EAST WEST UNIVERSITY

Mini Project

Design a full-fledged network for an organization with multiple subnets

Course Title: Computer Networks
Course Code: cse405
Sec: 2

Submitted to:

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Design a full-fledged network for an organization with multiple subnets.

Requirements

- PCs
- Wireless End Devices
- Switches (Model 2960)
- Routers • Wireless Routers (Linksys-WRT300N)
- DNS Server
- Web Server
- DHCP Server
- Copper Straight-Through Cable
- Copper Cross-Over Cable
- Serial DCE Cable

Design

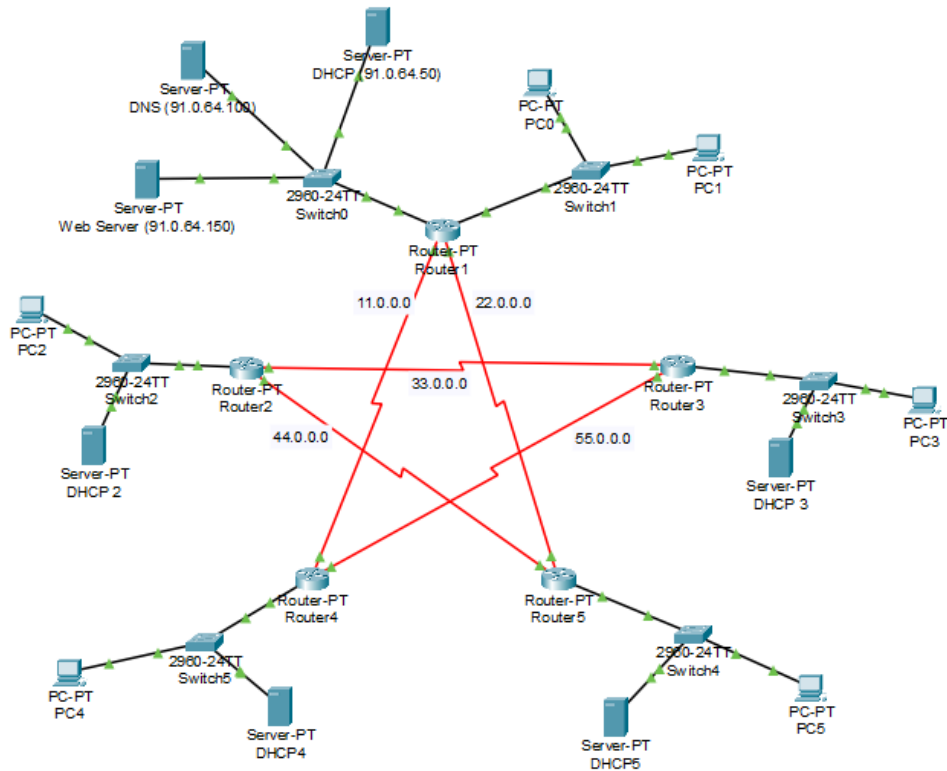| Campuses	Network Class	Subnet Mask	Wildcard
Campus 1	Class A (91.0.0.0/18)	255.255.192.0	0.0.63.255
Campus 2	Class A (92.0.0.0/18)	255.255.192.0	0.0.63.255
Campus 3	Class B (133.0.0.0/22)	255.255.252.0	0.0.3.255
Campus 4	Class B (134.0.0.0/22)	255.255.252.0	0.0.3.255
Campus 5	Class C (205.0.0.0)	255.255.255.0	0.0.0.255

Figure 1: Diagram of the network

Router 1 (Campus 1)

```
interface fa0/0
ip address 91.0.64.1 255.255.192.0
no shut
do wr
exit

interface fa1/0
ip address 91.0.128.1 255.255.192.0
no shut
do wr
exit

interface se2/0
ip address 11.0.0.11 255.255.255.0
clock rate 64000
no shut
do wr
exit

interface se3/0
```

```
ip address 22.0.0.22 255.255.255.0
clock rate 64000
no shut
do wr
exit
```

Router 2 (Campus 2)

```
interface fa0/0
ip address 92.0.64.1 255.255.192.0
no shut
do wr
exit

interface fa1/0
ip address 92.0.128.1 255.255.192.0
no shut
do wr
exit

interface se2/0
ip address 33.0.0.33 255.255.255.0
clock rate 64000
no shut
do wr
exit

interface se3/0
ip address 44.0.0.44 255.255.255.0
clock rate 64000
no shut
do wr
exit
```

Router 3 (Campus 3)

```
interface fa0/0
ip address 133.0.0.1 255.255.252.0
no shut
do wr
exit

interface se2/0
ip address 33.0.0.34 255.255.252.0
clock rate 64000
no shut
```

```
do wr
exit

interface se3/0
ip address 55.0.0.55 255.255.255.0
no shut
do wr
exit
```

Router 4 (Campus 4)

```
interface fa0/0
ip address 134.0.0.1 255.255.252.0
no shut
do wr
exit

interface se2/0
ip address 11.0.0.12 255.255.252.0
no shut
do wr
exit

interface se3/0
ip address 55.0.0.56 255.255.255.0
no shut
do wr
exit
```

Router 5 (Campus 5)

```
interface fa0/0
ip address 205.0.0.1 255.255.255.0
no shut
do wr
exit

interface se2/0
ip address 22.0.0.23 255.255.252.0
no shut
do wr
exit

interface se3/0
ip address 44.0.0.45 255.255.255.0
no shut
```

```
do wr
exit
```

Codes for Routing Table:

Router 1

```
router ospf 1
network 91.0.0.0 0.0.63.255 area 1
network 11.0.0.0 0.0.0.255 area 1
network 22.0.0.0 0.0.0.255 area 1
exit
```

Router 2

```
router ospf 1
network 92.0.0.0 0.0.63.255 area 1
network 33.0.0.0 0.0.0.255 area 1
network 44.0.0.0 0.0.0.255 area 1
exit
```

Router 3

```
router ospf 1
network 133.0.0.0 0.0.3.255 area 1
network 33.0.0.0 0.0.0.255 area 1
network 55.0.0.0 0.0.0.255 area 1
exit
```

Router 4

```
router ospf 1
network 134.0.0.0 0.0.3.255 area 1
network 11.0.0.0 0.0.0.255 area 1
network 55.0.0.0 0.0.0.255 area 1
exit
```

Router 5

```
router ospf 1
network 205.0.0.0 0.0.0.255 area 1
network 22.0.0.0 0.0.0.255 area 1
network 44.0.0.0 0.0.0.255 area 1
exit
```