code | Reason           | Response Model | Headers |
|---------------------|------------------|----------------|---------|
| default             | Unexpected error |                |         |
| Try it out!         |                  |                |         |

```
/topology/clusters/{id}/devices
GET
                                                                                      Gets devices in a specific SCC
Response Class (Status 200)
successful operation
Model
Example Value
   "devices": [
     "of:000000000000000000001"
   ]
 }
Response Content Type application/json V
Parameters
                                                                           Parameter
Parameter
               Value
                                                   Description
                                                                                          Data Type
                                                                           Туре
id
               (required)
                                                   id of the cluster to
                                                                           path
                                                                                          integer
                                                   query
Response Messages
HTTP Status
                 Reason
                                           Response Model
                                                                                                    Headers
Code
                 Unexpected error
default
 Try it out!
```

```
Response Class (Status 200)
successful operation

Model
Example Value

{
    "path": {
    "dst": {
    "dpid": "2222",
    "port": "3"
    },
},

Gets overview of current topology
```

```
"src": {
       "dpid": "1111",
       "port": "2"
     }
   }
 }
Response Content Type application/json V
Response Messages
HTTP Status
                 Reason
                                          Response Model
                                                                                                 Headers
Code
default
                 Unexpected error
 Try it out!
```

/topology/clusters/{id}/links GET

Gets links in specific SCC

# Response Class (Status 200)

successful operation

# Model Example Value

```
"links": [
    "src": {
     "port": "3",
      },
    "dst": {
      "port": "2",
      "device": "of:0000000000000003"
    "type": "DIRECT",
    "state": "ACTIVE"
   }
 ]
}
```

# Response Content Type application/json V

# **Parameters**

| Parameter | Value      | Description                | Parameter<br>Type | Data Type |
|-----------|------------|----------------------------|-------------------|-----------|
| id        | (required) | id of the cluster to query | path              | integer   |

# Response Messages

| HTTP Status<br>Code | Reason           | Response Model | Headers |
|---------------------|------------------|----------------|---------|
| default             | Unexpected error |                |         |
| Try it out!         |                  |                |         |

```
GET
        /topology/infrastructure/{connectPoint}
                                                                      Tests if a connect point is infrastructure or edge
Response Class (Status 200)
successful operation
Model
Example Value
   "infrastructure": true
 }
Response Content Type application/json V
Parameters
                                                                             Parameter
Parameter
                Value
                                                  Description
                                                                                           Data Type
                                                                             Туре
connectPoint
                (required)
                                                  deviceid:portnumber
                                                                             path
                                                                                           string
Response Messages
HTTP Status
                 Reason
                                           Response Model
                                                                                                   Headers
Code
default
                 Unexpected error
 Try it out!
```

```
Response Class (Status 200)
successful operation

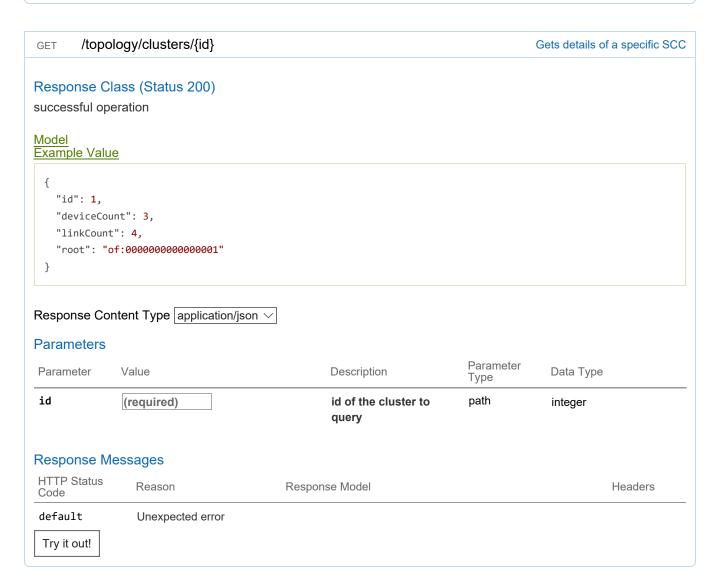
Model
Example Value

{
  "broadcast": true
}

Response Content Type application/json ∨

Parameters
```

| Parameter           | Value            | Description         | Parameter<br>Type | Data Type |
|---------------------|------------------|---------------------|-------------------|-----------|
| connectPoint        | (required)       | deviceid:portnumber | path              | string    |
| Response Mes        | ssages           |                     |                   |           |
| HTTP Status<br>Code | Reason           | Response Model      |                   | Headers   |
| default             | Unexpected error |                     |                   |           |
| Try it out!         |                  |                     |                   |           |



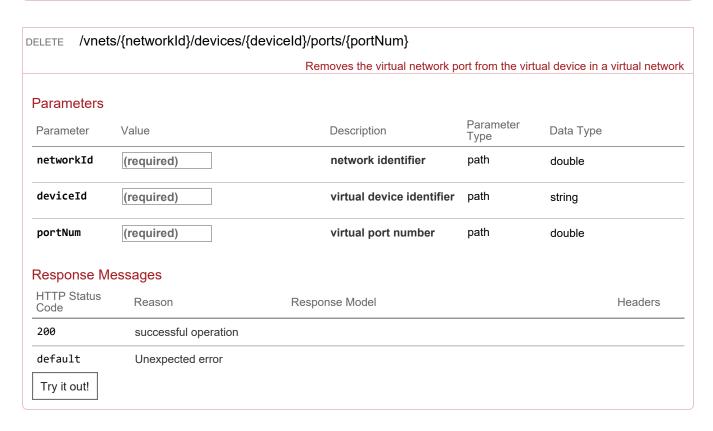
# vnets: Query and Manage Virtual Network elements

DELETE /vnets/{networkId}

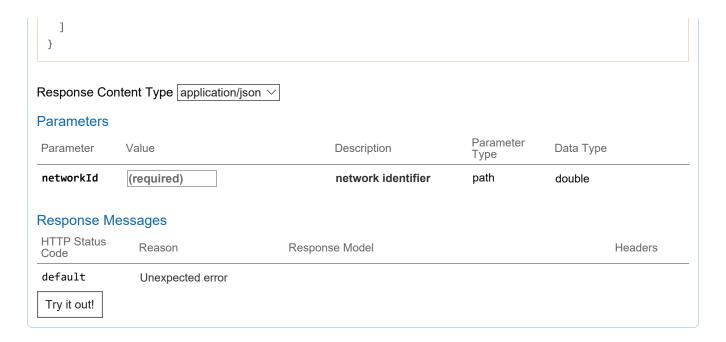
Removes the virtual network with the specified network identifier

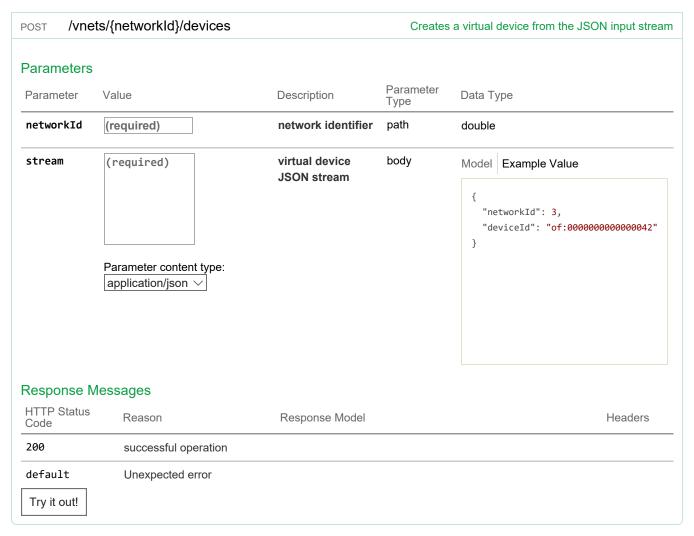
Parameters

| Parameter           | Value                | Description        | Parameter<br>Type | Data Type |         |
|---------------------|----------------------|--------------------|-------------------|-----------|---------|
| networkId           | (required)           | network identifier | path              | double    |         |
| Response M          | essages              |                    |                   |           |         |
| HTTP Status<br>Code | Reason               | Response Model     |                   |           | Headers |
| 200                 | successful operation |                    |                   |           |         |
| default             | Unexpected error     |                    |                   |           |         |
| Try it out!         |                      |                    |                   |           |         |









| Parameters          |                      |                    |                   |           |         |  |
|---------------------|----------------------|--------------------|-------------------|-----------|---------|--|
| Parameter           | Value                | Description        | Parameter<br>Type | Data Type |         |  |
| networkId           | (required)           | network identifier | path              | double    |         |  |
| deviceId            | (required)           | device identifier  | path              | string    |         |  |
| Response M          | Response Messages    |                    |                   |           |         |  |
| HTTP Status<br>Code | Reason               | Response Model     |                   |           | Headers |  |
| 200                 | successful operation |                    |                   |           |         |  |
| default             | Unexpected error     |                    |                   |           |         |  |
| Try it out!         |                      |                    |                   |           |         |  |

/vnets/{networkId}/devices/{deviceId}/ports GET

Returns all virtual network ports in a virtual device in a virtual network

# Response Class (Status 200)

successful operation

# Model Example Value

```
"ports": [
     "networkId": 3,
     "deviceId": "of:00000000000000042",
     "portNum": 34,
      "physDeviceId": "of:000000000000003",
      "physPortNum": 2
   }
  ]
}
```

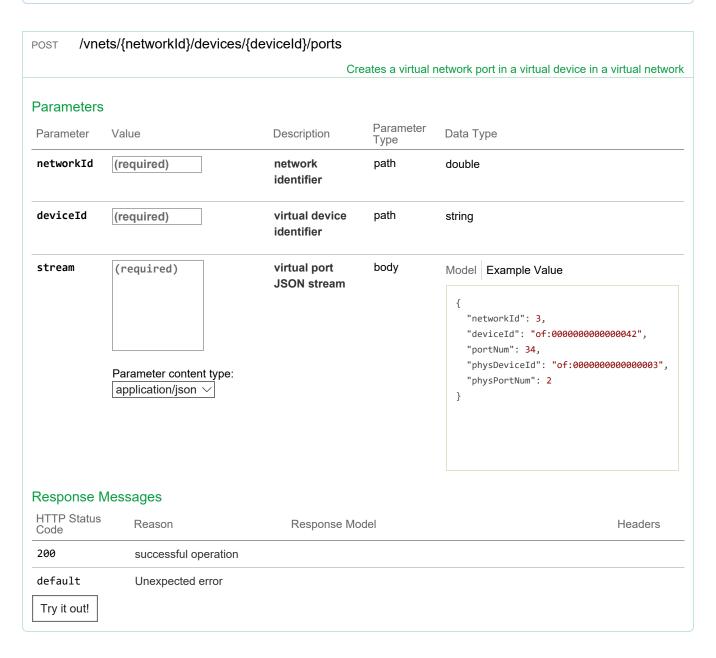
# Response Content Type application/json >

# **Parameters**

| Parameter | Value      | Description               | Parameter<br>Type | Data Type |
|-----------|------------|---------------------------|-------------------|-----------|
| networkId | (required) | network identifier        | path              | double    |
| deviceId  | (required) | virtual device identifier | path              | string    |

# Response Messages

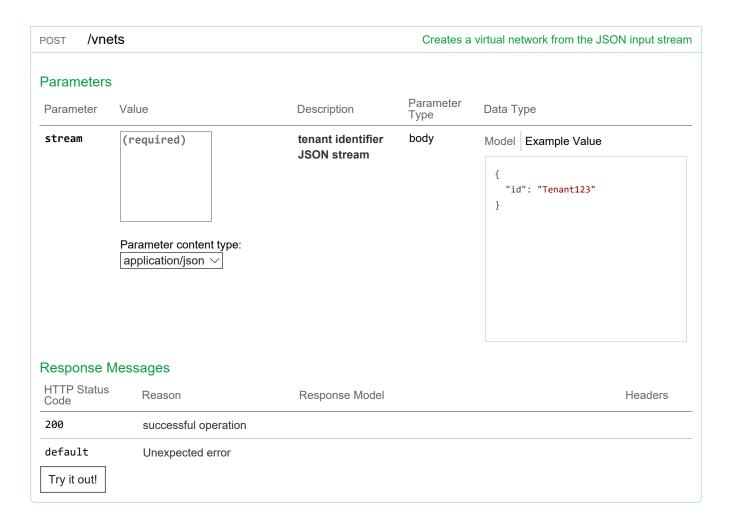
|                | HTTP Status<br>Code | Reason           | Response Model | Headers |
|----------------|---------------------|------------------|----------------|---------|
| default Unexpe |                     | Unexpected error |                |         |
|                | Try it out!         |                  |                |         |



# Returns the virtual networks with the specified tenant identifier Response Class (Status 200) successful operation Model Example Value

```
{
   "vnets": [
       "networkId": 3,
       "tenantId": "Tenant123"
   ]
 }
Response Content Type application/json V
Parameters
                                                                           Parameter
               Value
Parameter
                                                   Description
                                                                                          Data Type
                                                                           Туре
tenantId
               (required)
                                                   tenant identifier
                                                                           path
                                                                                          string
Response Messages
HTTP Status
                 Reason
                                           Response Model
                                                                                                    Headers
Code
default
                 Unexpected error
 Try it out!
```

```
/vnets
                                                                                         Returns all virtual networks
GET
Response Class (Status 200)
successful operation
Model
Example Value
   "vnets": [
       "networkId": 3,
       "tenantId": "Tenant123"
   ]
 }
Response Content Type application/json V
Response Messages
HTTP Status
Code
                 Reason
                                           Response Model
                                                                                                   Headers
default
                 Unexpected error
 Try it out!
```



# /vnets/{networkId}/links DELETE

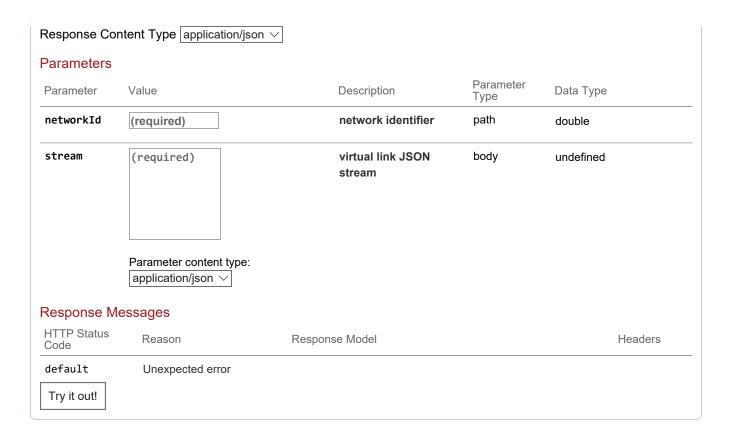
Removes the virtual network link from the JSON input stream

# Response Class (Status 200)

successful operation

# Model Example Value

```
"networkId": 3,
 "src": {
  "port": 3,
   },
 "dst": {
   "port": 2,
   "device": "of:00000000000000003"
 "type": "DIRECT",
 "state": "ACTIVE"
}
```



GET /vnets/{networkId}/links

Returns all virtual network links in a virtual network

# Response Class (Status 200)

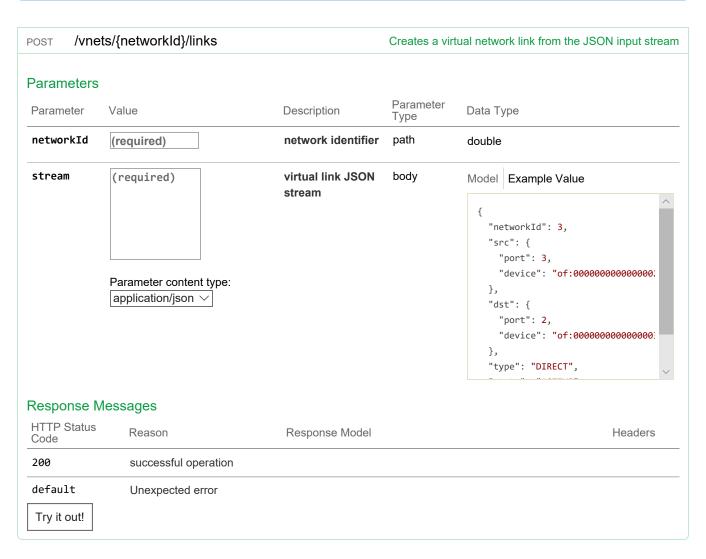
successful operation

# Model

Example Value

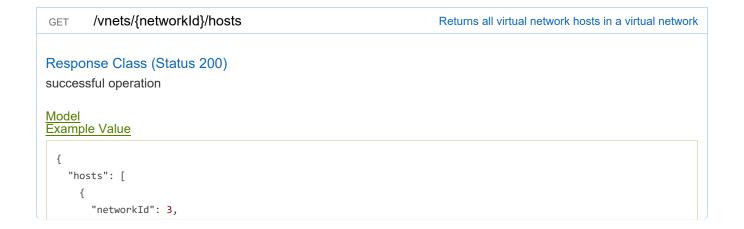
Response Content Type application/json V

| Parameters          |                  |                    |                   |           |
|---------------------|------------------|--------------------|-------------------|-----------|
| Parameter           | Value            | Description        | Parameter<br>Type | Data Type |
| networkId           | (required)       | network identifier | path              | double    |
| Response Messages   |                  |                    |                   |           |
| HTTP Status<br>Code | Reason           | Response Model     |                   | Headers   |
| default             | Unexpected error |                    |                   |           |
| Try it out!         |                  |                    |                   |           |

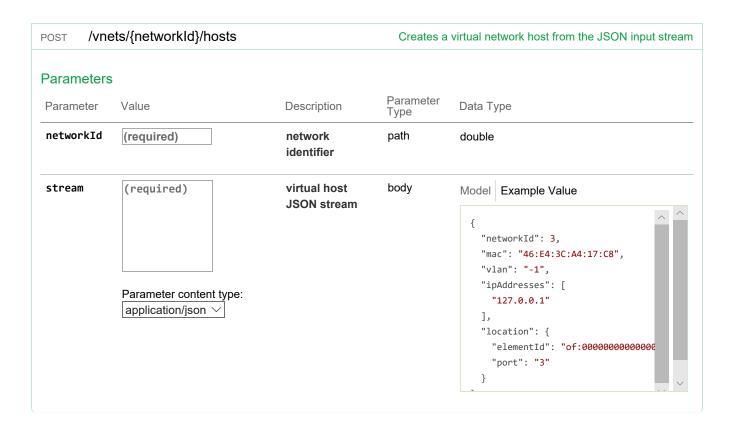




```
Example Value
    "networkId": 3,
    "id": "46:E4:3C:A4:17:C8/-1",
   "mac": "46:E4:3C:A4:17:C8",
   "vlan": "-1",
    "ipAddresses": [
      "127.0.0.1"
   ],
   "location": {
      "elementId": "of:0000000000000000000002",
      "port": "3"
    }
 }
Response Content Type application/json V
Parameters
                                                                            Parameter
Parameter
               Value
                                                     Description
                                                                                           Data Type
                                                                             Type
networkId
               (required)
                                                     network identifier
                                                                            path
                                                                                           double
                (required)
stream
                                                     virtual host JSON
                                                                            body
                                                                                           undefined
                                                     stream
                Parameter content type:
                application/json ~
Response Messages
HTTP Status
                  Reason
                                            Response Model
                                                                                                      Headers
Code
default
                  Unexpected error
 Try it out!
```



```
"id": "46:E4:3C:A4:17:C8/-1",
       "mac": "46:E4:3C:A4:17:C8",
       "vlan": "-1",
       "ipAddresses": [
         "127.0.0.1"
       "location": {
         "port": "3"
     }
   ]
 }
Response Content Type application/json V
Parameters
                                                                     Parameter
Parameter
              Value
                                               Description
                                                                                   Data Type
                                                                      Туре
networkId
              (required)
                                                network identifier
                                                                     path
                                                                                   double
Response Messages
HTTP Status
                                        Response Model
                                                                                            Headers
                Reason
Code
                Unexpected error
default
 Try it out!
```



| Response Messages    |                      |                |         |
|----------------------|----------------------|----------------|---------|
| HTTP Status<br>Code  | Reason               | Response Model | Headers |
| 200                  | successful operation | on             |         |
| default  Try it out! | Unexpected error     |                |         |

# topologyservice : Query and Manage Topology Service

```
DELETE /topologyservice/topology/{fromdevice}/{todevice}
                                                                                           Removes one Topology
 Response Class (Status 200)
 successful operation
 <u>Model</u>
 Example Value
    "result": {
      "code": "0",
      "description": "ok"
    }
  }
 Response Content Type application/json V
 Parameters
                                                                                Parameter
 Parameter
               Value
                                               Description
                                                                                             Data Type
                                                                                Туре
 fromdevice
                (required)
                                                Delete one Topology by
                                                                                path
                                                                                             string
                                                fromdevice&todevice
 todevice
                (required)
                                                Delete one Topology by
                                                                                path
                                                                                             string
                                                fromdevice&todevice
 Response Messages
 HTTP Status
                  Reason
                                           Response Model
                                                                                                   Headers
 Code
 default
                  Unexpected error
  Try it out!
```

# Response Class (Status 200)

successful operation

# Model

Example Value

```
{
  "path": {
    "dst": {
        "dpid": "2222",
        "port": "3"
    },
    "src": {
        "dpid": "1111",
        "port": "2"
    }
}
```

# Response Content Type application/json >

# **Parameters**

| Parameter  | Value      | Description                               | Parameter<br>Type | Data Type |
|------------|------------|---|-------------------|-----------|
| fromdevice | (required) | Get one topology by fromdevice & todevice | path              | string    |
| todevice   | (required) | Get one topology by fromdevice & todevice | path              | string    |

# Response Messages

| default             | Unexpected error |                |         |
|---------------------|------------------|----------------|---------|
| HTTP Status<br>Code | Reason           | Response Model | Headers |

Try it out!

# Response Class (Status 200) successful operation Model Example Value { "result": { "code": "0", "description": "ok"

```
}
 }
Response Content Type application/json V
Parameters
                                                                 Parameter
Parameter
              Value
                                               Description
                                                                             Data Type
                                                                 Туре
fromdevice
                                                                 path
              (required)
                                               Create one
                                                                              string
                                               Topology by
                                               fromdevice
todevice
              (required)
                                               Create one
                                                                 path
                                                                              string
                                               Topology by
                                               todevice
stream
                                               Create one
                                                                 body
              (required)
                                                                              Model Example Value
                                               topology
                                                                               {
                                                                                 "path": {
                                                                                   "dst": {
                                                                                     "dpid": "2222",
                                                                                     "port": "3"
              Parameter content type:
                                                                                   },
              application/octet_stream ✓
                                                                                   "src": {
                                                                                     "dpid": "1111",
                                                                                     "port": "2"
                                                                                   }
                                                                                 }
Response Messages
HTTP Status
                 Reason
                                            Response Model
                                                                                                     Headers
Code
default
                  Unexpected error
 Try it out!
```

# 

```
"src": {
         "dpid": "1111",
         "port": "2"
     }
   "resultCode": "1",
   "resultDesc": "ok"
 }
Response Content Type application/json V
Response Messages
HTTP Status
                 Reason
                                           Response Model
                                                                                                  Headers
Code
default
                 Unexpected error
 Try it out!
```

# tunnelservice : Query and Manage Tunnel Service

```
/tunnelservice/tunnel/{resourceid}
                                                                                           Removes one Tunnel
Response Class (Status 200)
successful operation
Model
Example Value
   "result": {
     "resourceId": "5",
     "code": "0",
     "description": "ok"
   }
 }
Response Content Type application/json V
Parameters
                                                                         Parameter
Parameter
               Value
                                                  Description
                                                                                       Data Type
                                                                         Type
 resourceid
               (required)
                                                  Delete one tunnel by
                                                                         path
                                                                                       string
                                                  resourceid
Response Messages
HTTP Status
                 Reason
                                          Response Model
                                                                                                 Headers
Code
```

HTTP Status Code Reason Response Model Headers

default Unexpected error

Try it out!

```
/tunnelservice/tunnel/{resourceid}
                                                                                               Returns one Tunnel
GET
Response Class (Status 200)
successful operation
Model
Example Value
   "username": "test",
   "type": "vlan",
   "inputPort": "of:1234/33",
   "outputPort": "of:1234/33",
   "inputtunnelport": "of:1234/33",
   "outputtunnelport": "of:1234/33",
   "inputvxlanport": "of:1234/33",
   "outputvxlanport": "of:1234/33",
   "inputvlanid": "12",
   "outputvlanid": "12",
   "bandwidth": "44333"
 }
Response Content Type | application/json >
Parameters
                                                                           Parameter
Parameter
               Value
                                                   Description
                                                                                         Data Type
                                                                           Type
resourceid
               (required)
                                                   Get one tunnel by
                                                                           path
                                                                                          string
                                                   resourceid
Response Messages
HTTP Status
                 Reason
                                           Response Model
                                                                                                   Headers
Code
default
                 Unexpected error
 Try it out!
```

# PUT /tunnelservice/tunnel/{resourceid}

Update a Tunnel

# Response Class (Status 200)

successful operation

```
Model
Example Value
   "result": {
     "resourceId": "5",
     "code": "0",
     "description": "ok"
   }
 }
Response Content Type application/json V
Parameters
                                                                 Parameter
                                             Description
                                                                              Data Type
Parameter
               Value
                                                                 Type
resourceid
                                                                 path
               (required)
                                             Updata one
                                                                              string
                                             tunnel by
                                             resourceid
stream
               (required)
                                             Update one
                                                                 body
                                                                              Model Example Value
                                             tunnel
                                                                                  "username": "test",
                                                                                  "type": "vlan",
                                                                                  "inputPort": "of:1234/33",
                                                                                  "outputPort": "of:1234/33",
               Parameter content type:
                                                                                  "inputtunnelport": "of:1234/33"
               application/json ~
                                                                                  "outputtunnelport": "of:1234/33'
                                                                                  "inputvxlanport": "of:1234/33",
                                                                                  "outputvxlanport": "of:1234/33"
                                                                                  "inputvlanid": "12",
                                                                                  "outputvlanid": "12",
Response Messages
HTTP Status
                  Reason
                                                                                                       Headers
                                            Response Model
Code
default
                  Unexpected error
 Try it out!
```

```
Response Class (Status 200)
successful operation

Model
Example Value

{
    "result": {
        "resourceId": "5",
```

```
"code": "0",
    "description": "ok"
}

Response Content Type application/json ∨

Response Messages

HTTP Status Reason Response Model Headers

default Unexpected error

Try it out!
```

```
/tunnelservice/tunnels/active
POST
                                                                                              Active all Tunnels
Response Class (Status 200)
successful operation
Model
Example Value
   "result": {
     "resourceId": "5",
     "code": "0",
     "description": "ok"
   }
 }
Response Content Type application/json V
Response Messages
HTTP Status
                 Reason
                                          Response Model
                                                                                                 Headers
Code
default
                 Unexpected error
 Try it out!
```

```
Response Class (Status 200)
successful operation

Model
Example Value

{
    "result": {
```

```
"resourceId": "5",
     "code": "0",
      "description": "ok"
   }
 }
Response Content Type application/json V
Parameters
                                                                  Parameter
Parameter
                                                Description
                                                                               Data Type
             Value
                                                                  Type
stream
                                                Create one
                                                                  body
              (required)
                                                                               Model Example Value
                                                tunnel
                                                                                {
                                                                                  "username": "test",
                                                                                  "type": "vlan",
                                                                                  "inputPort": "of:1234/33",
                                                                                   "outputPort": "of:1234/33",
             Parameter content type:
                                                                                  "inputtunnelport": "of:1234/33"
              application/octet stream ✓
                                                                                  "outputtunnelport": "of:1234/33'
                                                                                  "inputvxlanport": "of:1234/33",
                                                                                   "outputvxlanport": "of:1234/33"
                                                                                   "inputvlanid": "12",
                                                                                   "outputvlanid": "12",
Response Messages
HTTP Status
                  Reason
                                             Response Model
                                                                                                       Headers
Code
default
                  Unexpected error
 Try it out!
```

```
/tunnelservice/tunnels
                                                                                                  Returns all Tunnels
GET
Response Class (Status 200)
successful operation
Model
Example Value
    "tunnels": [
     {
       "id": "1",
        "username": "admin",
        "inputPort": "23",
        "inputvlanid": "2",
        "outputPort": "3",
        "outputvlanid": "3",
        "inputtunnelport": "of:1234/33",
        "outputtunnelport": "of:1234/33",
```

```
"inputvxlanport": "of:1234/33",
       "outputvxlanport": "of:1234/33",
       "bandwidth": "222",
       "type": "vlan",
       "state": "ACTIVE"
     }
   ],
   "resultCode": "1",
   "resultDesc": "ok"
 }
Response Content Type application/json >
Response Messages
HTTP Status
                 Reason
                                          Response Model
                                                                                                  Headers
Code
default
                 Unexpected error
 Try it out!
```

[ BASE URL: /onos/v1 , API VERSION: 1.0 ]  $\underline{\text{Swagger UI}}$  (v2.2.10) adaptation