

Setting up ODL

0. Linux Installation – preferably Ubuntu/Debian Based

1. Download Opendaylight Controller

wget

<https://nexus.opendaylight.org/content/repositories/opendaylight.release/org/opendaylight/integration/distribution-karaf/0.5.2-Boron-SR2/distribution-karaf-0.5.2-Boron-SR2.tar.gz>

2. Install Java

```
sudo apt install openjdk-8-jre
```

3. Set Java home by appending line below to *.profile* file in home directory.

```
export JAVA_HOME=/usr/lib/jvm/java-1.8.0-openjdk-amd64
```

4. Extract the downloaded file

```
tar vxzf distribution-karaf-0.5.2-Boron-SR2.tar.gz
```

5. Start the controller

```
./distribution-karaf-0.5.2-Boron-SR2/bin/start
```

6. Check the controller is running

```
./distribution-karaf-0.5.2-Boron-SR2/bin/status
```

7. Log onto controller console

```
./distribution-karaf-0.5.2-Boron-SR2/bin/client -u karaf
```

8. Check Installed features

```
feature:list -i
```

9. Install features needed – Netconf, Restconf, DLUX, BGP and PCEP plugins

```
feature:install odl-dlux-all odl-restconf-all odl-bgpcep-bgp-all odl-bgpcep-pcep-all odl-netconf-all
```

10. Confirm feature is installed

```
feature:list -i | grep <feature>
```

11. Confirm PCEP is running from the shell

```
netstat -peanut | grep 4189
```

12. Configure BGP LS from restconf with the steps below

a. Verify presence of BGP instance after plugin installation

Method - GET

URL

http://<ip_address>:<port>/restconf/operational/bgp-rib:bgp-rib

b. Create BGP Speaker

Method - POST

URL

http://<ip_address>:<port>/restconf/config/openconfig-network-instance:network-instances/network-instance/global-bgp/openconfig-network-instance:protocols

BODY

```
<protocol xmlns="http://openconfig.net/yang/network-instance">
  <name>bgp-example</name>
  <identifier xmlns:x="http://openconfig.net/yang/policy-types">x:BGP</identifier>
  <bgp xmlns="urn:opendaylight:params:xml:ns:yang:bgp:openconfig-extensions">
    <global>
      <config>
        <router-id>192.168.100.130</router-id>
        <as>64123</as>
      </config>
      <afi-safis>
        <afi-safi>
          <afi-safi-name>LINKSTATE</afi-safi-name>
        </afi-safi>
      </afi-safis>
    </global>
  </bgp>
</protocol>
```

c. Verify

Method - GET

URL

http://<ip_address>:<port>/restconf/operational/bgp-rib:bgp-rib/rib/bgp-example

d. Add Neighbour for BGP LS

Method - POST

URL

http://<ip_address>:<port>/restconf/config/openconfig-network-instance:network-instances/network-instance/global-bgp/openconfig-network-instance:protocols/protocol/openconfig-policy-types:BGP/bgp-example/bgp/neighbors

BODY

```
<neighbor xmlns="urn:opendaylight:params:xml:ns:yang:bgp:openconfig-extensions">
  <neighbor-address>10.1.1.3</neighbor-address>
  <afi-safis>
    <afi-safi>
      <afi-safi-name>LINKSTATE</afi-safi-name>
    </afi-safi>
  </afi-safis>
  <timers>
    <config>
      <hold-time>90</hold-time>
      <connect-retry>10</connect-retry>
    </config>
  </timers>
  <transport>
    <config>
      <remote-port>179</remote-port>
      <passive-mode>>false</passive-mode>
    </config>
  </transport>
  <config>
    <peer-type>INTERNAL</peer-type>
  </config>
</neighbor>
```

e. Verify

Method – GET

URL

http://<ip_address>:<port>/restconf/operational/bgp-rib:bgp-rib/rib/bgp-example

f. Add BGP LS Topology Provider

Method – POST

URL

http://<ip_address>:<port>/restconf/config/network-topology:network-topology

BODY

```
<topology xmlns="urn:TBD:params:xml:ns:yang:network-topology">
```

```
<topology-id>bgp-example-linkstate-topology</topology-id>
<topology-types>
  <bgp-linkstate-topology xmlns="urn:opendaylight:params:xml:ns:yang:odl-bgp-topology-
types"></bgp-linkstate-topology>
</topology-types>
  <rib-id xmlns="urn:opendaylight:params:xml:ns:yang:odl-bgp-topology-config">bgp-
example</rib-id>
</topology>
```

g. Verify

Method – GET

BODY

http://<ip_address>:<port>/restconf/operational/network-topology:network-topology/topology/bgp-example-linkstate-topology

Reference

<http://docs.opendaylight.org/en/stable-boron/user-guide/bgp-user-guide.html>