The following topics provide an overview of NETCONF and describes common tasks you would perform for the NETCONF-enabled devices in your network:

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Overview

The Network Configuration Protocol (NETCONF) defines a simple mechanism through which a network device can be managed, configuration data can be retrieved, and new configuration data can be uploaded and manipulated. NETCONF uses Extensible Markup Language (XML)-based data encoding for the configuration data and protocol messages.

Open SDN Controller operates as both a NETCONF server and client. As a server, the controller manages general network communication and processes remote procedure calls (RPCs). And as a client, the controller connects to NETCONF-enabled devices and manages them through the NETCONF connector. The following sections will cover typical tasks that are completed for NETCONF-enabled devices.

Mounting NETCONF Devices to the Controller

Before you proceed with Step 1, you must generate a security token. See Making RESTCONF Requests for more information.

Procedure

Step 1

Make the following POST request:

URL: https://token:token@<controller-IP-address>/controller/restconf/config/opendaylight-inventory:nodes/node/controller-config/yang-ext:mount/config:modules
Specify values for the following parameters in the request's payload:

- Name
- Address
- Port
- Username
- Password

In the following example, a device named `asr9k-1-netconf` with an IP address of 192.0.2.116 is mounted to the controller.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<module xmlns="urn:opendaylight:params:xml:ns:yang:controller:config">
  <name>asr9k-1-netconf</name>
    <name>global-event-executor</name>
  </event-executor>
    <name>binding-osgi-broker</name>
  </binding-registry>
    <name>binding-rpc-broker</name>
  </rpc-registry>
</module>
```
Step 2  Make the following GET request to determine the device's connection status and view information such as its serial number and installed software:

URL—https://token:$token@<controller-IP-address>/controller/restconf/operational/opendaylight-inventory:nodes/node/<device-hostname>

If the router is currently connected, its entry will display "netconf-node-inventory:connected": true,.  

Note the following:

- The Open SDN Controller will use the router name you specify to identify that router.
- The IP address, username, and password you specify should already be configured on the router.
- The IP address you specify should be reachable from the controller.
- You may need to connect to a remote NETCONF device that does not support NETCONF monitoring schema. For connection instructions, view the "Connecting to a device not supporting netconf monitoring" topic here.

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**Viewing the APIs Supported by a Mounted Device**

**Procedure**

**Step 1**  Access the API documentation by selecting Available APIs from the toolbar's Help menu.

**Step 2**  Click the Mounted Resources tab to view a listing of all the devices mounted on the controller.

**Step 3**  Click the link for the device you want to view API information for.

For more information about APIs, see Viewing API Documentation.
Modifying Mounted Device Configuration Parameters

After a NETCONF device has been mounted to the controller and a connection is established, you can change the settings for any of its configuration parameters at runtime. In this example, say you want to modify the username and password configured for the device we mounted previously in this section. To do so, make a POST request using the following URL, specifying the new username and password values in the request's payload:

https://token:$token@<controller-IP-address>/controller/restconf/config/opendaylight-inventory:nodes/node/controller-config/yang-ext:mount/config:modules

Note the following:

- Before you make this request, you must first generate a security token. See Making RESTCONF Requests for more information.
- To view sample NETCONF configurations, visit the following URL:
  https://wiki.opendaylight.org/view/OpenDaylight_Controller:Config:Examples:Netconf

Deleting a Mounted Device

To delete a mounted device, make a DELETE request using the following URL, in which you provide the controller's IP address and the mounted device's hostname: