Week#3 – Starting from Jan 18 – 2016

Learning objectives:

A. Understand

- *Address Resolution Protocol*
- *MAC table updating in Ethernet Switch*
- *How Ethernet Switch is better than HUB?*

B. Learn how to

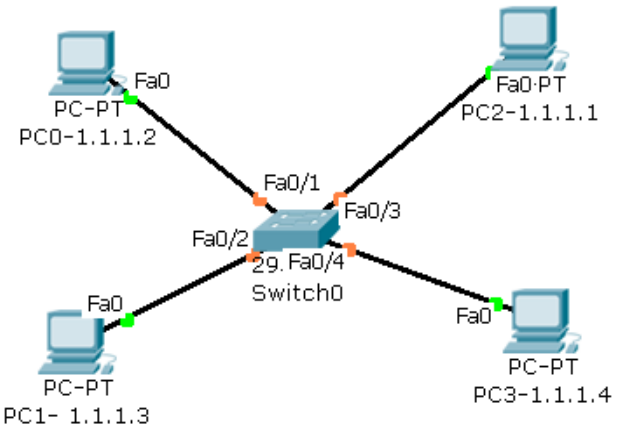
- Configure Router based network

This session has 4 parts

1. **Simple switch based network.**
2. **Network using single router.**
3. **Network with two routers.**
4. **Network with 3 routers looped.**

1.Simple switch based network.

Topology

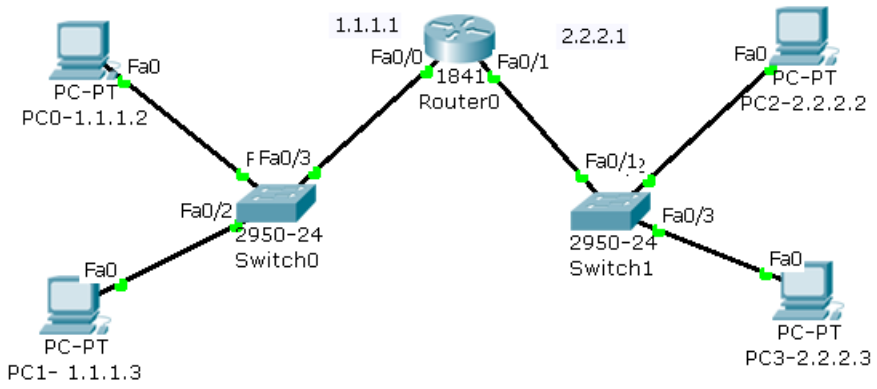


Use REAL MODE

	Action	What to observe?	Comments/ Questions /Reasons
1	Create the topology as shown		
2	Configure the IP addresses of all hosts as per the addresses given in the topology		
3	Before PINGng , Using inspection tool (lens like icon in the the right corner)		

	In the right corner)	Check ARP table of all PCs	??
		Check MAC table of Switch	??
	PING from PC0 to PC1	Check ARP table of PC0 & PC1	??
		Check MAC table of Switch	??
	PING from PC2 to PC3	Check ARP table of PC2 & PC3	??
		Check MAC table of Switch	??
	PING between all the PCs	Check ARP table of PC0 & PC1	??
		Check MAC table of Switch	??
			What is the inference after all these steps , about ARP ?

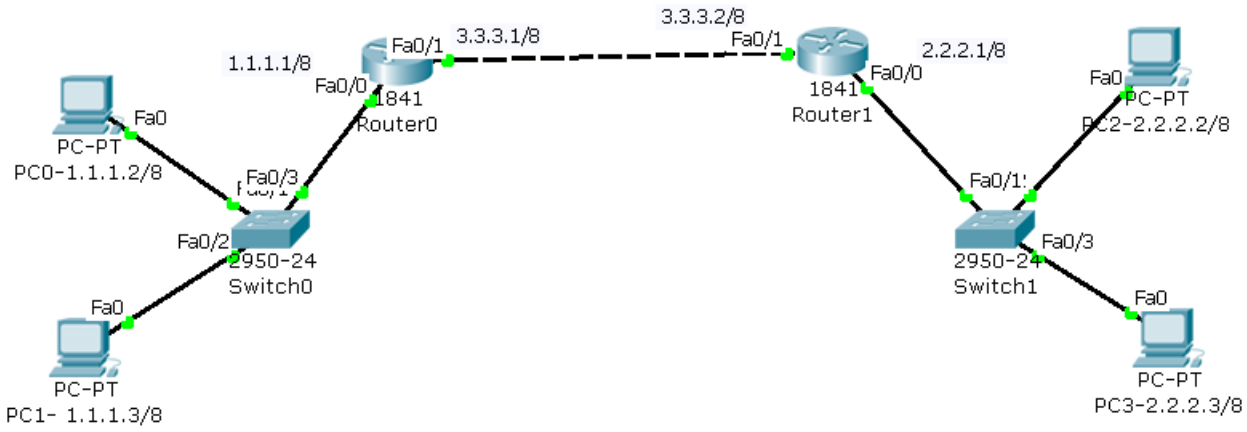
2.Network using single router.



Standing instruction :

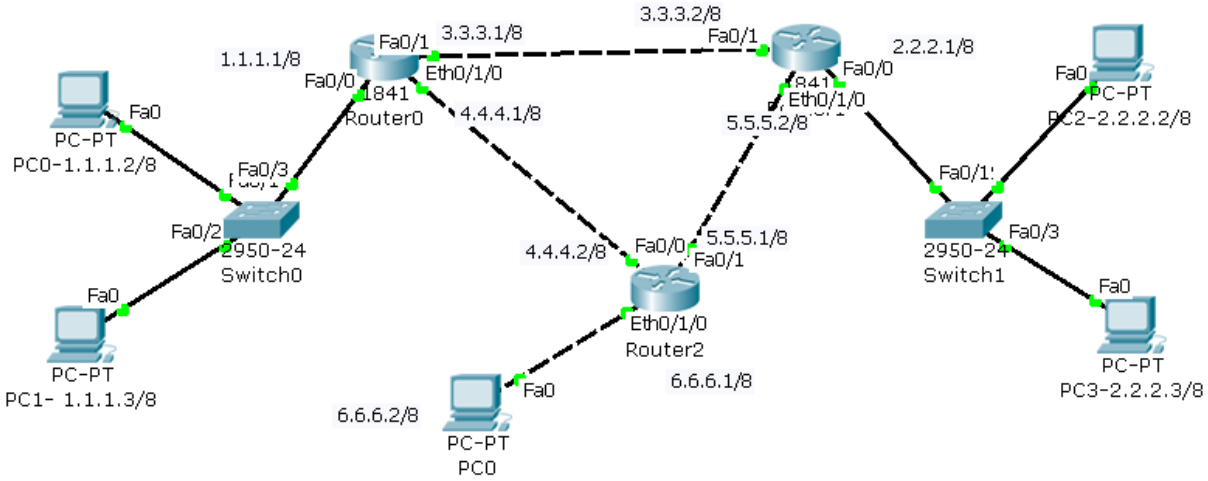
1. **Whenever Router is configured, don't forget to save.When POWER CYCLE DEVICES is clicked, configuration will be lost, if you have not saved.**
2. **In order to know the port labels, select OPTIONS , and select 'preferences' and then 'show always port labels.**

3. Network with two routers.



	Action	What to observe?	Comments/ Questions /Reasons
1	Create the topology as shown		
2	Complete the configuration		
3	Ping from any PC to any PC		Status If the configuration is correct, it should be successful.
4		Check the ARP table of any PC	Write down your observation.
5		Check the Routing table of both the routers	Write down your observation.

4.Network with 3 routers looped.



Configure the network to get the succesful communication among all PCs.