EAST WEST UNIVERSITY

Department of Computer Science and Engineering

Course Code: CSE350

Course Title: Data Communication

Section: 02

Semester: Summer 2024

Mini Project

Submitted to:

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Design a complete model of a complex network by discovering the interconnectivity of the systems.

Diagram:

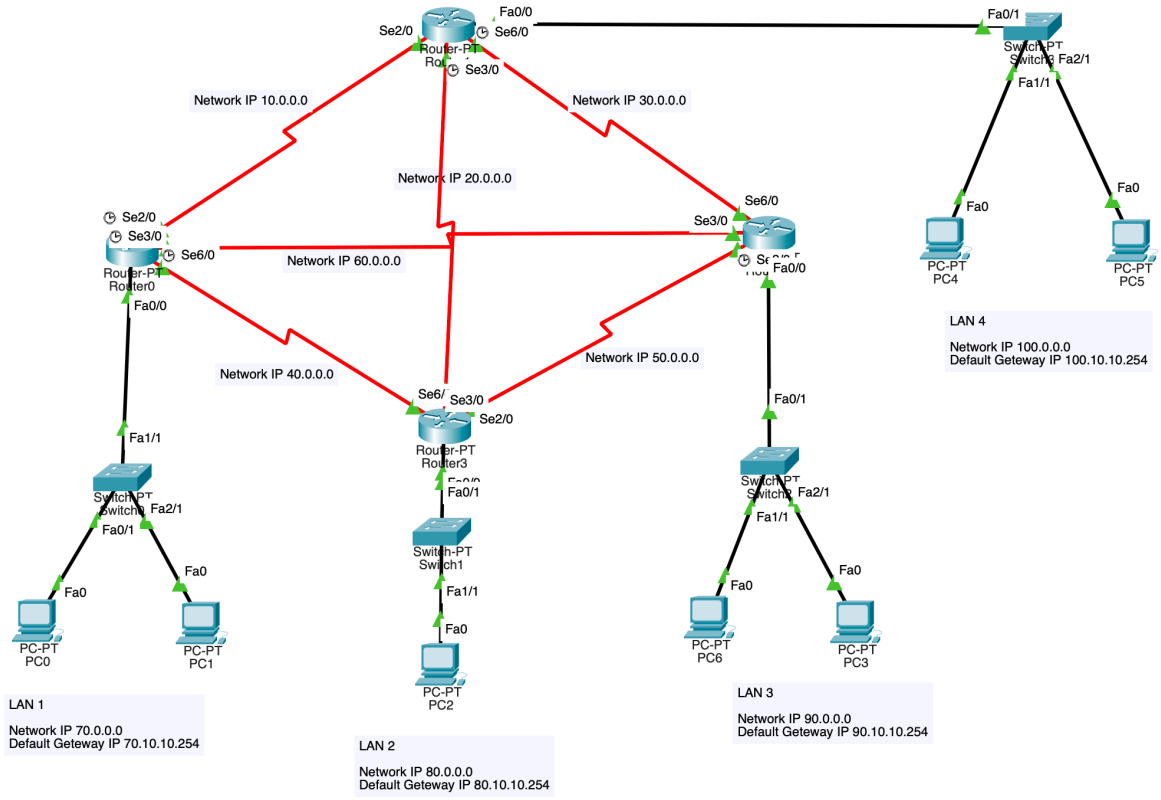


Figure: Network Topology

Design and Configurations with Router

Router 0:

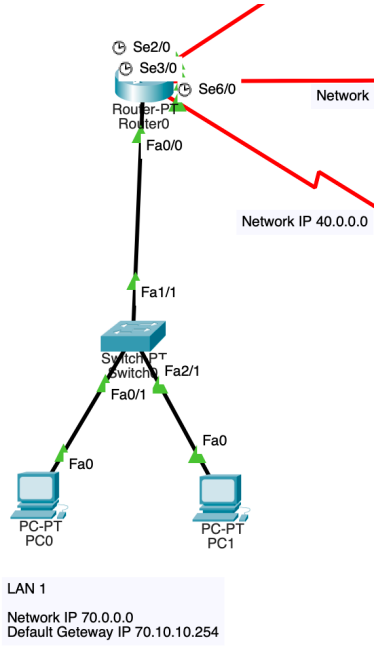


Figure: Router 0

```
interface fa0/0
ip address 70.10.10.254 255.0.0.0
no shut
do wr
exit

interface Se2/0
ip address 10.10.10.1 255.0.0.0
clock rate 6400
no shut
do wr
exit

interface Se3/0
ip address 60.10.10.1 255.0.0.0
clock rate 6400
no shut
do wr
exit

interface Se6/0
ip address 40.10.10.1 255.0.0.0
clock rate 6400
no shut
do wr
exit
```

Router 1:

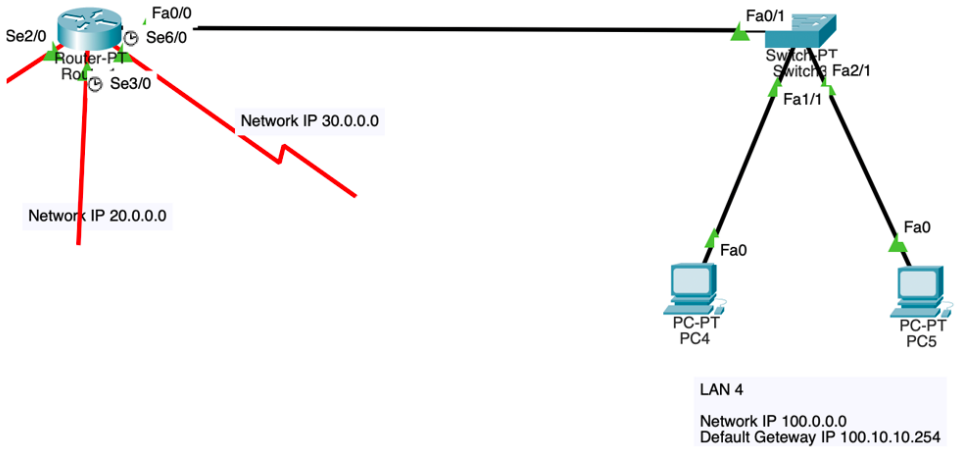


Figure: Router 1

interface fa0/0
ip address 100.10.10.254 255.0.0.0
no shut
do wr
exit
interface Se2/0
ip address 10.10.10.2 255.0.0.0
no shut
do wr
exit

interface Se3/0
ip address 20.10.10.1 255.0.0.0
clock rate 6400
no shut
do wr
exit

interface Se6/0
ip address 30.10.10.1 255.0.0.0
clock rate 6400
no shut
do wr
exit

Router 2:

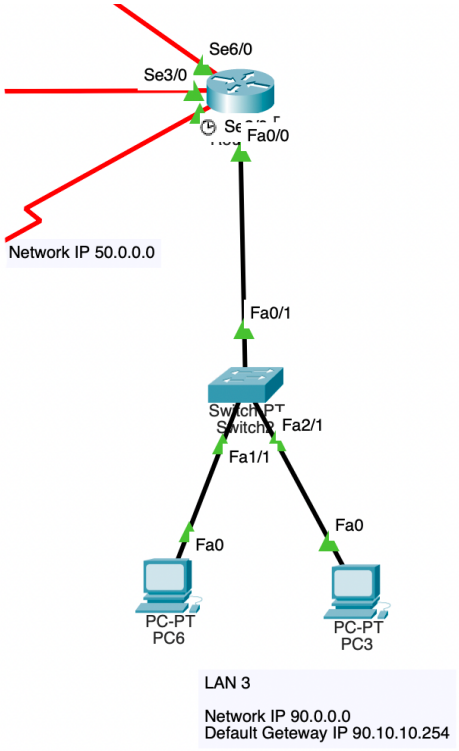


Figure: Router 2

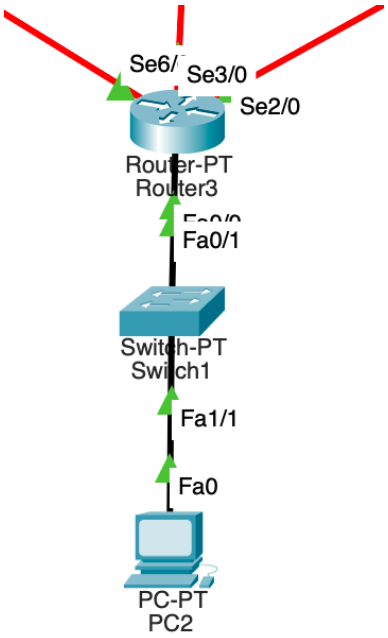
interface fa0/0
ip address 90.10.10.254 255.0.0.0
no shut
do wr
exit

interface Se2/0
ip address 50.10.10.1 255.0.0.0
clock rate 6400
no shut
do wr
exit

interface Se3/0
ip address 60.10.10.2 255.0.0.0
no shut
do wr
exit

interface Se6/0
ip address 30.10.10.2 255.0.0.0
no shut
do wr
exit

Router 3:



LAN 2

Network IP 80.0.0.0
Default Geteway IP 80.10.10.254

Figure: Router 3

interface fa0/0
ip address 80.10.10.254 255.0.0.0
no shut
do wr
exit

interface Se2/0
ip address 50.10.10.2 255.0.0.0
no shut
do wr
exit

interface Se3/0
ip address 20.10.10.2 255.0.0.0
no shut
do wr
exit

interface Se6/0
ip address 40.10.10.2 255.0.0.0
no shut
do wr
exit

OSPF:

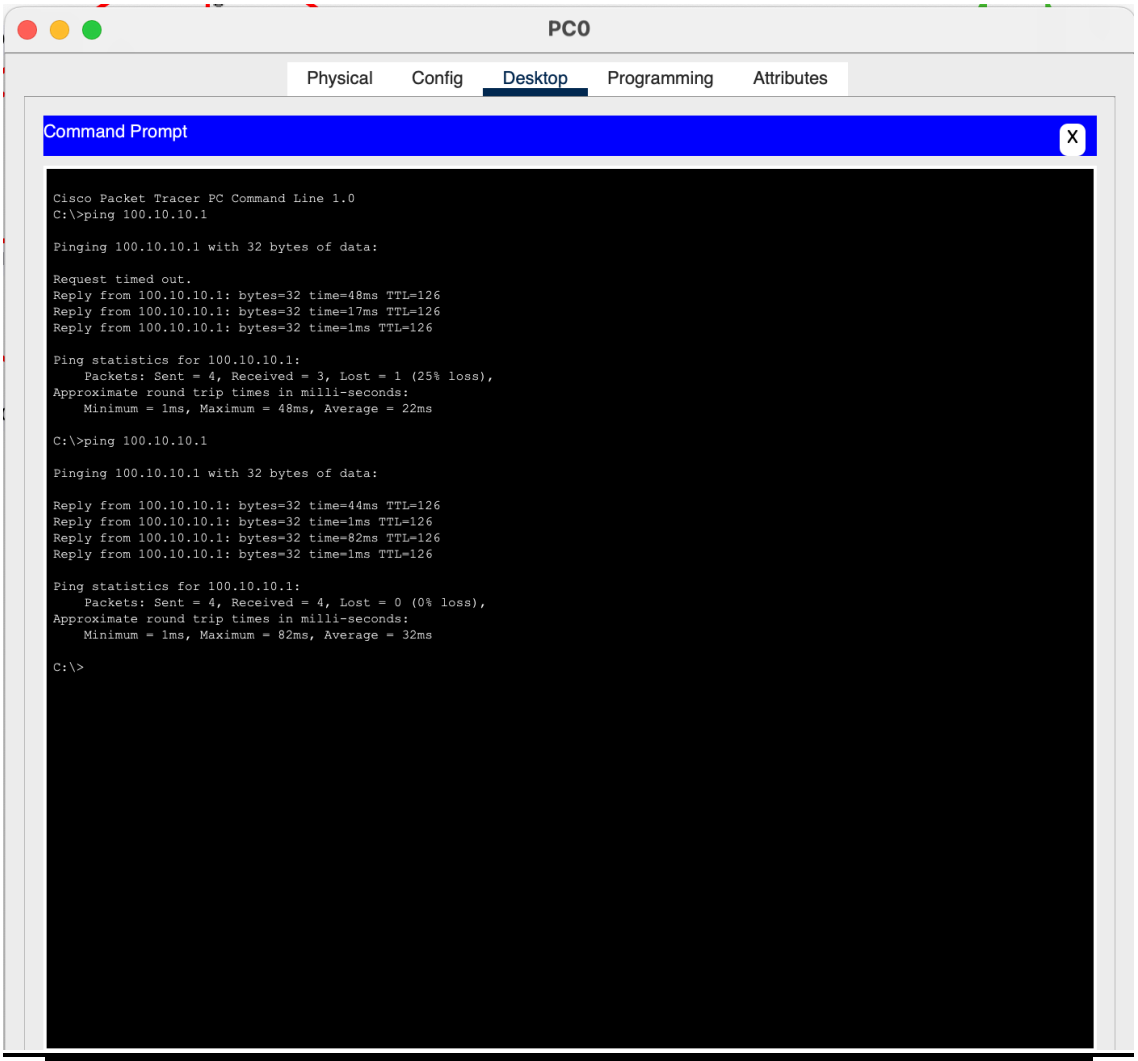
Router 0:
router ospf 1
network 70.0.0.0 0.255.255.255 area 1
network 10.0.0.0 0.255.255.255 area 1
network 60.0.0.0 0.255.255.255 area 1
network 40.0.0.0 0.255.255.255 area 1
exit

Router 1:
router ospf 1
network 100.0.0.0 0.255.255.255 area 1
network 10.0.0.0 0.255.255.255 area 1
network 20.0.0.0 0.255.255.255 area 1
network 30.0.0.0 0.255.255.255 area 1
exit

Router 2:
router ospf 1
network 90.0.0.0 0.255.255.255 area 1
network 30.0.0.0 0.255.255.255 area 1
network 60.0.0.0 0.255.255.255 area 1
network 50.0.0.0 0.255.255.255 area 1
exit

Router 3:
router ospf 1
network 80.0.0.0 0.255.255.255 area 1
network 50.0.0.0 0.255.255.255 area 1
network 20.0.0.0 0.255.255.255 area 1
network 40.0.0.0 0.255.255.255 area 1
exit

PING Operation:



C:\>ping 100.10.10.1

Pinging 100.10.10.1 with 32 bytes of data:

Reply from 100.10.10.1: bytes=32 time=44ms TTL=126
Reply from 100.10.10.1: bytes=32 time=1ms TTL=126
Reply from 100.10.10.1: bytes=32 time=82ms TTL=126
Reply from 100.10.10.1: bytes=32 time=1ms TTL=126

Ping statistics for 100.10.10.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 82ms, Average = 32ms

Figure: PING operation between PC0 from Router0 and PC4 from Router1.