

## Configure DHCP within a LAN and outside LAN

Date: 15/7/2020

### Dynamic Host Configuration Protocol

#### Topology:

The diagram shows a central Router connected to two switches, Switch-0 and Switch-1. Switch-0 is connected to three PCs (PC0, PC1, PC2) and a Server (10.0.0.1). Switch-1 is connected to three PCs (PC3, PC4, PC5). The Router has interfaces with IP addresses 10.0.0.25, 30.0.0.1, and 20.0.0.25. The Server has IP address 10.0.0.1.

#### Procedure:

- \* Place 3 PC's, 2 switches and a router on the workspace.
- \* make the appropriate connections
- \* Set the server ip address as 10.0.0.1, set the gateway as 10.0.0.25 (as the router ip address 10.0.0.25)
- \* The services switch on the DHCP give appropriate pool name.  
set start IP address 10.0.0.2
- \* The IP address of PC's connected to switch 0 are allocated.  
PC → Desktop → Ip config → DHCP
- \* Make the appropriate connection between router and the two switches.
- \* In router →  

```
(config)# interface FastEthernet 0/0
(config-if)# ipaddress 10.0.0.1
(config-if)# No shut
```

\* after proper connection between switches and router. go to server → services → DHCP → Create a pool2 with some name.

Set default gateway 10.0.0.15 (ip address of router) and click on add.

\* The ip address of the PCs get dynamically allocated when switched to DHCP.

\* Set up the other router connect it with switch with ip address 40.0.0.25.

\* Make appropriate connections b/w two routers with ip address 30.0.0.25 and 30.0.0.26.

\* Do the static routing for both routers.

\* In the 2nd router CLI type the command

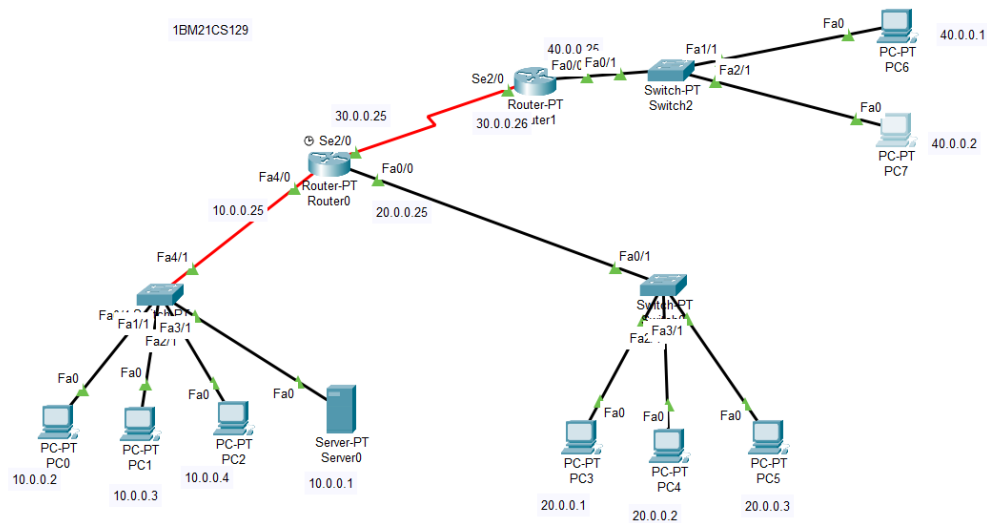
(config)# interface fastEthernet 0/0  
(config-if)# ip help-address 10.0.0.1

Observation:

The dynamic allocation of ip-address can be done across one or more LAN using a server.

20/1

## Topology:



## Output:

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☒ DHCP ☐ Static

IPv4 Address 10.0.0.2

Subnet Mask 255.0.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::260:2FFF:FE75:6CE1

Default Gateway

DNS Server

802.1X