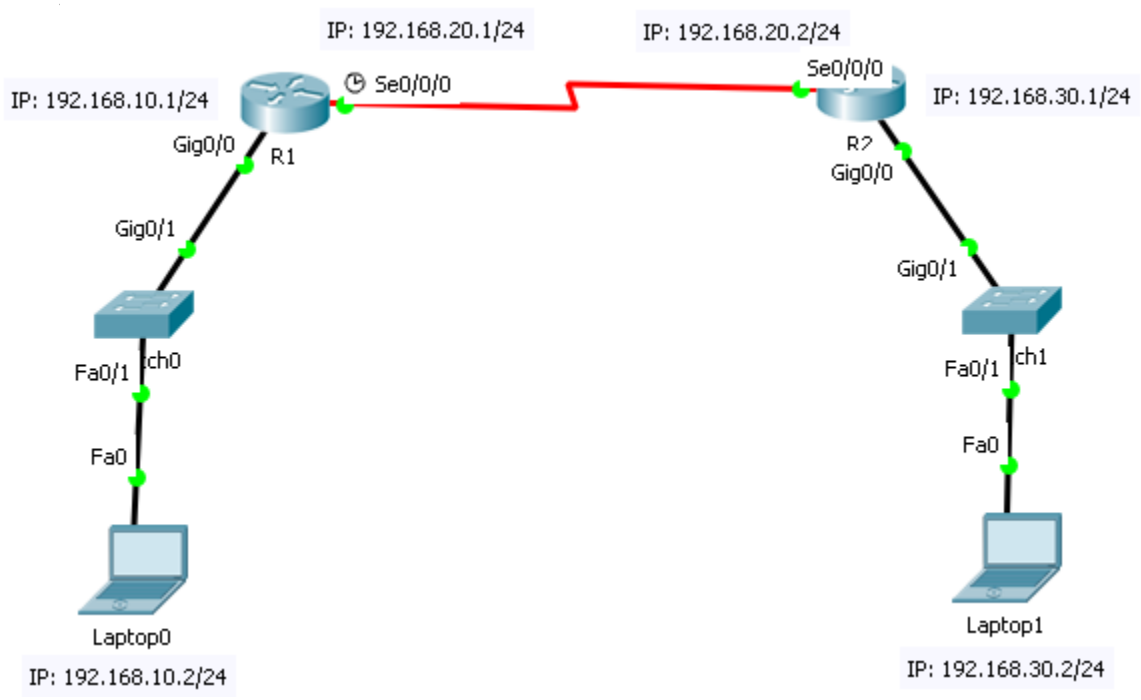
CCNA Lab#08

Lab08 Topology (Static Routing)



Setup topology

Step 1: Connect topology devices as shown in figure.

1- Select straight-through Cable from connections in Cisco Packet Tracer.

Step 2: Establish a network topology and configure it:

To add serial interfaces to router 1941:

1. R1 -> Physical -> Turn power off -> Add HWIC-2T to slot 0 -> Turn power on
2. R2 -> Physical -> Turn power off -> Add HWIC-2T to slot 0 -> Turn power on

Step 3: Enter global configuration mode of the Router R1 and change host name.

```
Encrypted, limits access to the privileged EXEC mode of the Router
1. Router> enable
2. Router# config t
3. Router(config)# hostname R1
4. R1 (Config)#
```

Step 4: Enter global configuration mode of the Router R2 and change host name.

```
Encrypted, limits access to the privileged EXEC mode of the Router
1. Router> enable
2. Router# config t
```

```
3. Router(config)# hostname R2
4. R2 (Config)#
```

Step 5: Set IPs for the interfaces of the router R1.

```
1. R1(config)# interface G0/0
2. R1(config-if)# ip address 192.168.10.1 255.255.255.0
3. R1(config-if)# no shutdown
4. R1(config-if)# interface s0/0/0
5. R1(config-if)# ip address 192.168.20.1 255.255.255.0
6. R1(config-if)# no shutdown
7. R1(config-if)# exit
8. R1(config)# exit
```

Show interfaces status:

```
1. R1# show ip interface brief
```

Step 6: Set IPs for the interfaces of the router R2.

```
1. R2(config)# interface G0/0
2. R2(config-if)# ip address 192.168.30.1 255.255.255.0
3. R2(config-if)# no shutdown
4. R2(config-if)# interface s0/0/0
5. R2(config-if)# ip address 192.168.20.2 255.255.255.0
6. R2(config-if)# no shutdown
7. R2(config-if)# exit
8. R2(config)# exit
```

Show interfaces status:

```
1. R2# show ip interface brief
```

Step 7: Configure Laptops

1- Set IP for Laptop0(Desktop -> IP configuration)
   a. IP address: 192.168.10.2
   b. Subnet Mask: 255.255.255.0
   c. Default Gateway: 192.168.10.1
2- Set IP for Laptop1(Desktop -> IP configuration)
   a. IP address: 192.168.30.2
   b. Subnet Mask: 255.255.255.0
   c. Default Gateway: 192.168.30.1

Step 8: Set a fully specified static route for the router R1.

The next-hop IP address (network ID) and exit interface are specified.

```
1. R1(config)# ip route 192.168.30.0 255.255.255.0 s0/0/0
```

The **default static route** is a route that matches all packet. A default route identifies the gateway IP address to which the router sends all IP packets that it does not have a learned or static route.

```
1. R1(config)# ip route 0.0.0.0 0.0.0.0 s0/0/0
2. R1(config)# exit
```

Show interfaces status:

```
1. R1# show ip route
```

Step 9: Set a fully specified static route for the router R2.

The next-hop IP address (network ID) and exit interface are specified.

```
1. R2(config)# ip route 192.168.10.0 255.255.255.0 s0/0/0
```

The **default static route** is a route that matches all packet. A default route identifies the gateway IP address to which the router sends all IP packets that it does not have a learned or static route.

```
1. R2(config)# ip route 0.0.0.0 0.0.0.0 s0/0/0
2. R2(config)# exit
```

Show interfaces status:

```
1. R2# show ip route
```

Step 10: Test Connectivity of laptops

1- Open Laptop0(Desktop ->CMD)
   a. Ping 192.168.30.2

2- Open Laptop1(Desktop ->CMD)
   a. Ping 192.168.10.2