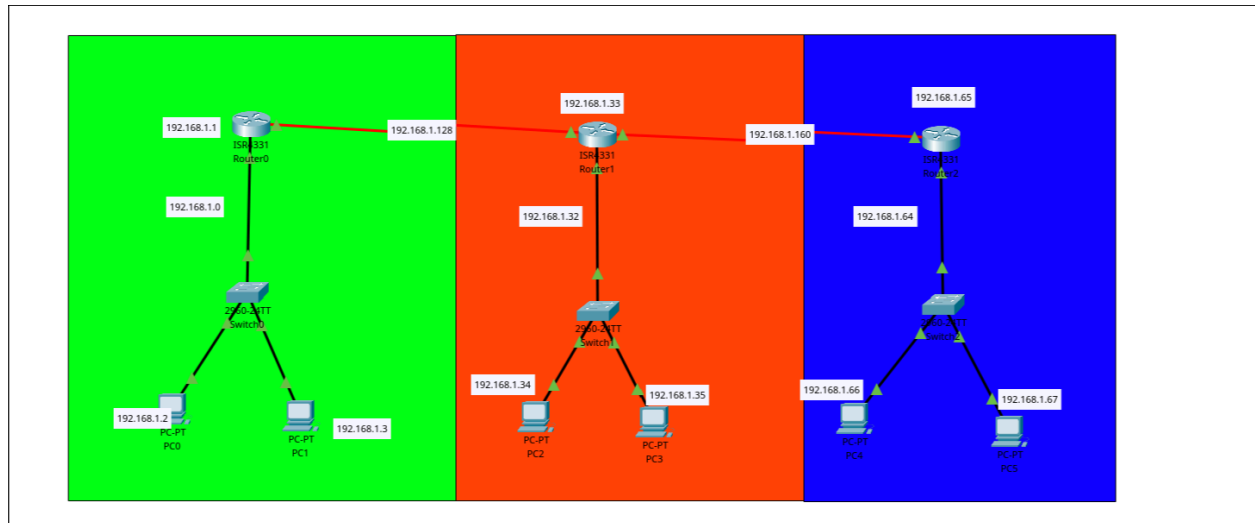


Praneesh R V
CB.SC.U4CYS23036

Lab - 9 - Subnetting and BGP



I Divided the network into 8 subnets, each containing 32 ips
Subnet mask - 255.255.255.224

192.168.1.0/27 to 192.168.1.31/27 for router 1

192.168.1.32/27 to 192.168.1.63/27 for router 2

192.168.1.64/27 to 192.168.1.95/27 for router 3

192.168.1.128/27 to 192.168.1.159/27 for serial 1

192.168.1.160/27 to 192.168.1.191/27 for serial 2

Router0

Physical **Config** CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

GigabitEthernet0/0/0

GigabitEthernet0/0/1

GigabitEthernet0/0/2

Serial0/1/0

Serial0/1/1

GigabitEthernet0/0/0

Port Status ☒ On

Bandwidth ☐ 1000 Mbps ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 00E0.A3C3.6E01

IP Configuration

IPv4 Address 192.168.1.1

Subnet Mask 255.255.255.224

Tx Ring Limit 10

Physical **Config** CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

GigabitEthernet0/0/0

GigabitEthernet0/0/1

GigabitEthernet0/0/2

Serial0/1/0

Serial0/1/1

Serial0/1/0

Port Status ☒ On

Duplex ☒ Full Duplex

Clock Rate 2000000

IP Configuration

IPv4 Address 192.168.1.129

Subnet Mask 255.255.255.224

Tx Ring Limit 10

Router 1

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

GigabitEthernet0/0/0

GigabitEthernet0/0/1

GigabitEthernet0/0/2

Serial0/1/0

Serial0/1/1

GigabitEthernet0/0/0

Port Status

☒ On

Bandwidth

☐ 1000 Mbps ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex

☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address0002.1771.6201

IP Configuration

IPv4 Address192.168.1.33

Subnet Mask255.255.255.224

Tx Ring Limit10

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

GigabitEthernet0/0/0

GigabitEthernet0/0/1

GigabitEthernet0/0/2

Serial0/1/0

Serial0/1/1

Serial0/1/0

Port Status

☒ On

Duplex

☒ Full Duplex

Clock Rate2000000

IP Configuration

IPv4 Address192.168.1.130

Subnet Mask255.255.255.224

Tx Ring Limit10

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

GigabitEthernet0/0/0

GigabitEthernet0/0/1

GigabitEthernet0/0/2

Serial0/1/0

Serial0/1/1

Serial0/1/1

Port Status

☒ On

Duplex

☒ Full Duplex

Clock Rate2000000

IP Configuration

IPv4 Address192.168.1.161

Subnet Mask255.255.255.224

Tx Ring Limit10

Router 2

Physical **Config** CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

GigabitEthernet0/0/0

GigabitEthernet0/0/1

GigabitEthernet0/0/2

Serial0/1/0

Serial0/1/1

GigabitEthernet0/0/0

Port Status ☒ On

Bandwidth ☐ 1000 Mbps ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0004.9A22.B101

IP Configuration

IPv4 Address 192.168.1.65

Subnet Mask 255.255.255.224

Tx Ring Limit 10

Physical **Config** CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

GigabitEthernet0/0/0

GigabitEthernet0/0/1

GigabitEthernet0/0/2

Serial0/1/0

Serial0/1/1

Serial0/1/0

Port Status ☒ On

Duplex ☒ Full Duplex

Clock Rate 2000000

IP Configuration

IPv4 Address 192.168.1.162

Subnet Mask 255.255.255.224

Tx Ring Limit 10

BGP

Router bgp <assign a number>

Network <ip> mask <subnet mask>

Neighbour <ip of next hop> remote-as <next hop's bgp number>

Router 1:

Router bgp 1

Network 192.168.1.0 mask 255.255.255.224

Network 192.168.1.128 mask 255.255.255.224

Neighbour 192.168.1.130 remote-as 2

Router 2:

Router bgp 2

Network 192.168.1.32 mask 255.255.255.224

Network 192.168.1.128 mask 255.255.255.224

Network 192.168.1.160 mask 255.255.255.224

Neighbour 192.168.1.129 remote-as 1

Neighbour 192.168.1.162 remote-as 3

Router 3:

Router bgp 3

Network 192.168.1.64 mask 255.255.255.224

Network 192.168.1.160 mask 255.255.255.224

Neighbour 192.168.1.161 remote-as 2

Router 1

```
Router(config-if)#do show ip route b
B 192.168.1.32/27 [20/0] via 192.168.1.130, 00:00:00
B 192.168.1.64/27 [20/0] via 192.168.1.130, 00:00:00
B 192.168.1.160/27 [20/0] via 192.168.1.130, 00:00:00
```

Router 2

```
Router(config-if)#do show ip route b
B 192.168.1.0/27 [20/0] via 192.168.1.129, 00:00:00
B 192.168.1.64/27 [20/0] via 192.168.1.162, 00:00:00
```

Router 3

```
Router(config-if)#do show ip route b
B 192.168.1.0/27 [20/0] via 192.168.1.161, 00:00:00
B 192.168.1.32/27 [20/0] via 192.168.1.161, 00:00:00
B 192.168.1.128/27 [20/0] via 192.168.1.161, 00:00:00
```

```
Router(config-if)#
```