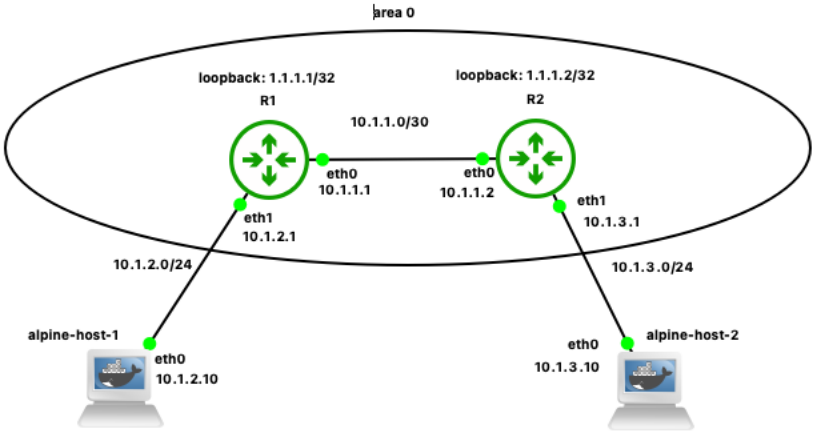
LAB 2 – Basic Routing with OSPF – Single Area

1. For this lab, first start off by configuring the below topology using the knowledge you obtained in the setup lab. Remember, use auxiliary console to get access to the routers and then you need to enter the "vtysh" command to enter the configuration utility, and then "config t" to start configuration. Also change the router host names to R1 and R1 via right clicking on them and using the "change hostname" option.



Note if you mess up a configuration command you can undo it by putting "no" in front of the command. For example, if you mess up and do "ip address 10.1.3.0/24" you can undo that by first typing in "no ip address 10.1.3.0/24", and then update with the correct IP address via "ip address 10.1.3.1/24"

At this point, validate that host-1 can ping 10.1.2.1, and host-2 can ping 10.1.3.1
Also validate that host-1 at 10.1.2.10 cannot ping 10.1.3.10 (host-2) and vice versa.

Now lets go in and configure a routing algorithm.

On R1 and R2 enter the following commands (make sure you are in configuration mode)

router ospf
network 0.0.0.0/0 area 0

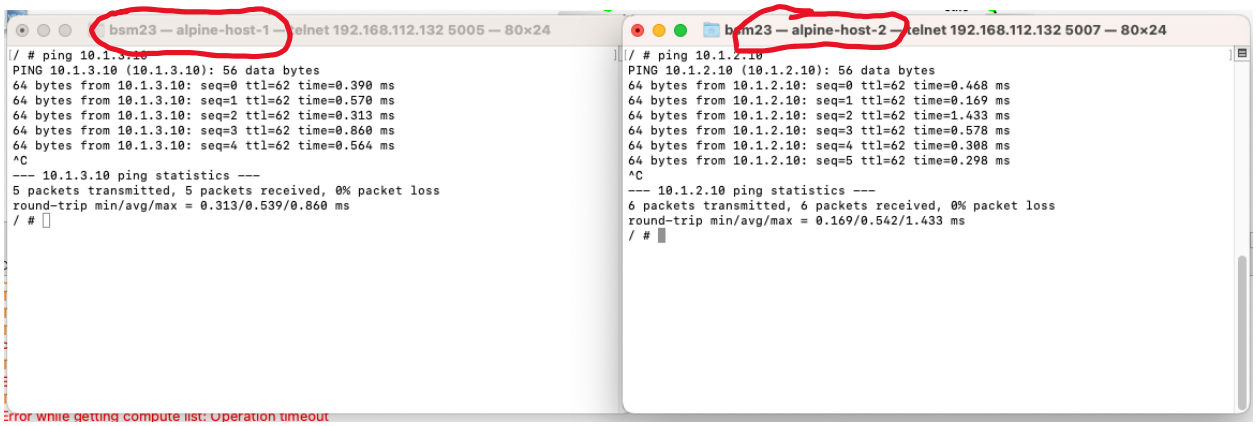
Next lets see if the routers found each other, execute:

do show ip ospf neighbor

Now lets study the routing information:

do show ip ospf interface
do show ip ospf route

Now try pinging host-2 from host-1 and vice-versa



Make sure you save your work by executing “do write” on the routers from time to time

Questions/Discussion

1. A lot of magic happened with the commands router ospf, and neighbor 0.0.0.0/0 area 0. What exactly do you think these commands do?
2. There are 3 basic subnetworks in this lab. 10.1.1.0/30, 10.1.2.0/24, 10.1.3.0/24. Why are we using a /30 between the routers?, Why cant host-1 and host-2 be on the same network?
3. Provide your configuration for each of the routers. You can get this by typing “do show running-config”