

Network Communication

Section-07

Task 5

Group 6:

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IP Addressing:

lass A bits	Subnet Mask	Effective Subnets	Effective Hosts	Number of Subnet Mask bits
1	255.128.0.0	2	8388606	/9
2	255.192.0.0	4	4194302	/10
3	255.224.0.0	8	2097150	/11
4	255.240.0.0	16	1048574	/12
5	255.248.0.0	32	524286	/13
6	255.252.0.0	64	262142	/14
7	255.254.0.0	128	131070	/15
8	255.255.0.0	256	65534	/16
9	255.255.128.0	512	32766	/17
10	255.255.192.0	1024	16382	/18
11	255.255.224.0	2048	8190	/19
12	255.255.240.0	4096	4094	/20
13	255.255.248.0	8192	2046	/21
14	255.255.252.0	16384	1022	/22
15	255.255.254.0	32768	510	/23
16	255.255.255.0	65536	254	/24

IP Address: 192.21.0.0/18 (Classless) 11000000.00010101.00000000.00000000

Subnet Mask: 255.255.192.0 Subnet part Host part
11111111.11111111.11 000000.00000000

Classes: Class C 11111111.11111111.11000000.00000000
Class A Class B Class C

Subnet Address = IP AND Subnet Mask
= 192.21.0.0 AND 255.255.192.0
= 192.21.0.0/18 11000000.00010101.00000000.00000000

Network Address: 192.21.0.0/18 11000000.00010101.00 000000.00000000
Broadcast Address: 192.21.63.255/18 11000000.00010101.00 111111.11111111
Host Minimum: 192.21.0.1/18 11000000.00010101.00 000000.00000001
Host Maximum: 192.21.63.254/18 11000000.00010101.00 111111.11111110

Rooms	Switches	The Start of The Area - The End of The Area	Router
First Video Conference Room	192.21.1.0	192.21.1.1 - 192.21.1.2	192.21.1.3
Computer Security Lab	192.21.1.4	192.21.1.5 - 192.21.1.35	192.21.1.36
General Purpose Lab	192.21.2.0	192.21.2.1 - 192.21.2.31	192.21.2.32
Network Lab	192.21.2.33	192.21.2.34 - 192.21.2.64	192.21.2.65
Second Video Conference Room	192.21.3.0	192.21.3.1 - 192.21.3.2	192.21.3.3
IoT Lab	192.21.3.4	192.21.3.5 - 192.21.3.35	192.21.3.36
1 st Floor Library	192.21.4.0	192.21.4.1 - 192.21.4.11	192.21.4.12
2 nd Floor Library	192.21.4.13	192.21.4.14 - 192.21.4.24	192.21.4.25

A) Router Interface Connection:

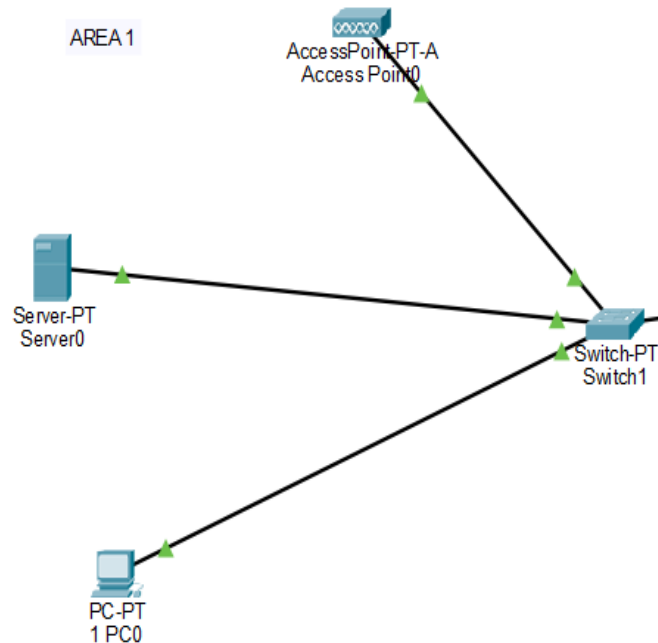
1. Router 1 to Area 1 (VCR 1 and CS Lab) switch:
 - 1.1. First Video Conference Room switch = 192.21.1.3
 - 1.2. Computer Security Lab switch = 192.21.1.36
2. Router 2 to Area 2 (GP Lab and N Lab) switch:
 - 2.1. General Purpose Lab switch = 192.21.2.32
 - 2.2. Network Lab switch = 192.21.2.65
3. Router 3 to Area 3 (VCR 2 and IOT Lab) switch:
 - 3.1. Second Video Conference Room switch = 192.21.3.3
 - 3.2. IoT Lab switch = 192.21.3.36
4. Router 4 to Area 4 (the Library on both floors) switch
 - 4.1. First Floor Library switch = 192.21.4.12
 - 4.2. Second Floor Library switch = 192.21.4.25

B) Switches

- I. First Video Conference Room (Area 1) = 192.21.1.0
- II. Computer Security Lab (Area 1) = 192.21.1.4
- III. General Purpose Lab (Area 2) = 192.21.2.0
- IV. Network Lab (Area 2) = 192.21.2.33
- V. Second Video Conference Room (Area 3) = 192.21.3.0
- VI. IoT Lab (Area 3) = 192.21.3.4
- VII. 1st Floor Library (Area 4) = 192.21.4.0
- VIII. 2nd Floor Library (Area 4) = 192.21.4.13

C) Hosts

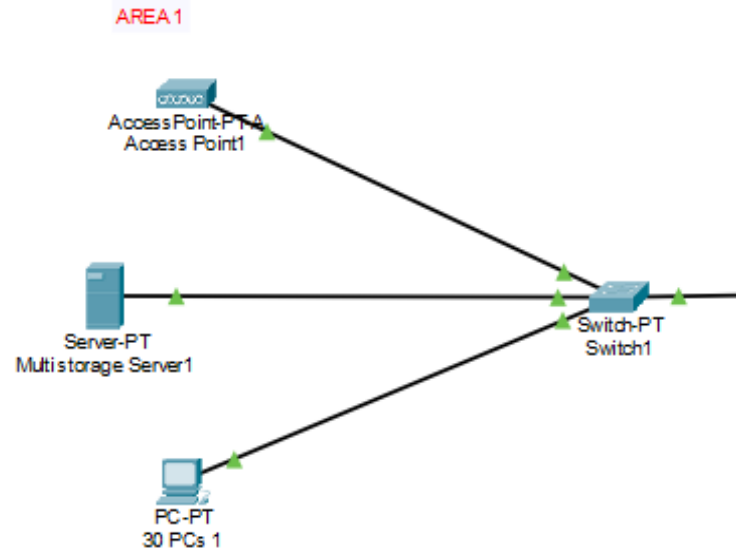
- I. Video Conferencing Room 1:
 - 1 Computer = 192.21.1.1
 - 1 Storage server = 192.21.1.2



II. Computer Security Lab:

30 Computers = 192.21.1.5 - 192.21.1.34

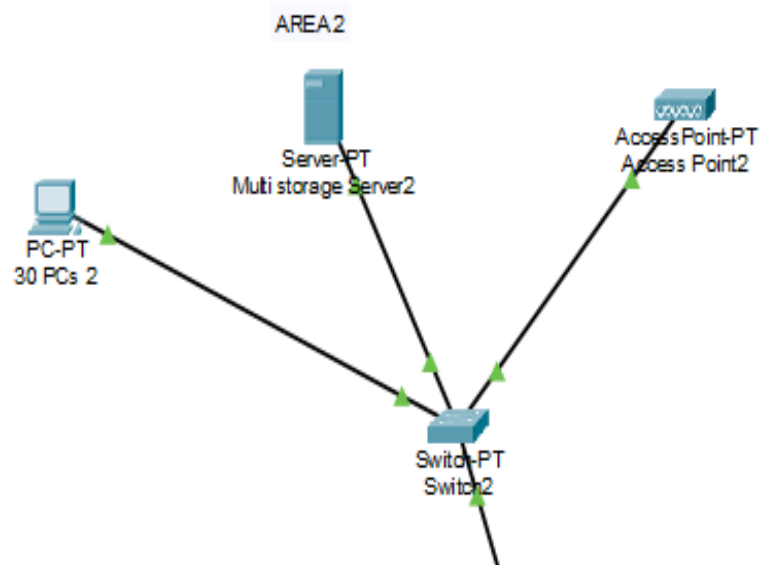
1 Storage server = 192.21.1.35



III. General Purpose Lab:

30 Computers = 192.21.2.1 - 192.21.2.30

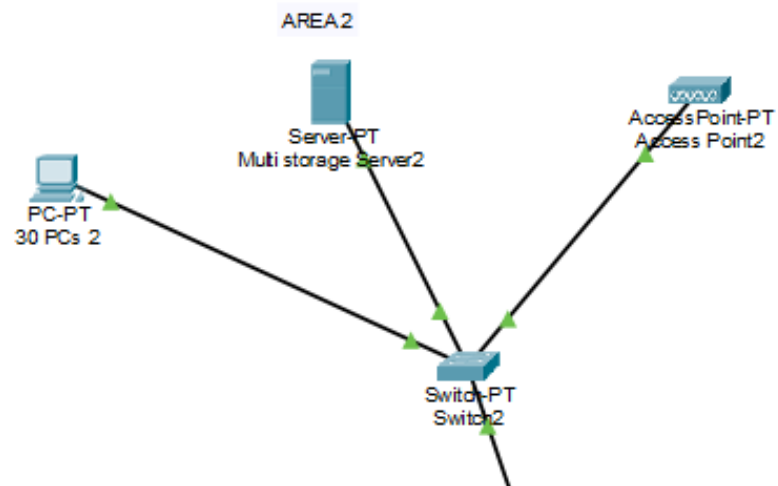
1 Storage server = 192.21.2.31



IV. Network Lab:

30 Computers = 192.21.2.34 - 192.21.2.63

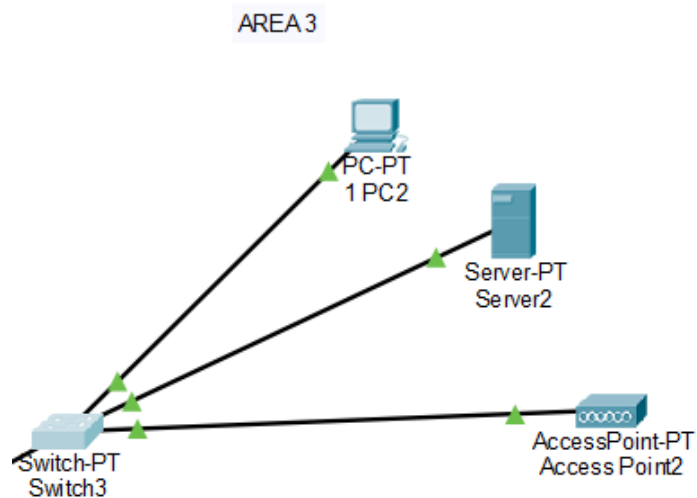
1 Storage server = 192.21.2.64



V. Video Conferencing Room 2:

1 Computer = 192.21.3.1

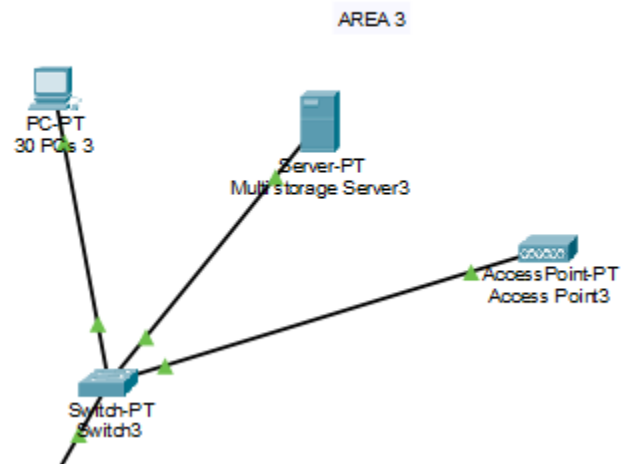
1 Storage server = 192.21.3.2



VI. IoT Lab:

30 Computers = 192.21.3.5 - 192.21.3.34

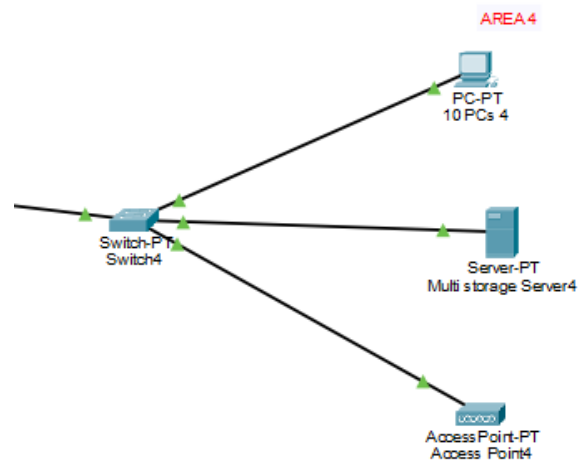
1 Storage server = 192.21.3.35



VII. Library (1st floor):

10 Computers = 192.21.4.1 - 192.21.4.10

1 Storage server = 192.21.4.11



- VIII. Library (2nd floor):
10 Computers = 192.21.4.14 - 192.21.4.23
1 Storage server = 192.21.4.24

