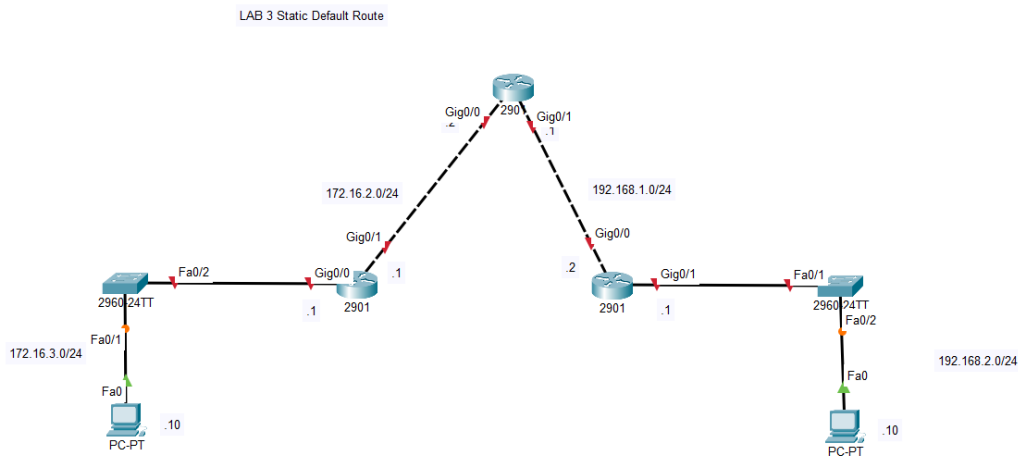


LAB 3: Static Default Route Lab Guide

Objective:

To configure static default routes on all routers so that end-to-end connectivity is achieved across all networks.



Topology Overview:

Device	Interface	IP Address	Subnet	Description
PC-1	Fa0	172.16.3.10	/24	Left End Device
PC-2	Fa0	192.168.2.10	/24	Right End Device
R1	G0/0	172.16.3.1	/24	LAN to PC-1
R1	G0/1	172.16.2.1	/24	Link to R2
R2	G0/0	172.16.2.2	/24	Link to R1
R2	G0/1	192.168.1.1	/24	Link to R3
R3	G0/0	192.168.1.2	/24	Link to R2
R3	G0/1	192.168.2.1	/24	LAN to PC-2

Step 1: Basic Router Configuration

Router R1 Configuration:

```
enable
configure terminal
hostname R1
```

```
no ip domain-lookup
interface GigabitEthernet0/0
  ip address 172.16.3.1 255.255.255.0
  no shutdown
exit
interface GigabitEthernet0/1
  ip address 172.16.2.1 255.255.255.0
  no shutdown
exit
```

Router R2 Configuration:

```
enable
configure terminal
hostname R2
no ip domain-lookup
interface GigabitEthernet0/0
  ip address 172.16.2.2 255.255.255.0
  no shutdown
exit
interface GigabitEthernet0/1
  ip address 192.168.1.1 255.255.255.0
  no shutdown
exit
```

Router R3 Configuration:

```
enable
configure terminal
hostname R3
no ip domain-lookup
interface GigabitEthernet0/0
  ip address 192.168.1.2 255.255.255.0
  no shutdown
exit
interface GigabitEthernet0/1
  ip address 192.168.2.1 255.255.255.0
  no shutdown
```

exit

Step 2: Configure PCs

PC-1 Configuration:

- IP Address: 172.16.3.10
- Subnet Mask: 255.255.255.0
- Default Gateway: 172.16.3.1

PC-2 Configuration:

- IP Address: 192.168.2.10
- Subnet Mask: 255.255.255.0
- Default Gateway: 192.168.2.1

Step 3: Configure Default Routes

On R1 (default route toward R2):

```
ip route 0.0.0.0 0.0.0.0 172.16.2.2
```

On R2 (default route toward R3):

```
ip route 0.0.0.0 0.0.0.0 192.168.1.2  
ip route 0.0.0.0 0.0.0.0 172.16.2.1
```

On R3 (default route toward R2):

```
ip route 0.0.0.0 0.0.0.0 192.168.1.1
```

Step 4: Verify Connectivity

Use the following commands to verify connectivity:

From PC-1:

```
ping 192.168.2.10
```

From R1:

```
ping 192.168.2.1
```

From R3:

```
ping 172.16.3.10
```

Optional: Save Configurations

```
copy running-config startup-config
```

End of Lab.