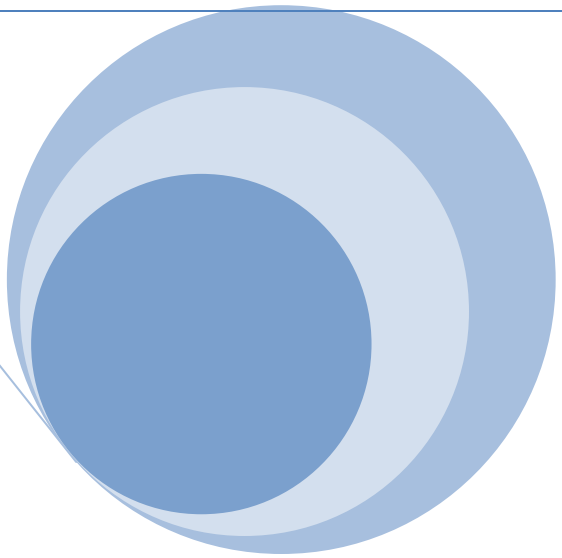
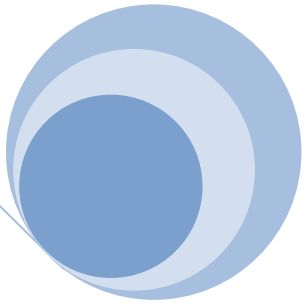
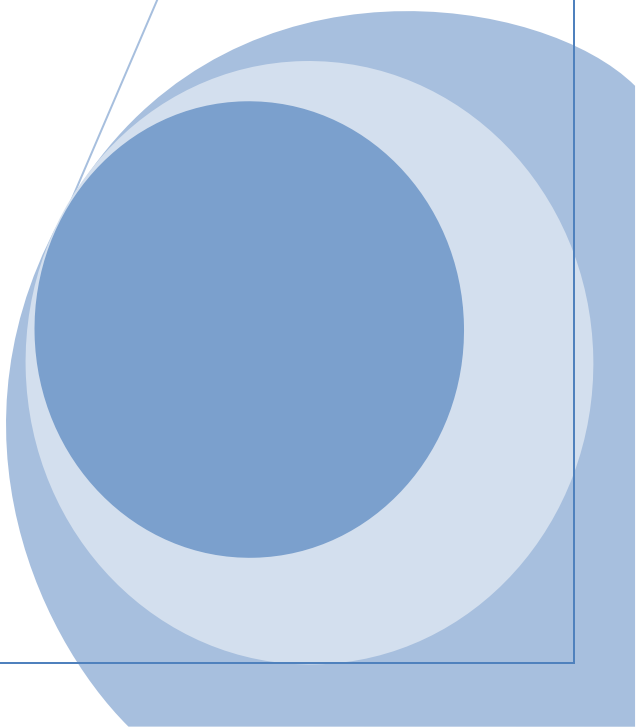




Software Defined Network Hierarchy Simulator User Manual



Introduction

Software Defined Networking (SDN) is considered one of the most important upcoming technologies in the networks field. It started spreading and attracting attention of everybody concerned with networking. Thus, we decided to create a Java program to simulate the SDN topology in order to help the users visualize the SDN.

How to use

Step 1:-

Double click on the windows executable file (SDN-Simlator.exe) to start the program.

The program's main window will appear divided into two main parts as shown in next figure.

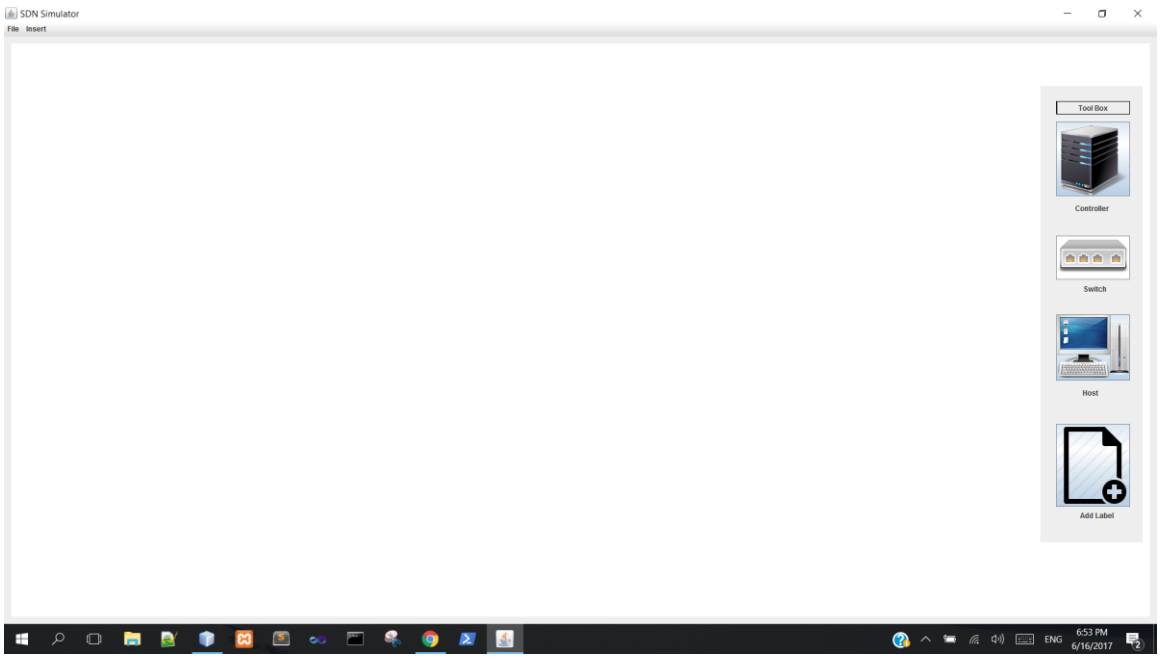


Figure 1: Screenshot of the main window

Step 2:-

Choose a device to add to your network by clicking on it. You can find all the devices in the panel on the right side of the main window. The available options are Controller, Switch, Host and Label.

Step 3:-

Click on the button created in the left part of the main window to open the device window. The device window is used to set an IP for the device, view routing table and add new routes. The next figure shows the device window.

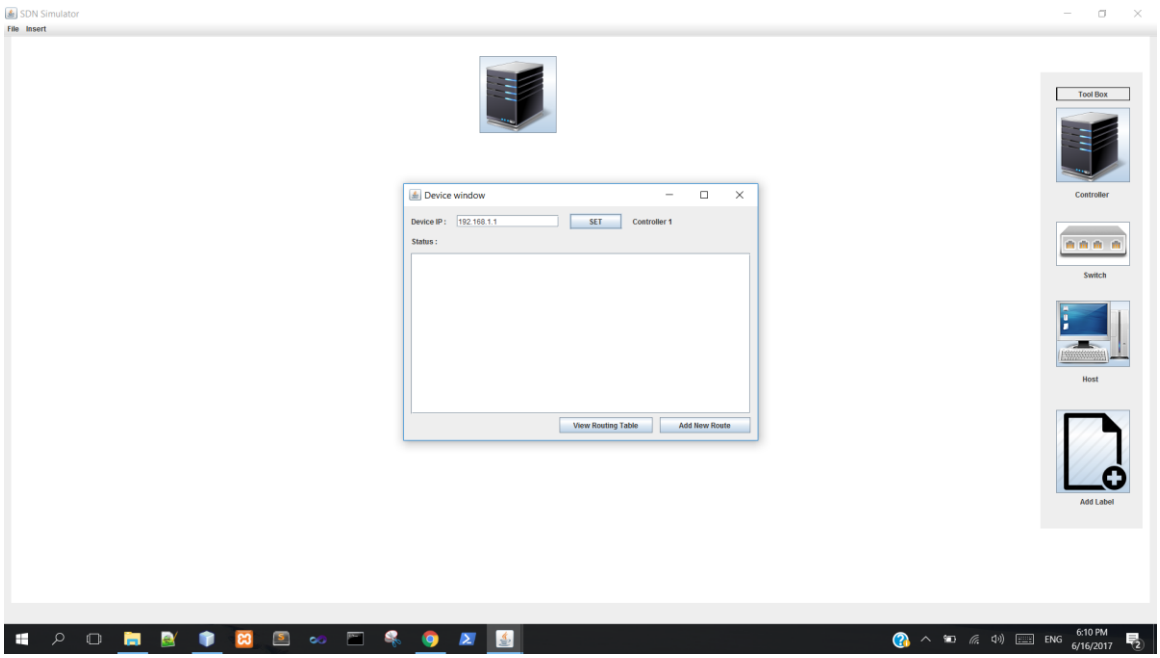


Figure 2: Screenshot of the device window

Step 4:-

Click on add routes to add links between the devices. You can set routes between Controllers and Switches, Switches and Hosts. Figure 2 is shown below to display the add route window.

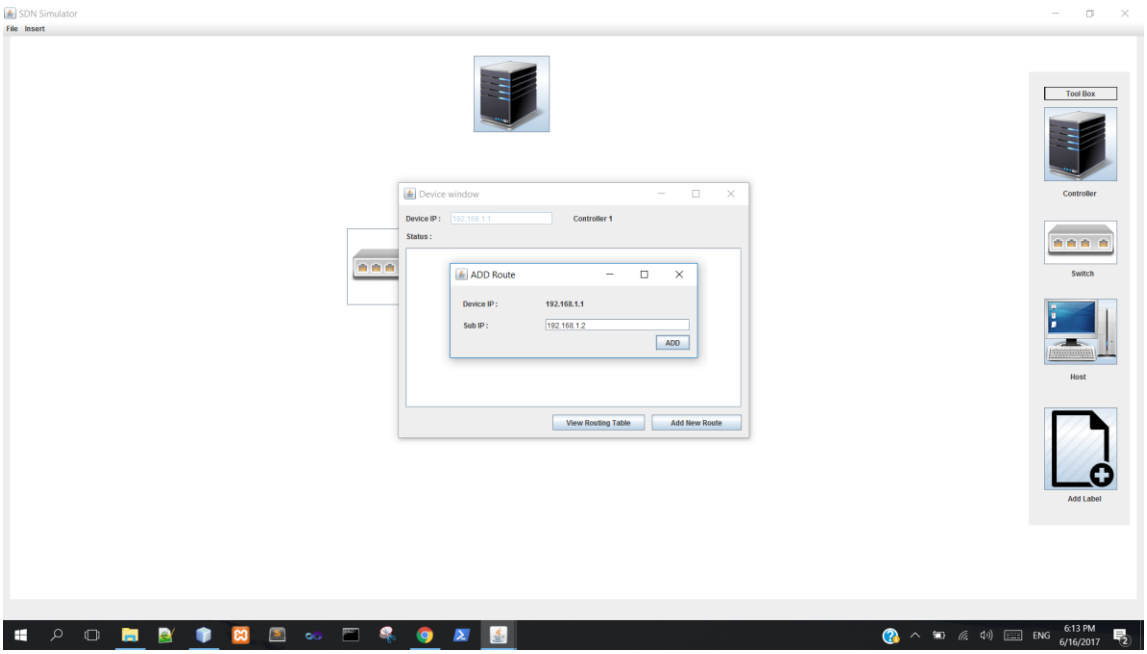


Figure 3: Screenshot of the add route window

After you set the route, a line will be drawn between the two connected devices automatically as shown below.

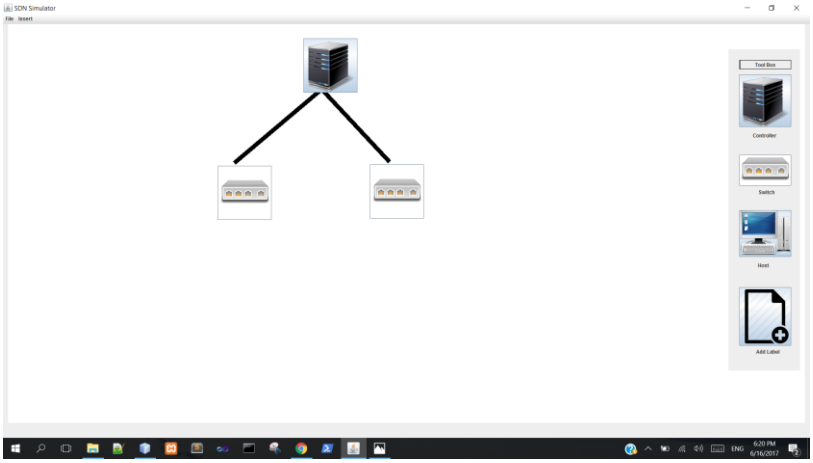


Figure 4: Links between the devices

Step 5:-

In order to send messages from a host to another. Type the message inside the Message box found in the host device window and type the IP of the receiving host and click send as shown in next figure.

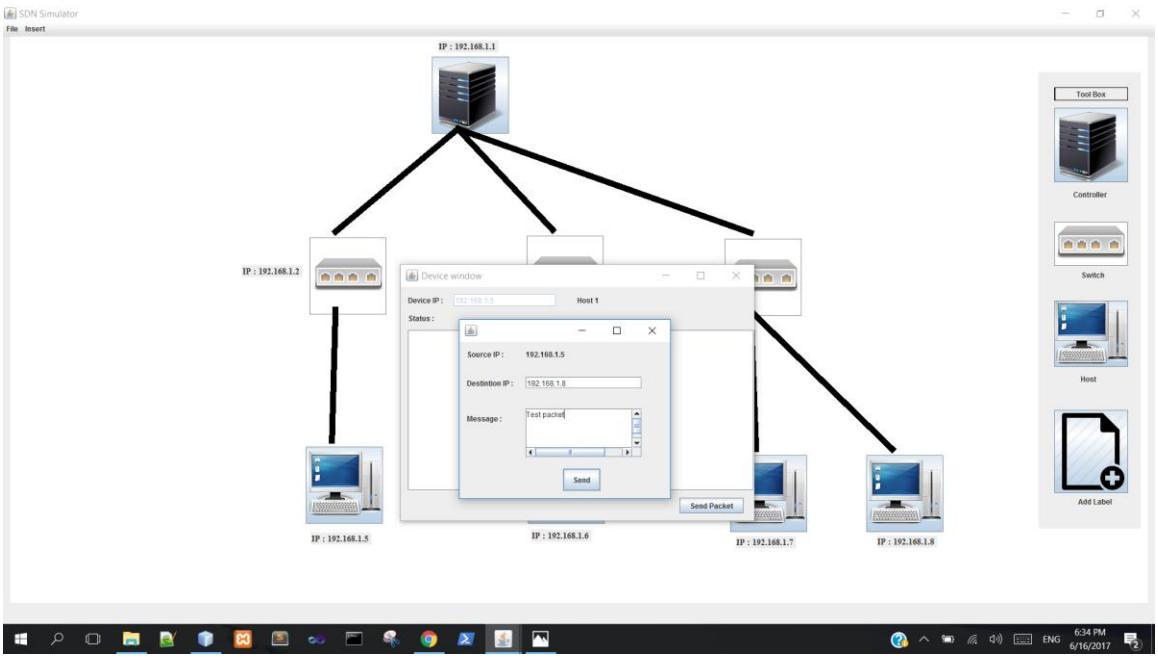


Figure 4: How to send message from host to host

Messages can be traced by checking the status window in each device the message will go to. The default flow of a message is from the host to its switch and then to the controller which is responsible to determine which switch is going to receive the message and forward it to the destination IP.