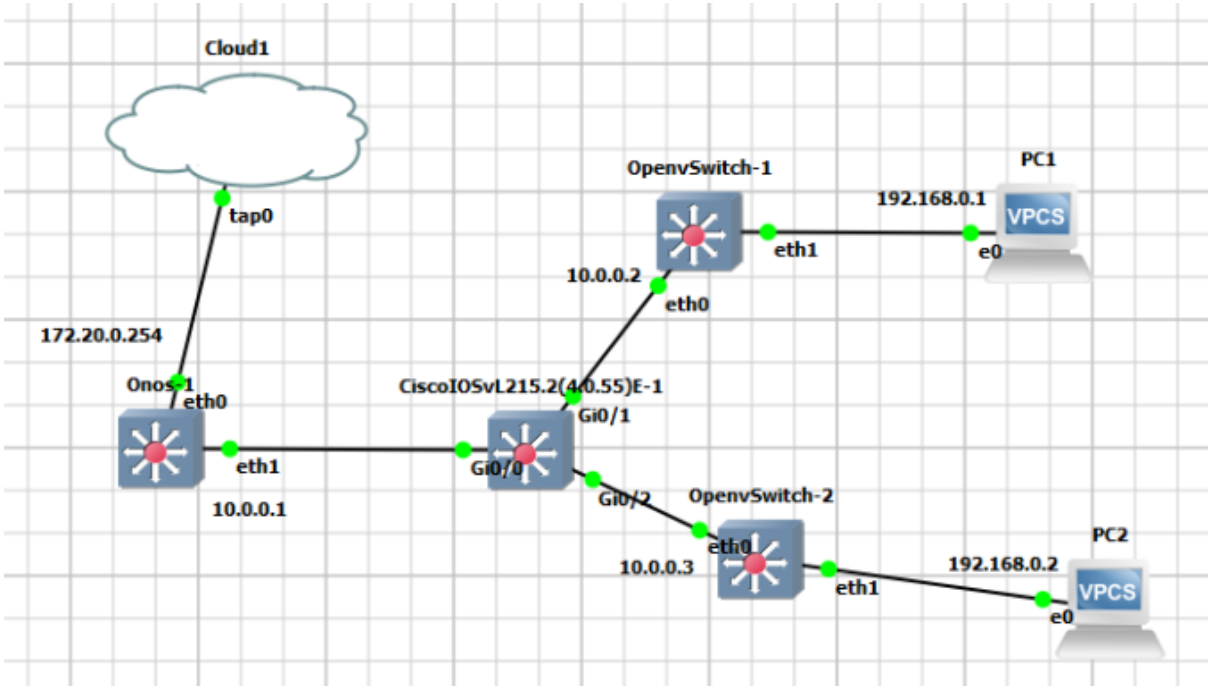
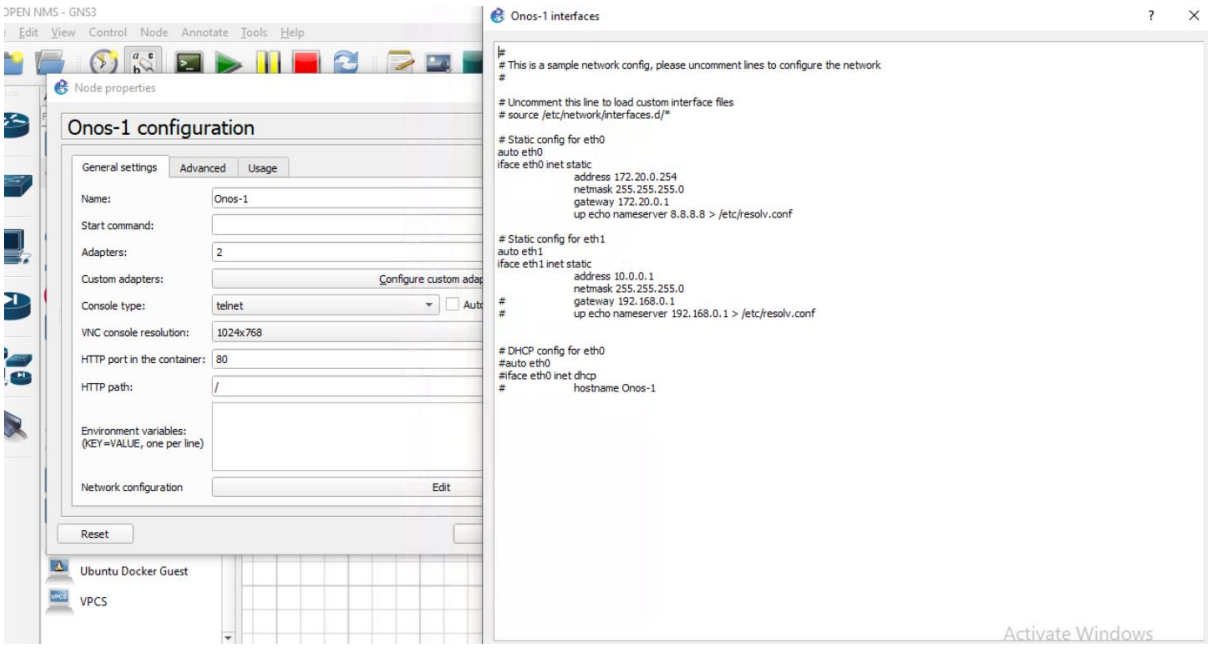
SDN-LAB

In this exercise, we are going to use a sample app called *Reactive Forwarding.* It is shipped with ONOS and is a simple application that installs flows in response to every *miss* packet in that arrives at the controller.

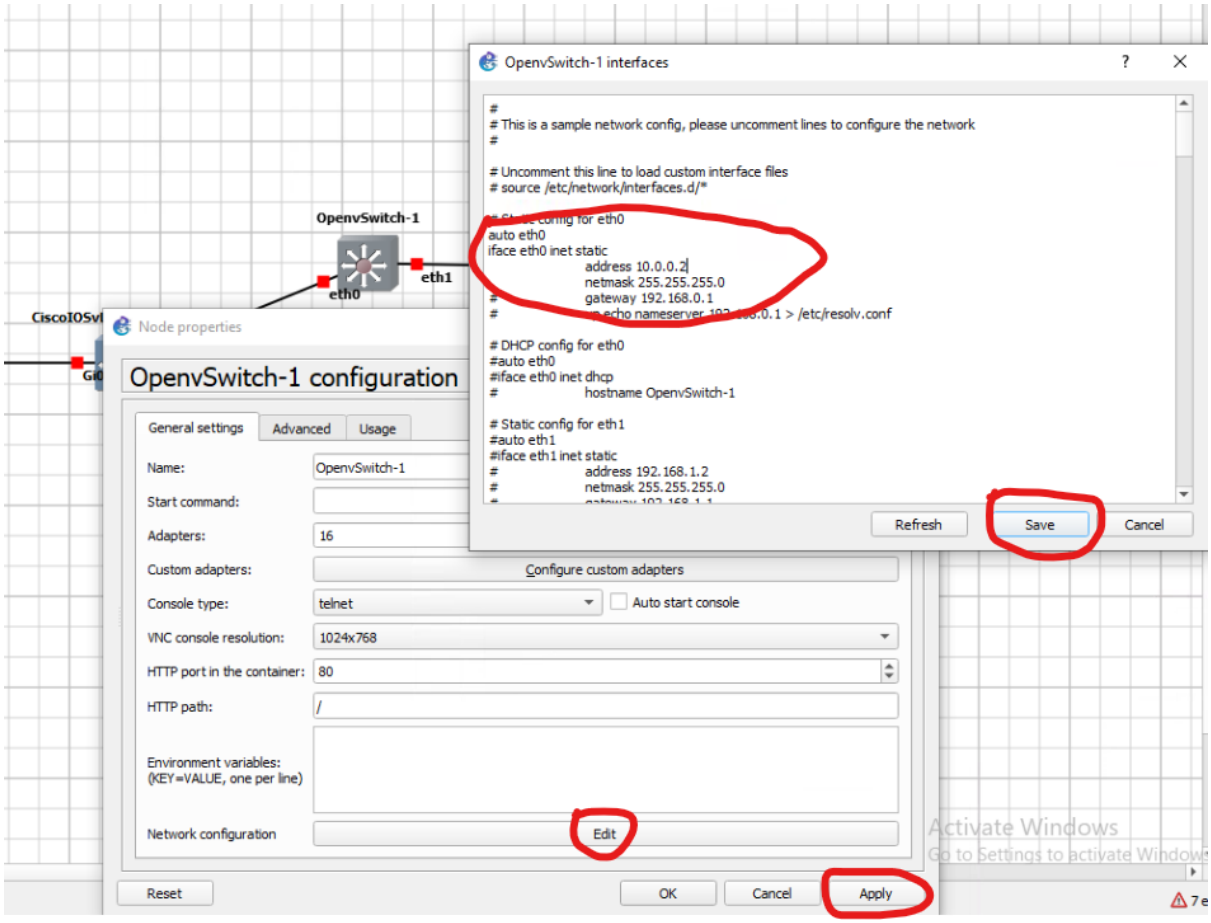
Step 1: Create the Topology as per below



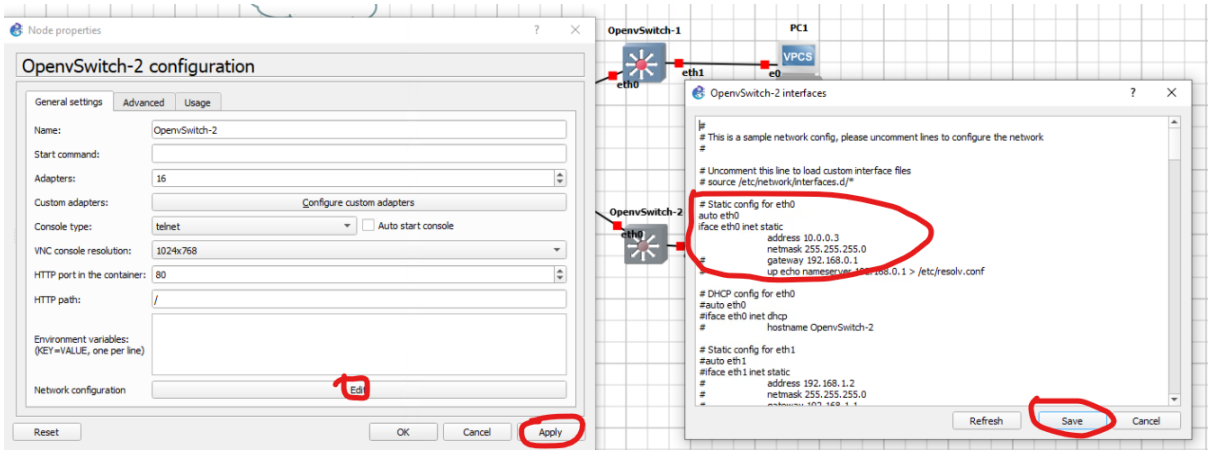
Step 2: Configure the ONOS Controller eth0 and eth1 IP address



Step 3: Assign the static IP address on eth0 port of Open Switch -1



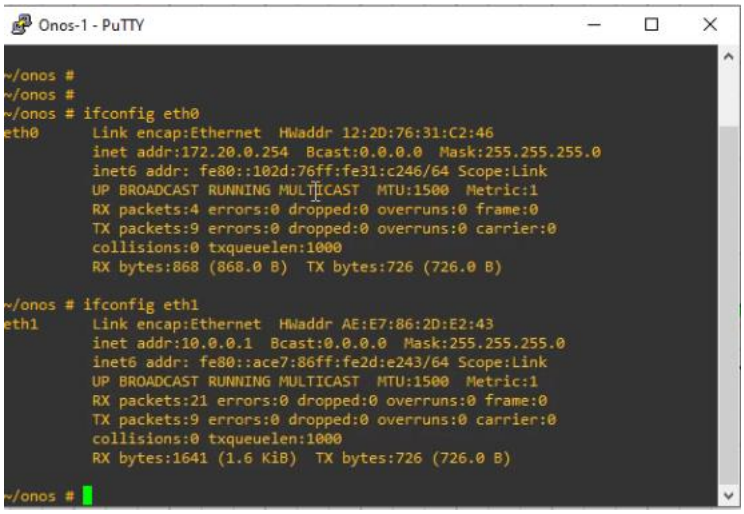
Step 4: Assign the static IP address on eth0 port of Open Switch -2



Step 5: Start the Cisco Switch first and wait till it come up.

Step 6: Start the ONOS Controller once SW come up

Step 7: Post ONOS come up, run the command ifconfig eth 0 and ifconfig eth1 and verify the IP



Step 8: Go to browser and open the URL 172.20.0.254:8181/onos/ui

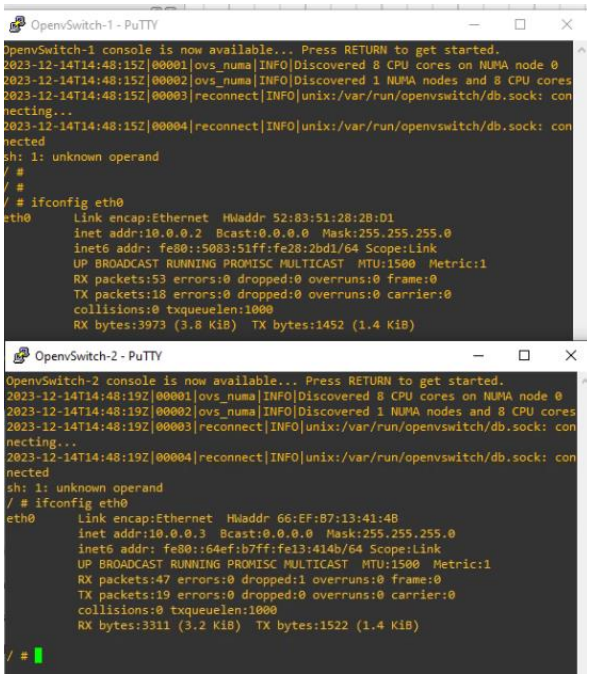
Username: onos

password: rocks

Step 9: Start both the open vswitch

Step 10: check the IP in both the switch via ifconfig eth0 command

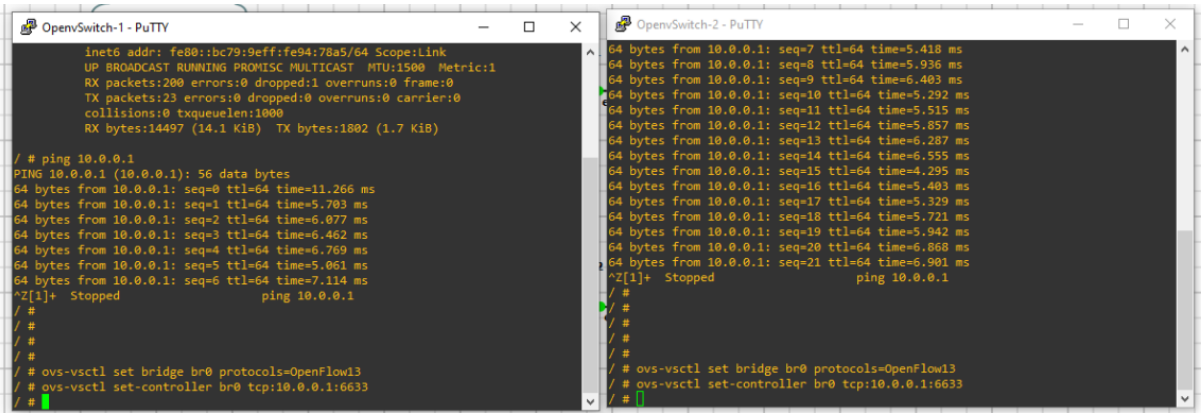
Step 11: Ping the controller IP 10.0.0.1 from both the SW



Step 12: Configure the SW with controller information

Setup protocol: ovs-vsctl set bridge br0 protocols=OpenFlow13

Setup controller: ovs-vsctl set-controller br0 tcp:10.0.0.1:6633

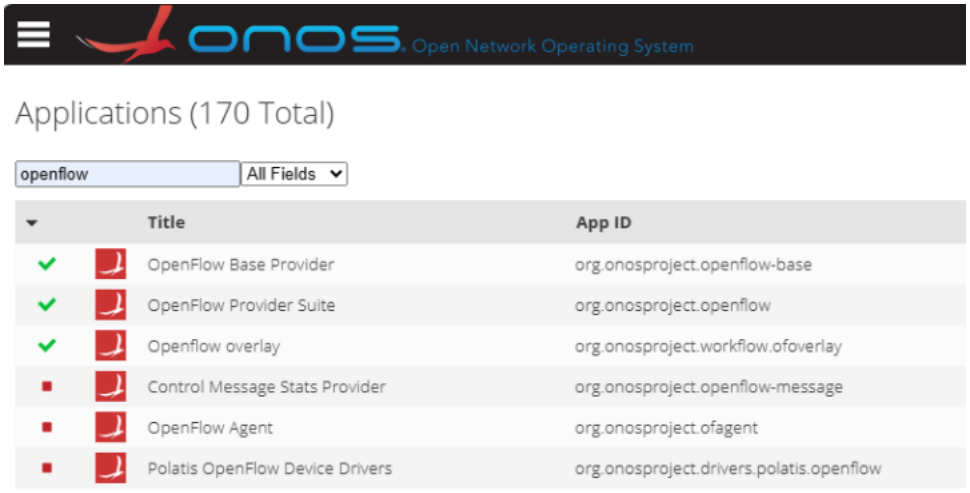


Step 13: Set the IP on both the PC and PING – It will be successful

PC1: IP 192.168.1.1/24

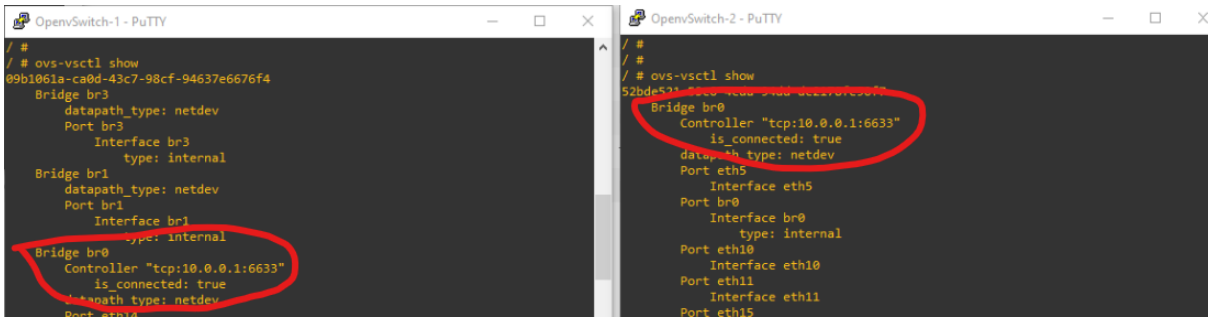
PC2: ip 192.168.1.2/24

Step 14: Go to ONOS GUI and enable the OpenFlow base application, provider suit and OpenFlow overlay in application TAB



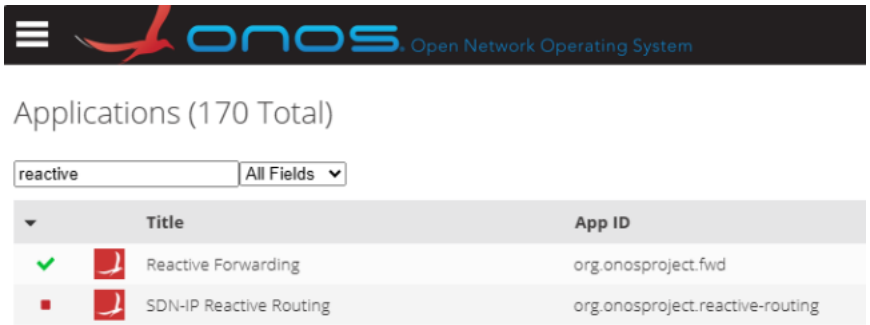
Step 15: Check in Open switch , controller in connected mode and Ping from PC1 to PC2 fail

ovs-vsctl show

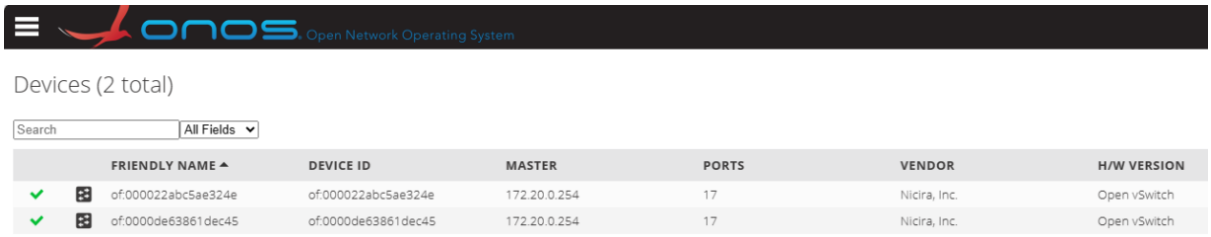


Step 16: Ping PC1 to PC2 – **Ping Fail as Open V switch is connected with ONOS Controller and all the forwarding decision is not moved to ONOS Controller.**

Step 17: Enable reactive forwarding in application and check, **PC1 to PC2 ping should be successful.**



Step 18: Check the Devices , Topology on ONOS GUI



Step 19: Connect to Postman

http://172.20.0.254:8181/onos/v1/devices

http://172.20.0.254:8181/onos/v1/flows

http://172.20.0.254:8181/onos/v1/links

http://172.20.0.254:8181/onos/v1/topology