Lab 7:

Cisco DHCP server Configuration

Networks Management

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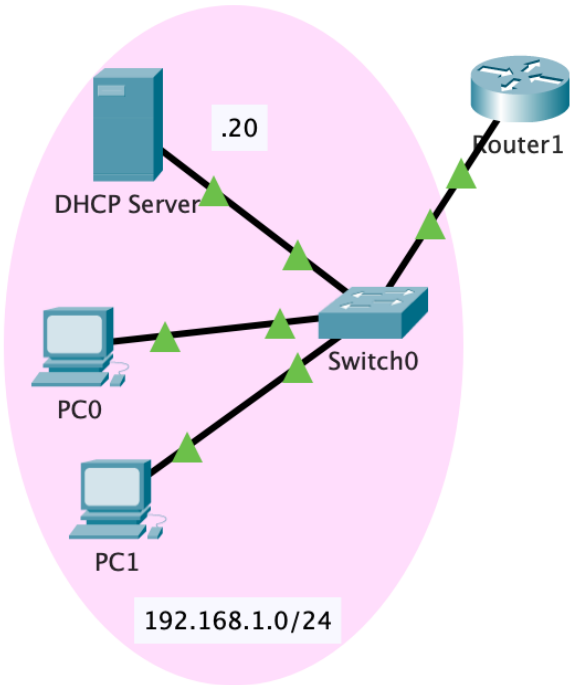
Plan:

Lab Objectives:

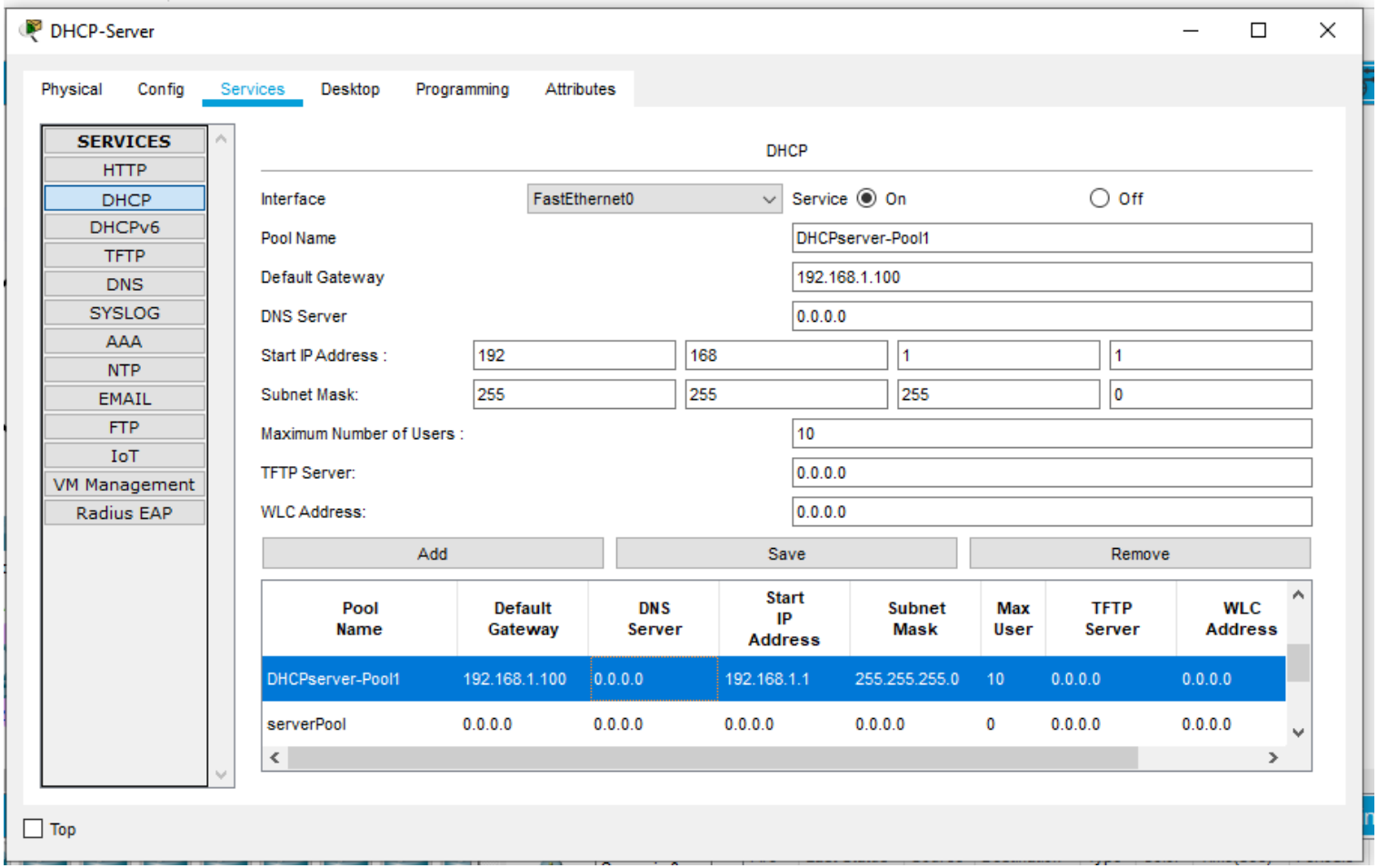
- Configure a DHCP Server,
- Determine the broadcast domain for a Hub, Switch,
- Determine the broadcast domain for a router.

Step 1:

1. Initially, all the PCs must be set to DHCP mode,
2. Then configure the server as shown in the slide 5 by a DHCP pool with a pool-name= **DHCPserver-pool1** and :
   - Do not forget to configure the server address!
   - Verify that all PCs have obtained their IP address;



Cisco DHCP server Configuration

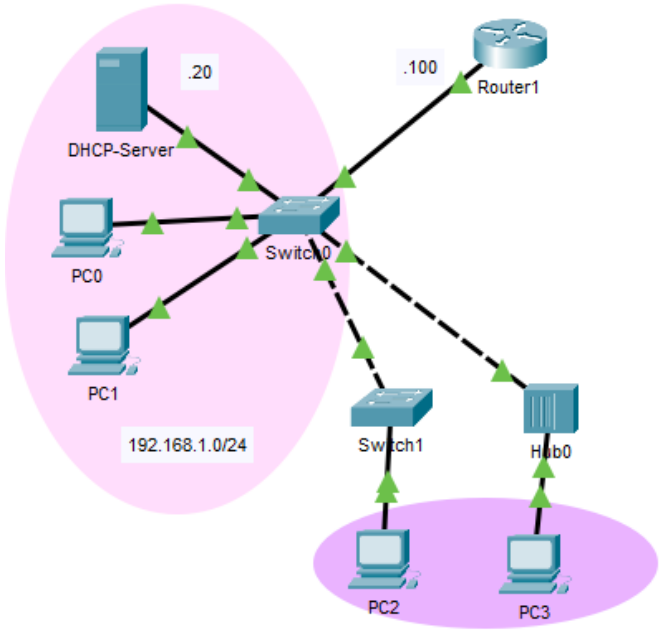


Step 2:

Extend the network by:

- Adding a hub + PC and
- Adding a switch + PC
- Verify connectivity, and draw conclusions!

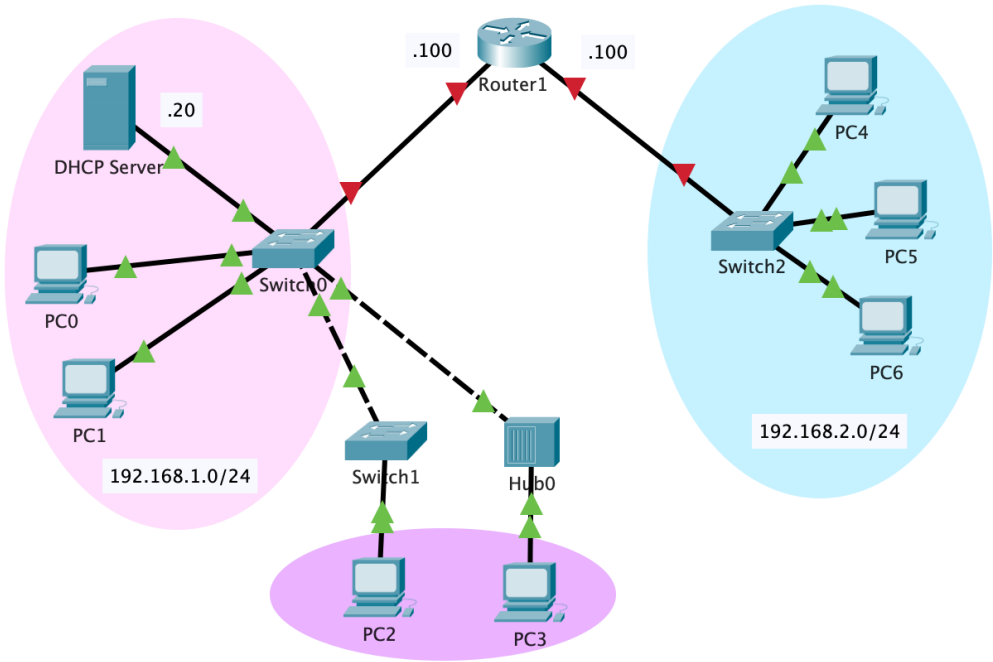
The new PCs are configured as DHCP clients.



Step 3:

We want to create a second network with the address 192.168.2.0/24. Interconnection is provided by **Router1**.

- Add to the existing DHCP server the address range (pool) associated with this second network (Pool Name= "**DHCPserver-Pool2**").
- Verify the configuration. Draw conclusions.

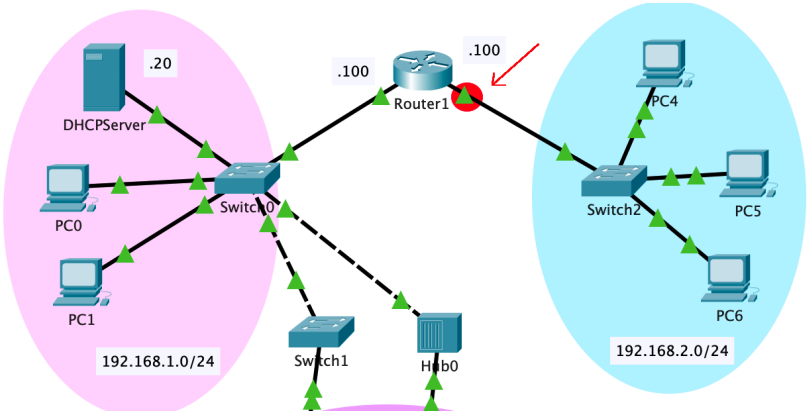


Step 4:

To give the possibility to the DHCP server located on one side of a router to respond to clients from another network (not the same network as the server), use this command which will help the router to switch DHCP requests to the server :

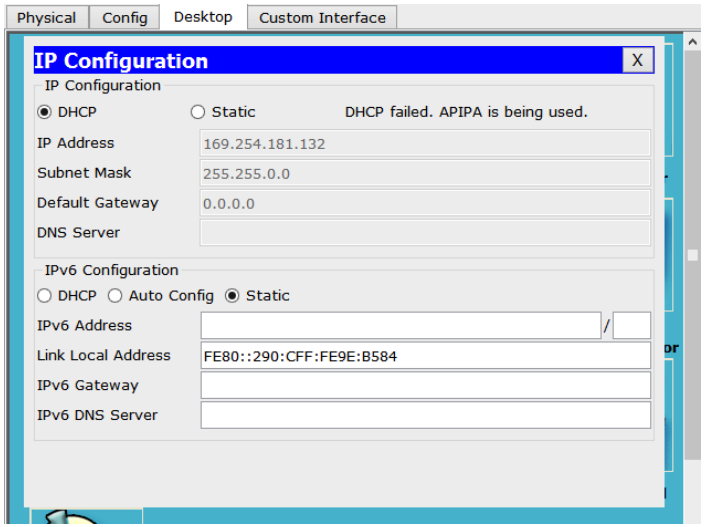
Router(config-if)# **ip helper-address** <IP address of DHCP server>

Note: Before applying this command, you must first select the correct router interface that leads to the target network (server network) from the source network. In this case, it is the interface shown in the next slide.



Testing and Verification

- For steps 1 and 2, the PCs obtain valid IP addresses corresponding to the configured network.
- For step 3, the PCs will obtain IP addresses (APIPA address) but not those of the configured network.



- For step 4, if "ip Helper-address" is activated and the server is well configured with the second pool ('DHCPserver-pool2'), all machines in the second network will obtain an Ip address from the remote server.