lab7

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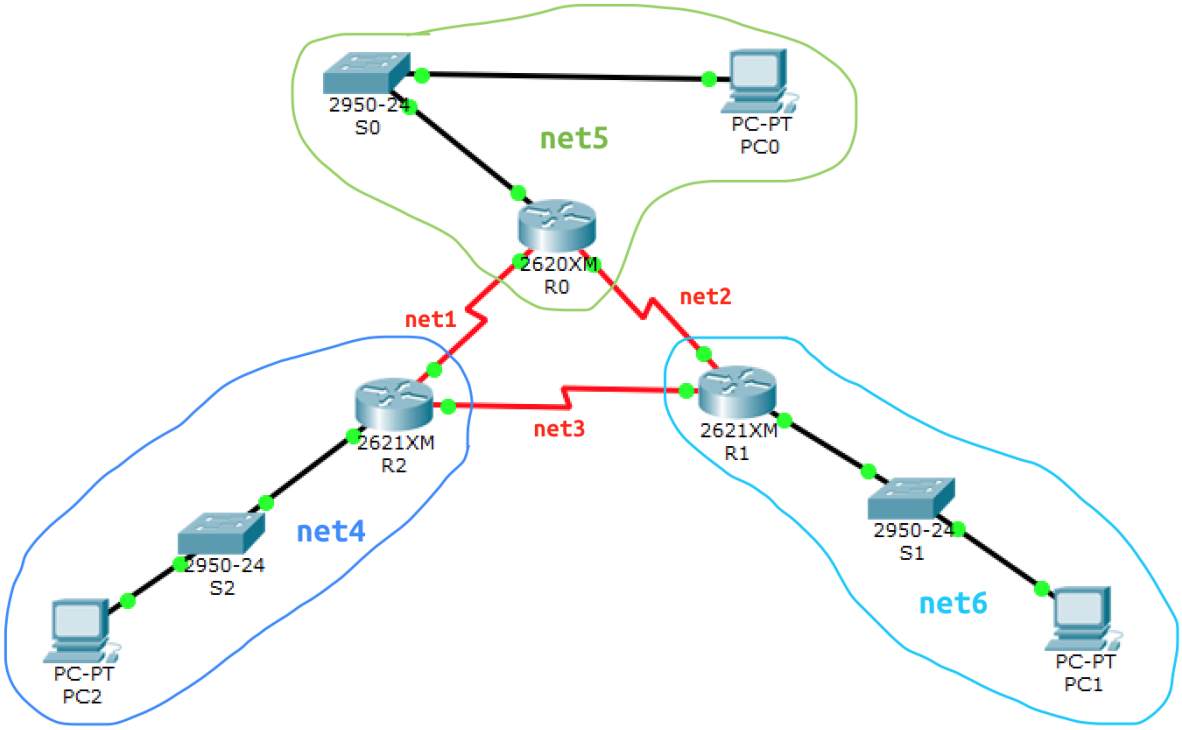
- github lab link



task1 - routers and switchs names

```
Router>enable
Router#config t
Router(config)#hostname R1
```

```
Switch>enable
Switch#config t
Switch(config)#hostname S0
```

do same with `R2`, `R3`, `S1`, `S2`, `S3`

task2 - ip configs

- `PC0` in `net5`

```
   Link-local IPv6 Address.....: FE80::202:17FF:FEB8:6208
   IP Address.....................: 175.123.5.1
   Subnet Mask....................: 255.255.255.0
   Default Gateway................: 175.123.5.2
```

- `PC1` in `net6`

```
   Link-local IPv6 Address.....: FE80::204:9AFF:FE68:5CD5
   IP Address.....................: 175.123.6.1
   Subnet Mask....................: 255.255.255.0
   Default Gateway................: 175.123.6.2
```

- `PC2` in `net4`

```
   Link-local IPv6 Address.....: FE80::201:43FF:FE63:99CB
   IP Address.....................: 175.123.4.1
   Subnet Mask....................: 255.255.255.0
   Default Gateway................: 175.123.4.2
```

- `R0` in `net5`

```
R0(config)#interface FastEthernet0/0
R0(config-if)#ip address 175.123.5.2 255.255.255.0
```

- `R0` in `net1`

```
R0(config)#interface Serial0/2
R0(config-if)#ip address 175.123.1.2 255.255.255.0
```

- `R0` in `net2`

```
R0(config)#interface Serial0/0
R0(config-if)#ip address 175.123.2.1 255.255.255.0
```

- `R1` in `net6`

```
R1(config)#interface FastEthernet0/0
R1(config-if)#ip address 175.123.6.2 255.255.255.0
```

- `R1` in `net2`

```
R1(config)#interface Serial0/2
R1(config-if)#ip address 175.123.2.2 255.255.255.0
```

- `R1` in `net3`

```
R1(config)#interface Serial0/0
R1(config-if)#ip address 175.123.3.1 255.255.255.0
```

- `R2` in `net4`

```
R2(config)#interface FastEthernet0/0
R2(config-if)#ip address 175.123.4.2 255.255.255.0
```

- `R2` in `net1`

```
R2(config)#interface Serial0/2
R2(config-if)#ip address 175.123.1.1 255.255.255.0
```

- `R2` in `net3`

```
R2(config)#interface Serial0/0
R2(config-if)#ip address 175.123.3.2 255.255.255.0
```

task3 - *RIP* `v2` config

- `R0`

```
R0(config)#router rip
R0(config-router)#version 2
R0(config-router)#network 175.123.5.0
R0(config-router)#network 175.123.1.0
R0(config-router)#network 175.123.2.0
```

- `R1`

```
R1(config)#router rip
R1(config-router)#version 2
R1(config-router)#network 175.123.6.0
R1(config-router)#network 175.123.2.0
R1(config-router)#network 175.123.3.0
```

- `R2`

```
R2(config)#router rip
R2(config-router)#version 2
R2(config-router)#network 175.123.4.0
R2(config-router)#network 175.123.1.0
R2(config-router)#network 175.123.3.0
```

task4 - check protocols and routes

`R0`

- `show ip protocols`:

```
  Maximum path: 4
  Routing for Networks:
    175.123.0.0
  Passive Interface(s):
    FastEthernet0/0
  Routing Information Sources:
    Gateway         Distance      Last Update
    175.123.2.2           120      00:00:05
    175.123.1.1           120      00:00:07
  Distance: (default is 120)
```

- `show ip route`:

```
       175.123.0.0/24 is subnetted, 6 subnets
C       175.123.1.0 is directly connected, Serial0/2
C       175.123.2.0 is directly connected, Serial0/0
R       175.123.3.0 [120/1] via 175.123.2.2, 00:00:19, Serial0/0
                    [120/1] via 175.123.1.1, 00:00:20, Serial0/2
R       175.123.4.0 [120/1] via 175.123.1.1, 00:00:20, Serial0/2
C       175.123.5.0 is directly connected, FastEthernet0/0
R       175.123.6.0 [120/1] via 175.123.2.2, 00:00:19, Serial0/0
```

R1

- `show ip protocols`:

```
  Maximum path: 4
  Routing for Networks:
    175.123.0.0
  Passive Interface(s):
    FastEthernet0/0
  Routing Information Sources:
    Gateway         Distance      Last Update
    175.123.2.1           120      00:00:06
    175.123.3.2           120      00:00:25
  Distance: (default is 120)
```

- `show ip route`:

```
       175.123.0.0/24 is subnetted, 6 subnets
R       175.123.1.0 [120/1] via 175.123.2.1, 00:00:24, Serial0/2
                    [120/1] via 175.123.3.2, 00:00:13, Serial0/0
C       175.123.2.0 is directly connected, Serial0/2
C       175.123.3.0 is directly connected, Serial0/0
R       175.123.4.0 [120/1] via 175.123.3.2, 00:00:13, Serial0/0
R       175.123.5.0 [120/1] via 175.123.2.1, 00:00:24, Serial0/2
C       175.123.6.0 is directly connected, FastEthernet0/0
```

R2

- `show ip protocols`:

```
  Maximum path: 4
  Routing for Networks:
    175.123.0.0
  Passive Interface(s):
    FastEthernet0/0
  Routing Information Sources:
    Gateway         Distance      Last Update
    175.123.3.1           120      00:00:12
    175.123.1.2           120      00:00:16
  Distance: (default is 120)
```

- `show ip route`:

```
       175.123.0.0/24 is subnetted, 6 subnets
  C       175.123.1.0 is directly connected, Serial0/2
  R       175.123.2.0 [120/1] via 175.123.3.1, 00:00:01, Serial0/0
                      [120/1] via 175.123.1.2, 00:00:08, Serial0/2
  C       175.123.3.0 is directly connected, Serial0/0
  C       175.123.4.0 is directly connected, FastEthernet0/0
  R       175.123.5.0 [120/1] via 175.123.1.2, 00:00:08, Serial0/2
  R       175.123.6.0 [120/1] via 175.123.3.1, 00:00:01, Serial0/0
```

task5 - set passive interface

- `R0`:

```
R0(config)#router rip
R0(config-router)#version 2
R0(config-router)#passive-interface FastEthernet 0/0
```

- `R1`:

```
R1(config)#router rip
R1(config-router)#version 2
R1(config-router)#passive-interface FastEthernet 0/0
```

- `R2`:

```
R2(config)#router rip
R2(config-router)#version 2
R2(config-router)#passive-interface FastEthernet 0/0
```

task6 - check connection

`net5` -> `net6` (`PC0` -> `PC1`)

- `ping 175.123.5.1`

```
    Ping statistics for 175.123.5.1:
        Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 10ms, Average = 6ms
```

`net5` -> `net4` (`PC0` -> `PC2`)

- `ping 175.123.4.1`

```
    Ping statistics for 175.123.4.1:
        Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 11ms, Average = 5ms
```

`net4` -> `net6` (`PC2` -> `PC1`)

- `ping 175.123.6.1`

```
    Ping statistics for 175.123.6.1:
        Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 11ms, Average = 5ms
```

`net6` -> `net5` (`PC2` -> `PC0`)

- `ping 175.123.5.1`

```
    Ping statistics for 175.123.5.1:
        Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 8ms, Average = 4ms
```

and so on, all conections work fine!