PRACTICAL LAB: DHCP SERVER CONFIGURATION

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Practical Lab: DHCP Server Configuration - JA

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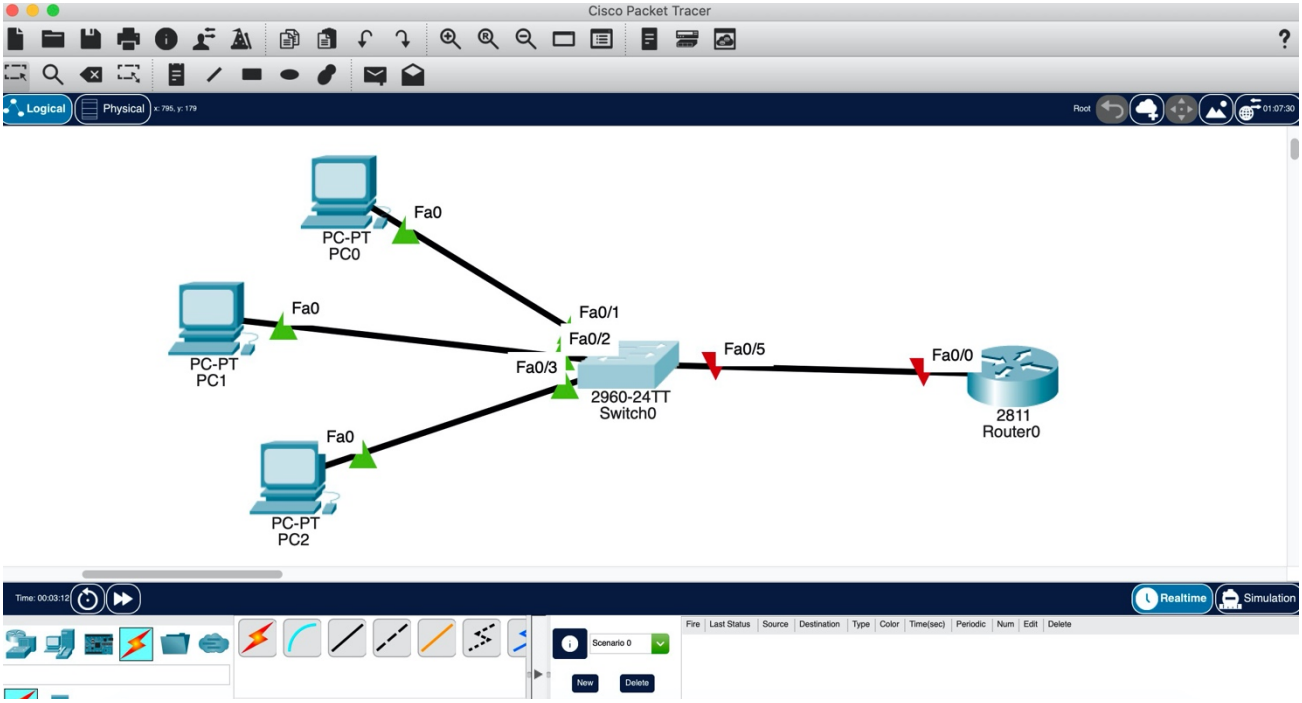
1 Introduction

For this practical we will be using *Cisco Packet Tracer,* a tool provided by Cisco to build and test Cisco networks. In this lab we are going to configure a DHCP Server both on a router and a generic server.

2 Configuring DHCP on a Router

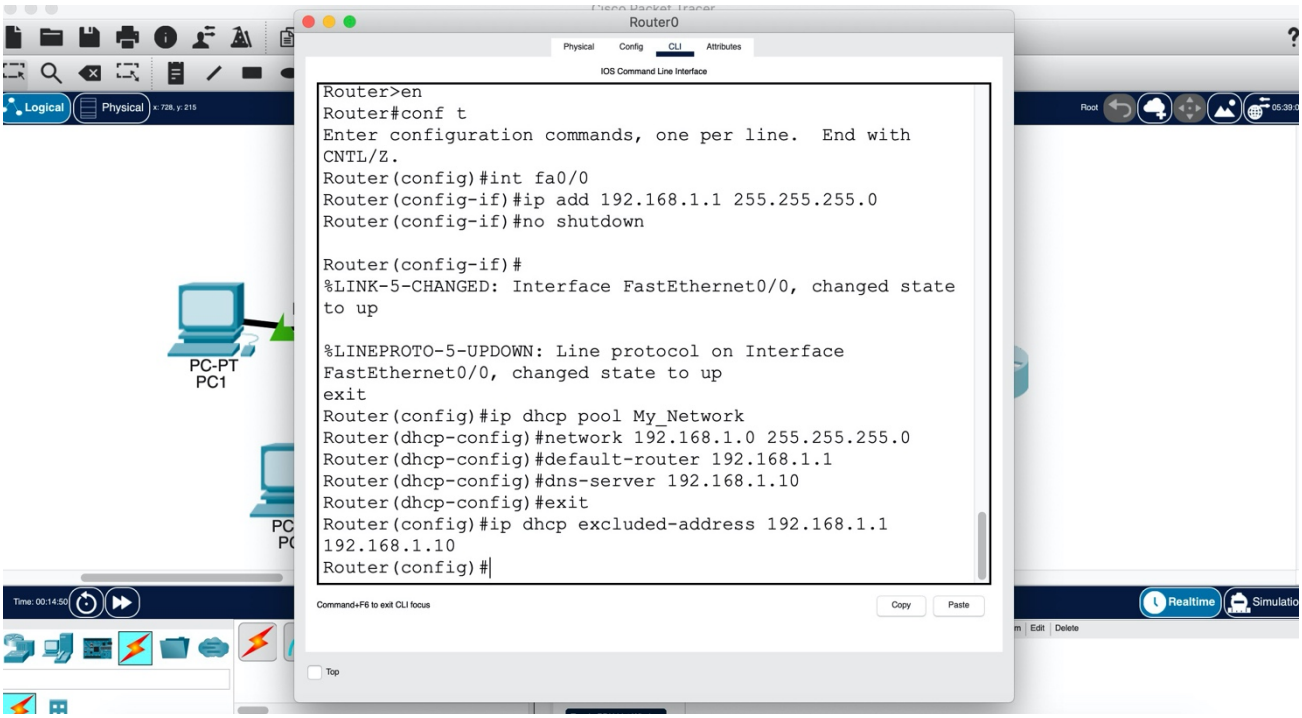
2.1 Setting up Devices

Configure the following devices:



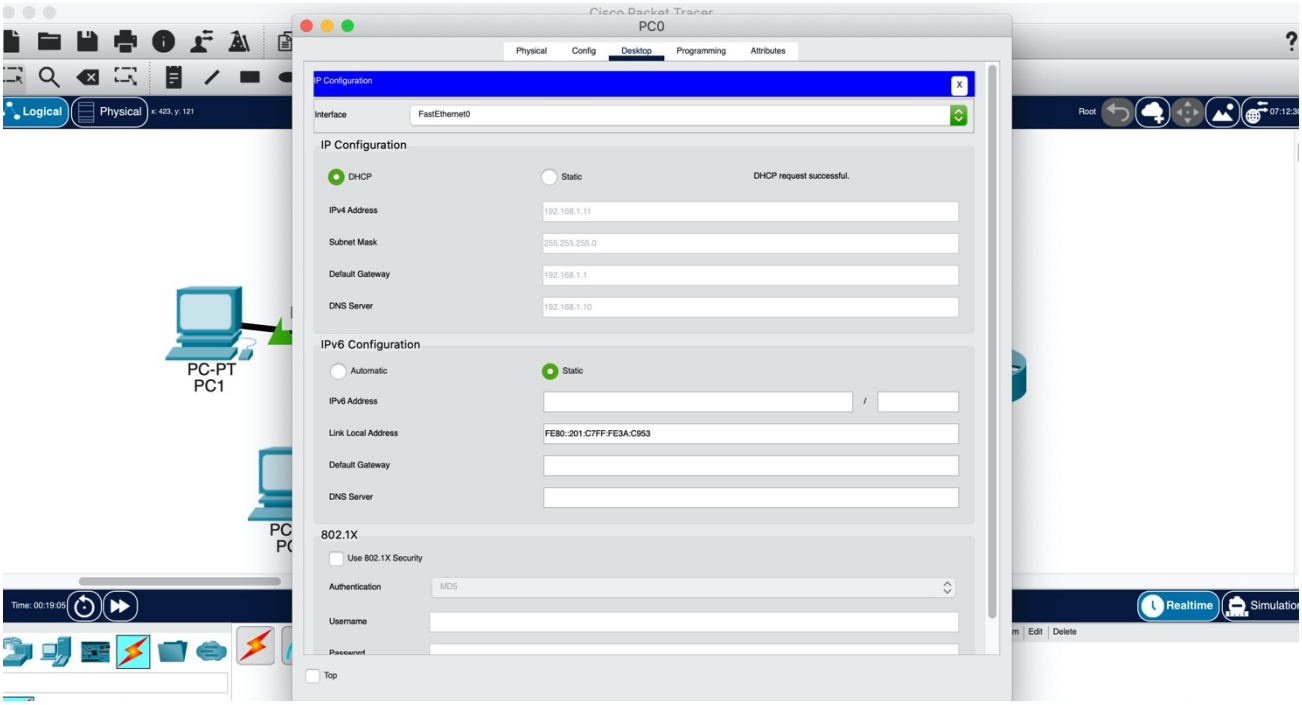
2.2 Router Configuration

We need to configure the router interface as we have done before, and then configure a DHCP server on the Router. We define a DHCP pool of IP addresses to be assigned to hosts, a default gateway for the LAN and a DNS Server. We can also add the command: ip dhcp excluded-address to our configuration so the router will exclude addresses when assigning addresses to clients (example below is for addresses 192.168.1.1 to 192.168.1.10). The command may be used to reserve addresses that are statically (manually) assigned to hosts. See all this configuration below:



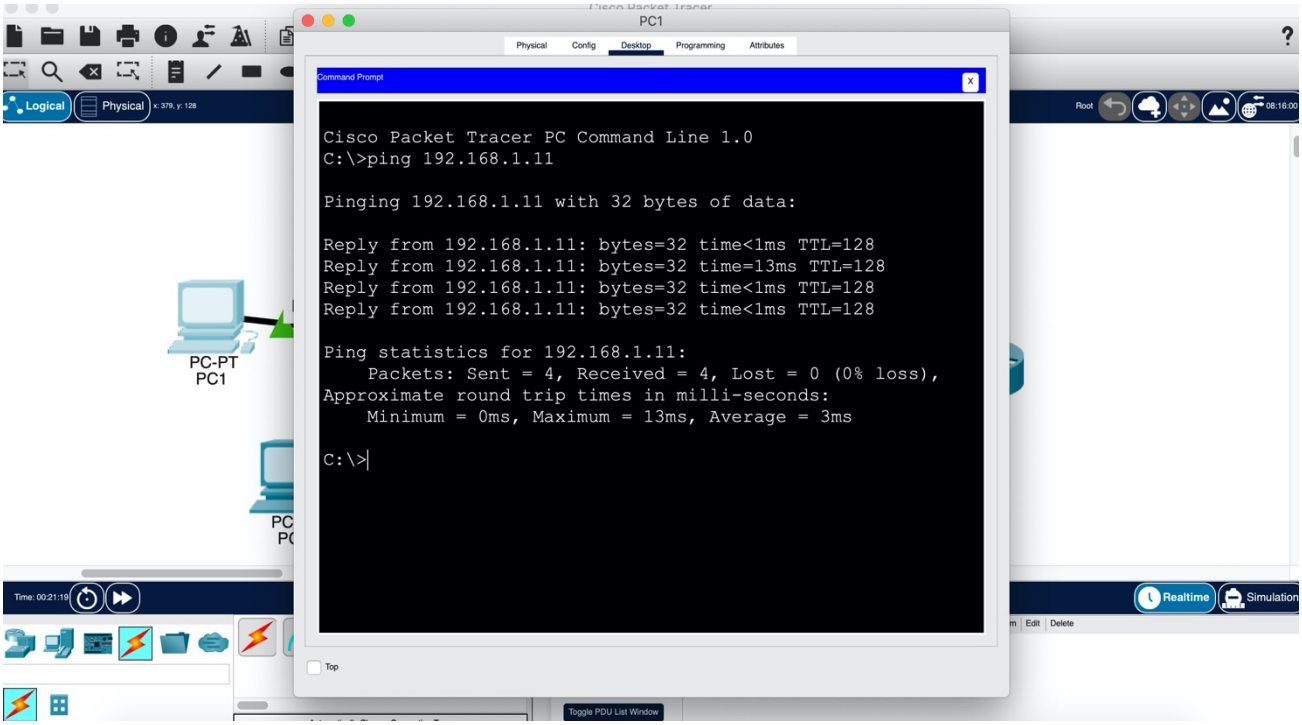
2.3 Enable DHCP on PCs

Now go to every PC and on the IP config tab under desktop, enable DHCP.



In the above example, this was done for PC0, and notice how the first IP address assigned is 192.168.1.11, as we excluded 192.168.1.1 to 192.168.1.10.

Configure DHCP on the other PCs, and then do a test Ping.

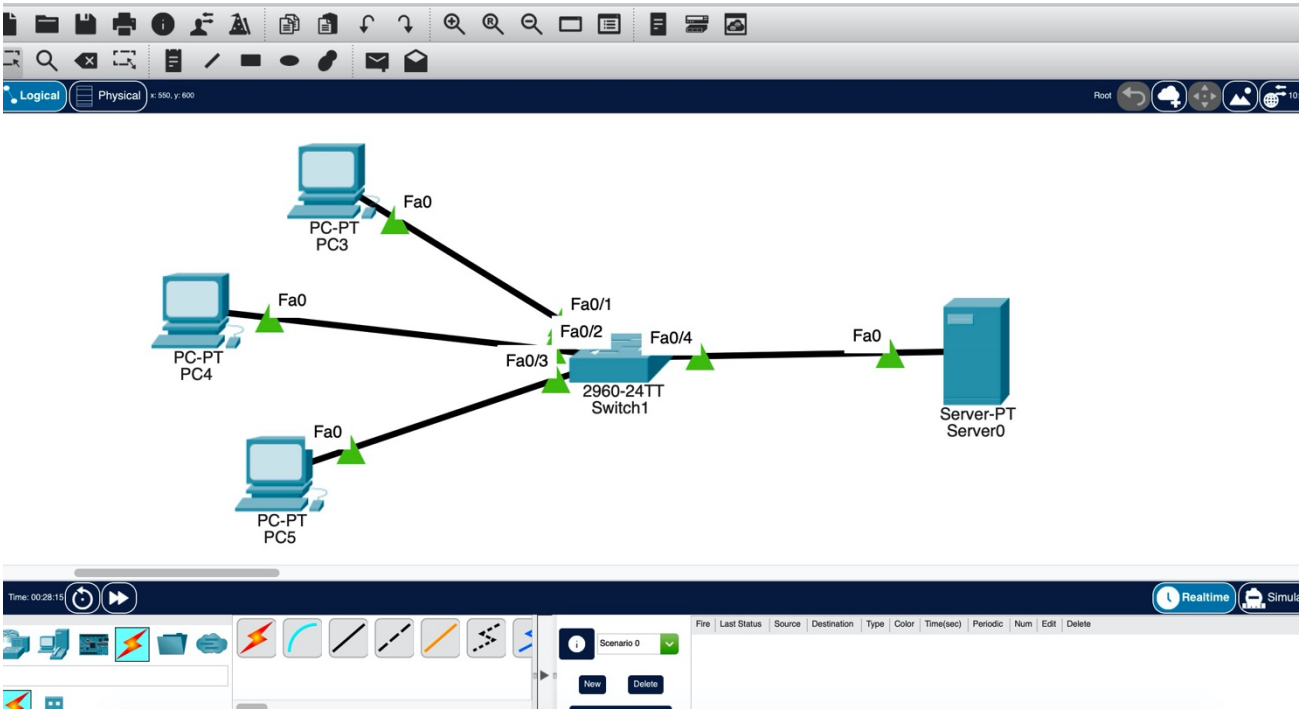


Success! You have configured DHCP through a router, now let's do it on a server.

3 Configuring DHCP on a Server

3.1 Setting up Devices

Configure the following devices:



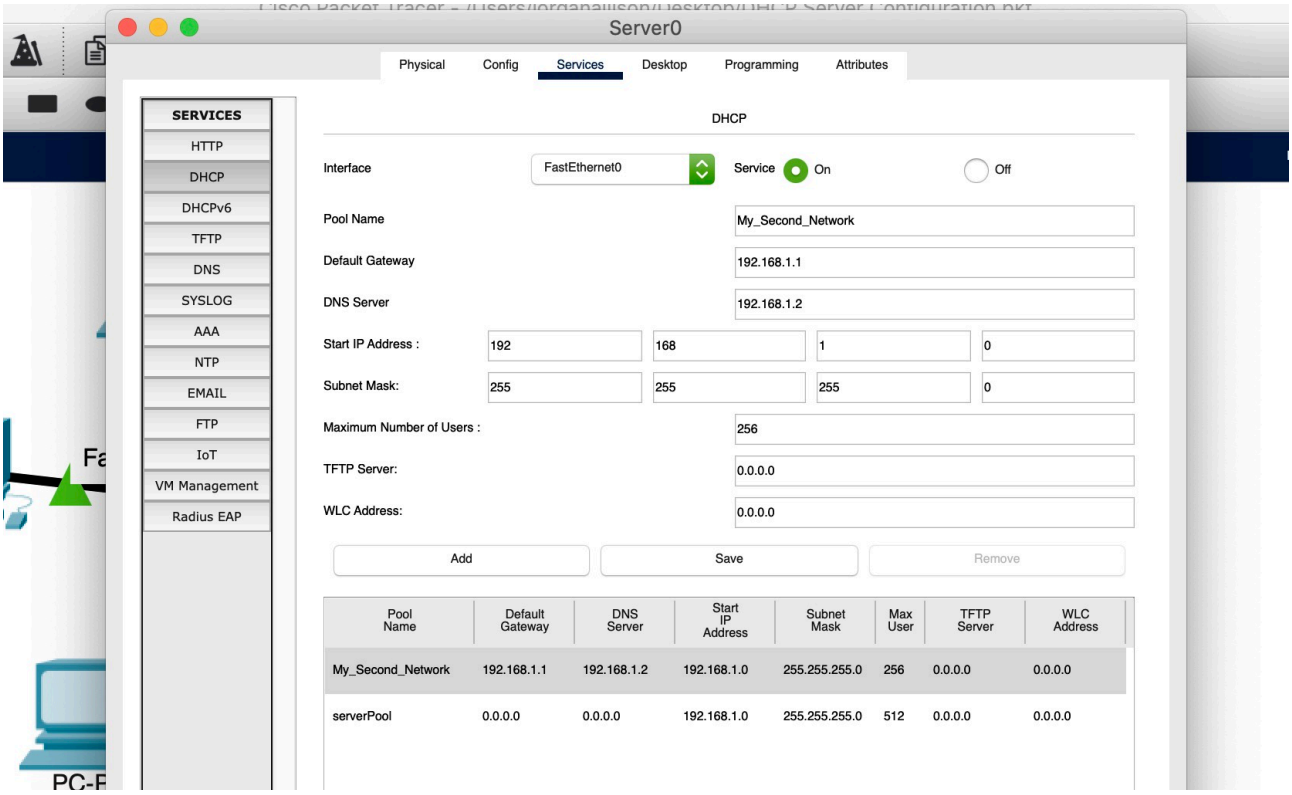
3.2 Server Configuration

Allocate the server a static ip address of 192.168.1.2 255.255.255.0 192.168.1.1

Now configure the DHCP service on the server. Click on the server, then click on Services tab. Pick DHCP. Then proceed to define the DHCP network parameters as below:

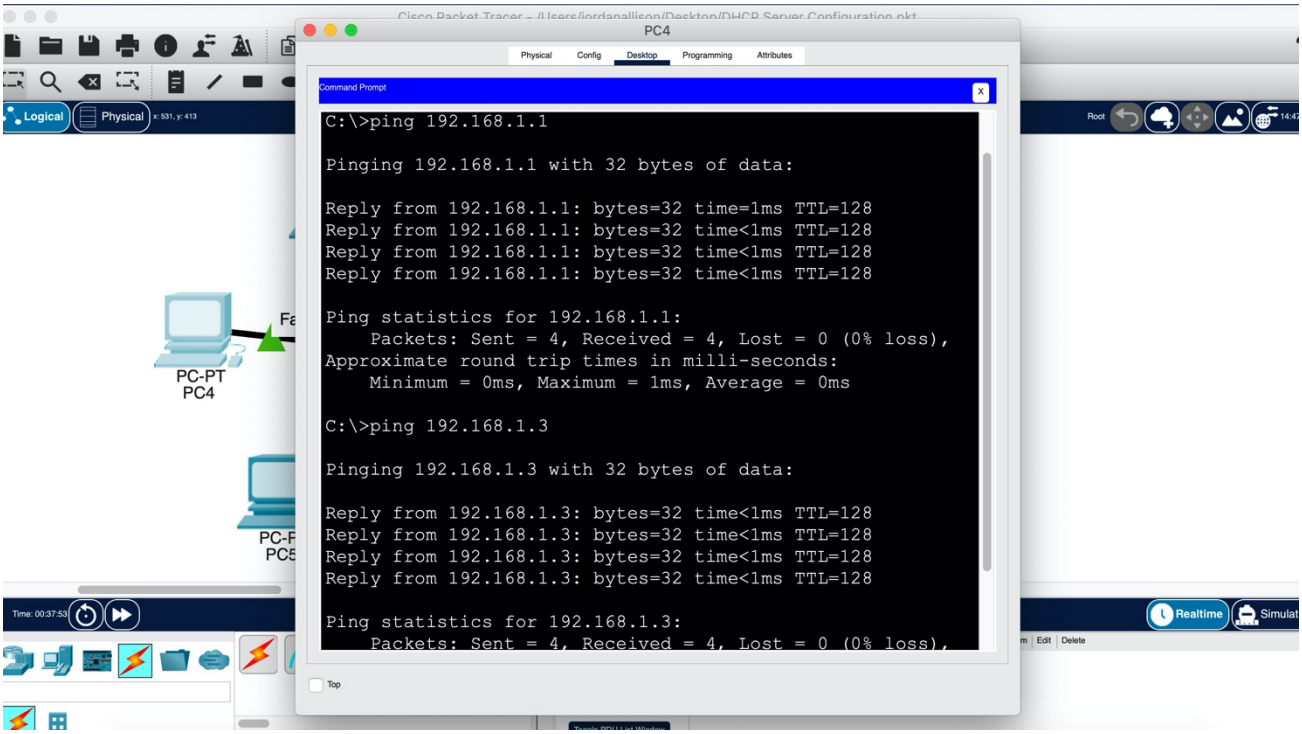
- Pool name: MY_Second_Network
- Default Gateway: 192.168.1.1
- DNS Server: 192.168.1.2
- Start IP Address: 192.168.1.0
- Subnet Mask: 255.255.255.0
- Maximum Number of users: 256

You will then need to click add, and then save. This will add the DHCP pool to the list as below:



3.1 Enable DHCP on PCs

Now go to every PC and on the IP config tab under desktop, enable DHCP. Again, you can then do some test Pings as below:



Please note, that if you want to allocate a DHCP server to serve hosts that are in a different broadcast domain, then you would need to use the ip helper-address command.