

OpenDaylight Simple Switch Application

With only the controller connected, without any application, the ping between the PCs cannot work because the ARP requests are forwarded to the controller without any packet processing instructions in the flow tables. OpenDaylight code distribution comes with a set of applications to show how applications can be integrated. Next, an example will be shown of running the simple switch application. The application processes the *packet_in* messages (e.g., ICMP_REQUEST) and instructs the bridge to flood all other ports with the packets. Once the destination host receives the request and replies with its MAC address, this simple switch application sets up the flow table to forward traffic from source port to the correct destination port. This is the default switch behavior that has been tested. When starting the OpenDaylight controller with `"/home/ychen/.opendaylight# ./run.sh"`, user can configure the controller on the web, <http://10.10.50.42:8080/>

Figure 9 – Web configure

The screenshot displays the OpenDaylight web configuration interface. At the top, there is a navigation bar with the OpenDaylight logo and tabs for 'Devices', 'Flows', and 'Troubleshoot'. A user profile 'admin' is visible in the top right corner. The main content area is divided into several sections:

- Nodes Learned:** A section with a search bar and a table with columns 'Node Name', 'Node ID', and 'Ports'. The table currently shows '0 items'.
- Static Route Configuration:** A section with a search bar and a table with columns 'Name', 'Static Route', and 'Next Hop Address'. It includes buttons for 'Add Static Route' and 'Remove Static Route'.
- Subnet Gateway Configuration:** A section with a search bar and a table with columns 'Name', 'Gateway IP Address/Mask', and 'Ports'. It includes buttons for 'Add Gateway IP Address', 'Remove Gateway IP Address', and 'Add Ports'.

In the center of the main content area, there is a network diagram icon with the text 'No Network Elements Connected' below it.