Bismillah selesai semester ini

Command

1. Run mn
   1. Simple Topology
      1. sudo mn --controller=remote,ip=127.0.0.1 --mac -i 10.1.1.0/24 --switch=ovsk,protocols=OpenFlow13 --topo=single,4
2. Mininet Command
   1. help
   2. dump
   3. net
   4. links
   5. pingall
3. Run ryu-manager
   1. ryu-manager ryu.app.simple\_switch\_13
4. Run iperf
   1. Server
      1. iperf -s
   2. Client
      1. iperf -c 10.1.1.4 -i 10 -t 30
      2. iperf -c 10.1.1.4 -i 10 -b 10m -t 30
      3. iperf -c 10.1.1.4 -i 10 -P 10 -t 30
      4. -c means client mode.
      5. -i means reporting interval
      6. -t means test duration in seconds
      7. -b means bandwidth 10m means 10Mbps
      8. -P means parallel connections
5. OpenFLow
   1. sudo ovs-ofctl del-flows s1
   2. sudo ovs-ofctl -O OpenFlow13 dump-flows s1
   3. sudo ovs-ofctl add-flow s1 in\_port=2,action=output:1
   4. sudo ovs-ofctl add-flow s1 dl\_src=00:00:00:00:00:01,actions=output:2
   5. sudo ovs-ofctl add-flow s1 priority=500,dl\_type=0x800,nw\_src=10.0.0.0/24,nw\_dst=10.0.0.0/24,actions=normal
   6. sudo ovs-ofctl add-flow s1 arp,nw\_dst=10.0.0.1,actions=output:1
   7. sudo ovs-ofctl add-flow s1 arp,nw\_dst=10.0.0.2,actions=output:2
   8. sudo ovs-ofctl add-flow s1 arp,actions=normal
   9. sudo ovs-ofctl add-flow s1 priority=500,dl\_type=0x800,nw\_proto=6,tp\_dst=80,actions=output:1
   10. sudo ovs-ofctl add-flow s1 priority=800,ip,nw\_src=10.0.0.1,actions=normal
6. tcpdump
   1. pada h1 : tcpdump -ne -i h1-eth0
7. Run Python Simple Web Server
   1. python -m SimpleHTTPServer 80
8. Curl. Access web server
   1. curl <http://10.1.1.4/>
   2. curl utility used as web client to access the web server.
9. ab(apache bench) tool
   1. If we want to simulate the 1000s users accessing the web server on the same time (load), we can use ab(apache bench) tool
   2. ab -n 500 -c 50 http://10.1.1.4/
   3. -c 50 means parallel request per second (50 Requests per second)
   4. -n 500 means total request for this test (500 requests)
   5. Apache bench tool have lot more options , More details can be found from the below link
   6. https://httpd.apache.org/docs/2.4/programs/ab.html

Percobaan

1. Coba Ryu mn simple iperf
   1. Topologi simple 1 switch dengan 4 host pada VM
   2. Run iperf
      1. Pada h1
         1. Iperf3 -s
      2. Iperf3 -c 10.0.0.1 -i 10 -t 30
         1. Transfer 27.2 GB
         2. Bitrate 23.3 Gbps
         3. Bitrate = Bandwith = throughput
2. Coba Ryu mn simple httperf, curl, ab tool, simplehttpserver
   1. Topologi simple 1 switch dengan 4 host pada VM
   2. Run CGIHTTPServer port 8000
      1. Python -m CGIHTTPServer &
   3. Run curl cth : utk mengakses image
      1. Curl [http://10.0.0.1/cgi-bin/ryu-icon.jpg -o file1.jpg](http://10.0.0.1/cgi-bin/ryu-icon.jpg%20-o%20file1.jpg) -w “time total:{%time}\n”
      2. Curl <http://10.0.0.1/cgi-bin/simpleip.cgi>
   4. Open Browser
      1. http:localhost:8000/cgi-bin/simpleip.cgi
3. Tutorial cgi-bin
4. Coba Ryu mn simple httperf, curl download image
   1. Topologi simple 1 switch dengan 4 host pada VM
   2. Run simplehttpserver port 80 dengan image yang ada didalam foldernya
   3. Run curl utk mengakses image
      1. Curl [http://10.0.0.1/cgi-bin/ryu-icon.jpg -o file1.jpg](http://10.0.0.1/cgi-bin/ryu-icon.jpg%20-o%20file1.jpg) -w “time total:{%time}\n”