

## Program-4

### Configure default route, static route to the Router (part 2)

#### Topology, Procedure and Observation:

23/10/2020 EXP-9 - Lab 4.

Aim: To configure default route, static route to the Router.

Topology:

The diagram shows a linear topology of three routers: Router-1, Router-2, and Router-3. Router-1 has interfaces 10.0.0.2 and 20.0.0.1. Router-2 has interfaces 20.0.0.2 and 30.0.0.1. Router-3 has interfaces 30.0.0.2 and 40.0.0.2. A PC-PT is connected to Router-1 with IP 10.0.0.1. Another PC-PT is connected to Router-3 with IP 40.0.0.1.

Procedure:

- 1) Create a network of 2 end devices and 3 routers and by connecting end devices to the routers.
- 2) Set up IP address, gateway, subnet mask of all the networks.
- 3) In router set up its IP address (fast ethernet).
- 4) Configure all the end devices by following commands.

In CLI enter, Router > enter,

```
Router # enable
Router # config terminal

Router # interface fast ethernet 0/0
Router(config)# ip address 10.0.0.1 255.0.0.0
Router(config)# no shutdown.
Router(config)# exit.
```

Repeat the same procedure for 2nd end device.

After configuring the end devices, a connection is established.

Next step is to connect the 3 routers.  
Go to the CLI of router 1 and enter following commands.

```
Router # enable
Router # config terminal
Router (config) # interface serial 2/0
Router (config) # ip address 20.0.0.2 255.0.0.0
Router (config) # no shutdown
Router (config) # exit
```

Repeat the above commands to establish connection between router 1 and router 2 with interface serial 3/0 and IP addresses 30.0.0.1 255.0.0.0.

Now, a serial connection between all the routers is established.

Next step is to default route, router 0 and router 2.

In Router 0 CLI enter the following commands.

```
Router # enable
Router # config terminal
Router (config) # ip route 0.0.0.0 0.0.0.0 20.0.0.2
Router (config) # exit
```

Repeat the same for the router 2 for IP route

0.0.0.0 0.0.0.0 30.0.0.1

### OBSERVATION:

In Router 0 CLI:

Router # show ip route

C 10.0.0.0/8 is directly connected, FastEthernet 0/0

C 20.0.0.0/8 is directly connected, Serial 2/0

S\* 0.0.0.0/0 [1/0] via 20.0.0.2

In Router 2 CLI:

Router # show ip route

C 30.0.0.0/8 is directly connected, <sup>serial</sup>FastEthernet 3/0

C 40.0.0.0/8 is directly connected, FastEthernet 0/0

S\* 0.0.0.0/0 [1/0] via 30.0.0.1

In Router 1 CLI:

Router # show ip route

S 10.0.0.0/8 [1/0] via 20.0.0.1

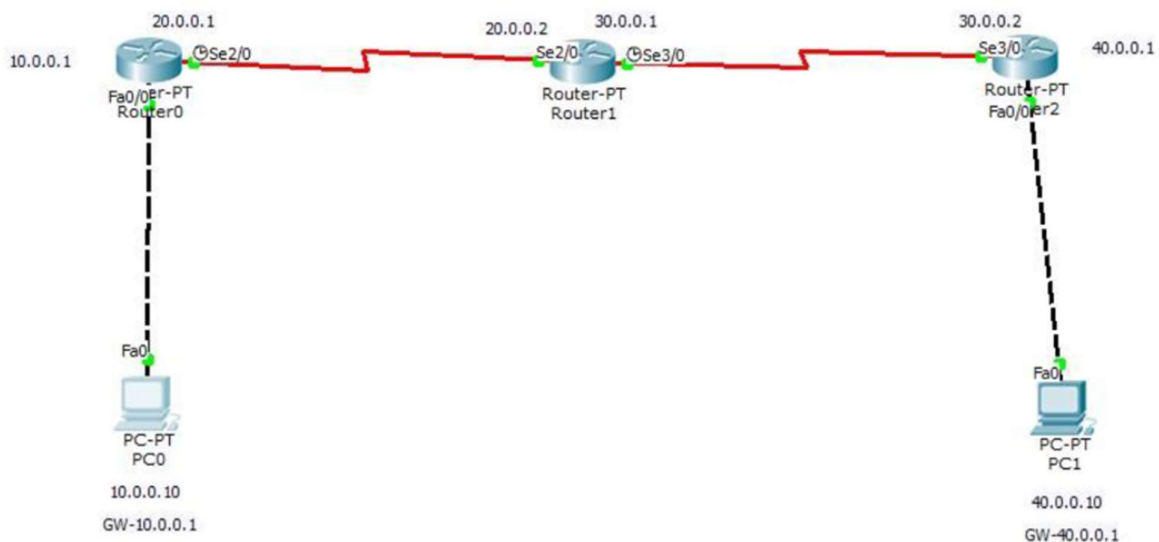
C 20.0.0.0/8 is directly connected, Serial 2/0

C 30.0.0.0/8 is directly connected, Serial 3/0

S 40.0.0.0/8 [2/0] via 30.0.0.2



### Screenshots:



## Command Prompt

Pinging 40.0.0.10 with 32 bytes of data:

Request timed out.

Reply from 40.0.0.10: bytes=32 time=7ms TTL=125

Reply from 40.0.0.10: bytes=32 time=6ms TTL=125

Reply from 40.0.0.10: bytes=32 time=5ms TTL=125

Ping statistics for 40.0.0.10:

Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),

Approximate round trip times in milli-seconds:

Minimum = 5ms, Maximum = 7ms, Average = 6ms