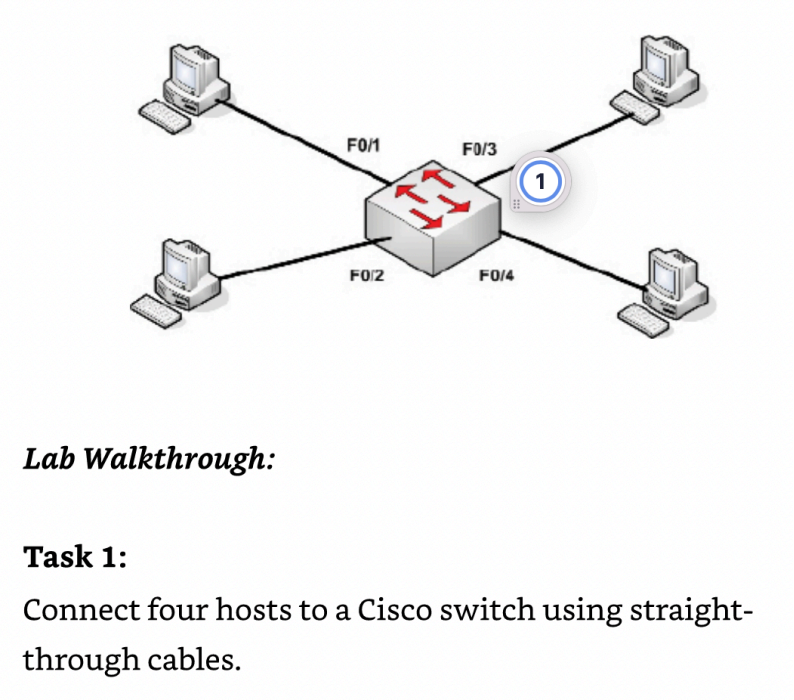
Lab 11
MAC address Table

Lab Objective:
Learn how a switch populates its MAC table in order to quickly forward frames out of the correct interface.

Lab Purpose:
When switches boot, they have no directory of which MAC addresses are connected to which interface. As traffic enters the port, the switch adds the source MAC address to a MAC address table so it doesn't have to broadcast for the address next time.

Lab Tool:
Packet Tracer

Lab Topology:
Please use the following topology to complete this lab exercise:




***Lab Walkthrough:***

**Task 1:**

Connect four hosts to a Cisco switch using straight-through cables.

Task 2:
Check the MAC address table on the switch. It should be empty at the moment:

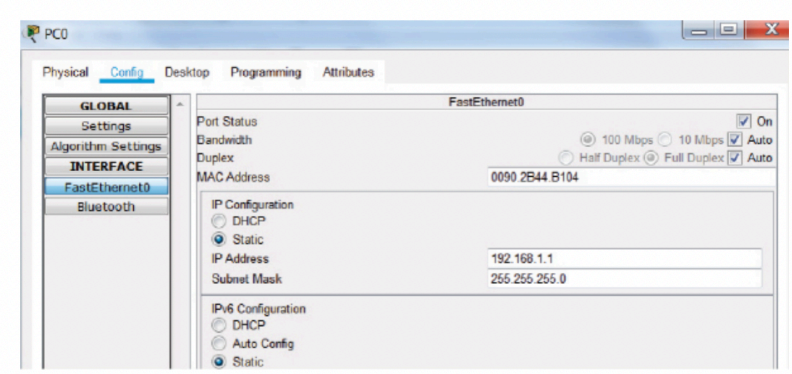
```
Switch#show mac-address-table
Mac Address Table
-------------------------------------------

Vlan Mac Address Type Ports
---- ----------- -------- -----

Switch#
```

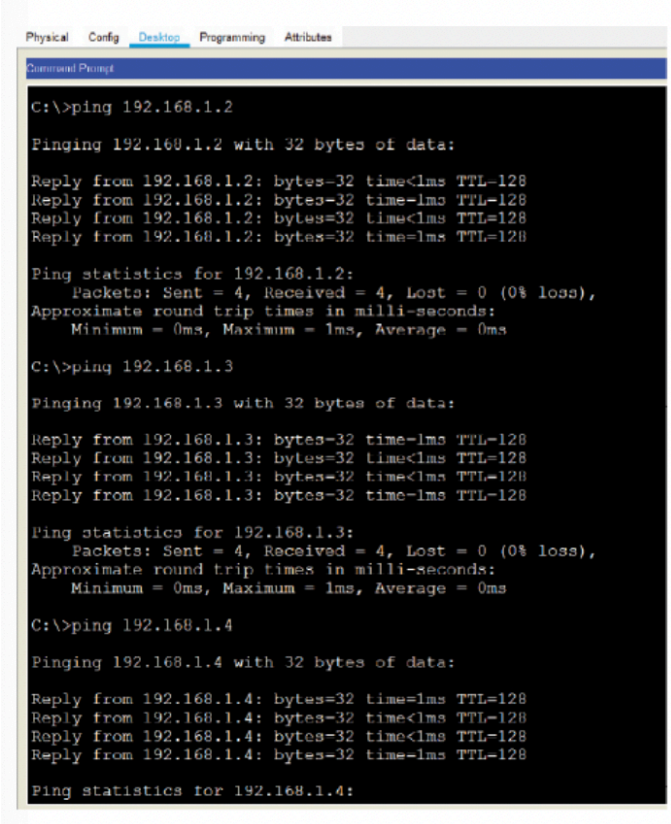
Task 3:

Allocate IP addresses to the hosts from within the subnet 192.168.1.0.
Here is how I did it on the first PC. You can use 192.168.1.1, then 192.168.1.2, and so on.




Task 4:

From one of the PCs ping the other three. Below, I am on host 192.168.1.1, and ping hosts .2, .3, and then .4



Task 5:
Check the MAC address table on the switch once more.

```
Switch#show mac-address-table
Mac Address Table
-------------------------------------------

Vlan Mac Address Type Ports
---- ----------- -------- -----

1 0001.641d.579c DYNAMIC Fa0/3
1 0050.0fd5.d238 DYNAMIC Fa0/4
1 0060.5c7b.6cbd DYNAMIC Fa0/2
1 0090.2b44.b104 DYNAMIC Fa0/1
Switch#
```

You can go ahead and check the MAC address on your host to ensure the one in the switch MAC address table is correct.