

INTERNET PROTOCOL LAB ASSIGNMENT -8

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Aim :

To demonstrate Configuring Routing protocols using Cisco Packet Tracer by Open Shortest Path First (OSPF) and Border Gateway Protocol (BGP).

Tools Required:

Windows OS, Cisco Packet Tracer.

Task:

To configure routing using BGP and OSPF

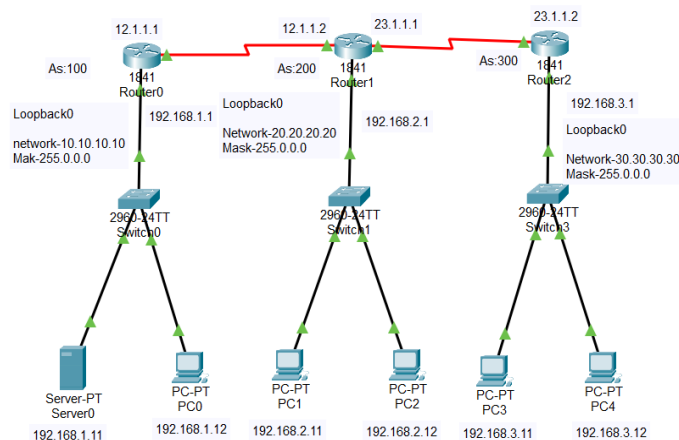
1.BGP: Border Gateway Protocol:

Border Gateway Protocol (BGP) refers to a gateway protocol that enables the internet to exchange routing information between autonomous systems (AS). As networks interact with each other, they need a way to communicate. This is accomplished through peering. BGP makes peering possible. Without it, networks would not be able to send and receive information with each other.

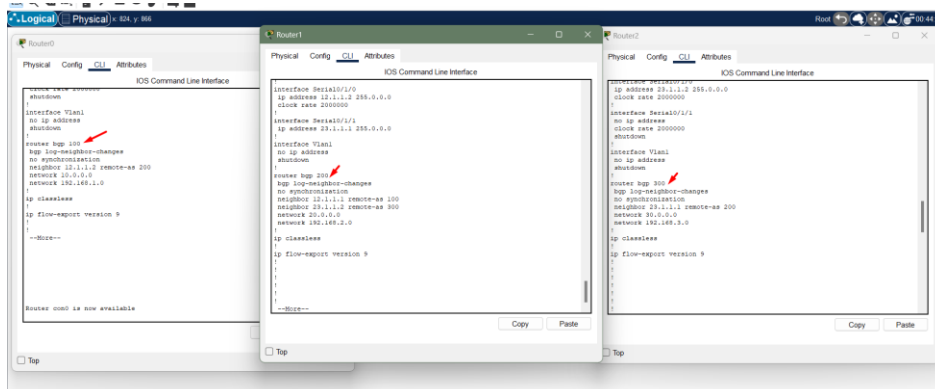
Steps:

1.We should take the end devices, switches, routers and connect them with their respective connecting cables.

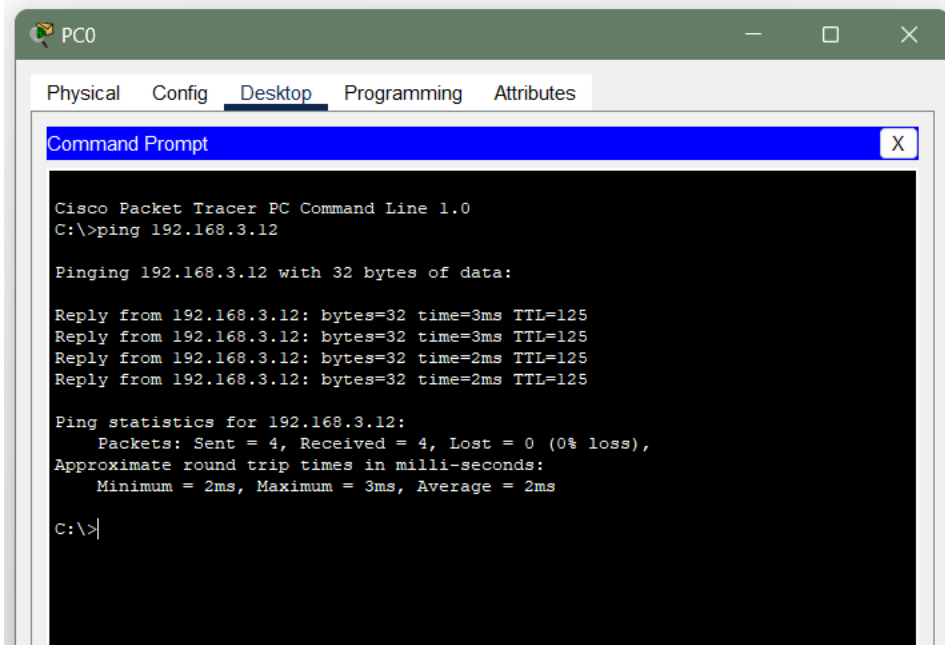
2.Assign all the IP address, Default gateway address, and interface address.



3.Now we will perform BGP Routing .



4. So, to check whether the packet gets transfer successfully or not we use ping command to check the transfer.



The image shows a screenshot of a Cisco Packet Tracer PC Command Line window for PC0. The window has tabs for Physical, Config, Desktop, Programming, and Attributes, with Desktop selected. A Command Prompt window is open, displaying the output of a ping command. The text in the Command Prompt is as follows:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.3.12

Pinging 192.168.3.12 with 32 bytes of data:

Reply from 192.168.3.12: bytes=32 time=3ms TTL=125
Reply from 192.168.3.12: bytes=32 time=3ms TTL=125
Reply from 192.168.3.12: bytes=32 time=2ms TTL=125
Reply from 192.168.3.12: bytes=32 time=2ms TTL=125

Ping statistics for 192.168.3.12:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 3ms, Average = 2ms

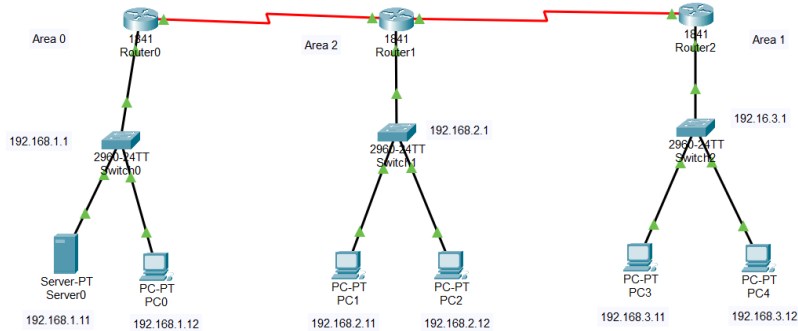
C:\>
```

Open Shortest Path First (OSPF)

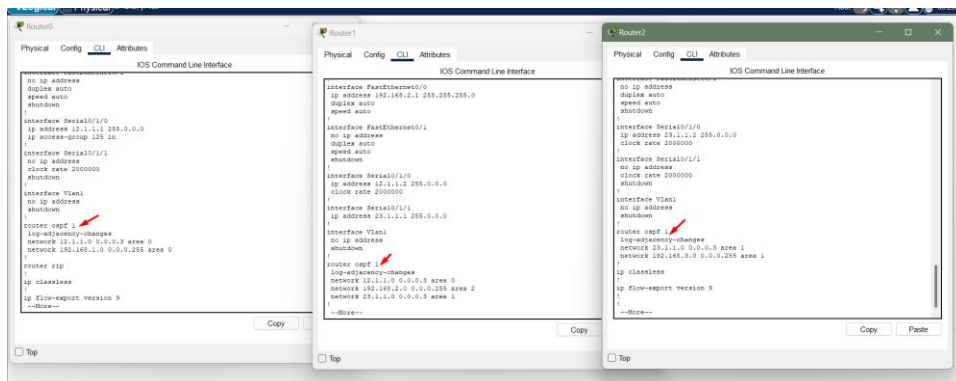
Open Shortest Path First (OSPF) is a link-state routing protocol that was developed for IP networks and is based on the Shortest Path First (SPF) algorithm. OSPF is an Interior Gateway Protocol (IGP).

1. We should take the end devices, switches, routers and connect them with their respective connecting cables.

2. Assign all the IP address, Default gateway address, and interface address.



3. Now we will perform OSPF Routing .



4. So, to check whether the packet gets transfer successfully or not we use ping command to check the transfer.

```
C:\>ping 192.168.3.12

Pinging 192.168.3.12 with 32 bytes of data:

Reply from 192.168.3.12: bytes=32 time=39ms TTL=125
Reply from 192.168.3.12: bytes=32 time=2ms TTL=125
Reply from 192.168.3.12: bytes=32 time=2ms TTL=125
Reply from 192.168.3.12: bytes=32 time=17ms TTL=125

Ping statistics for 192.168.3.12:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 39ms, Average = 15ms
```

Result:

So successfully demonstrated Configuring Routing protocols using Cisco Packet Tracer by Open Shortest Path First (OSPF) and Border Gateway Protocol (BGP).