



CS
IT

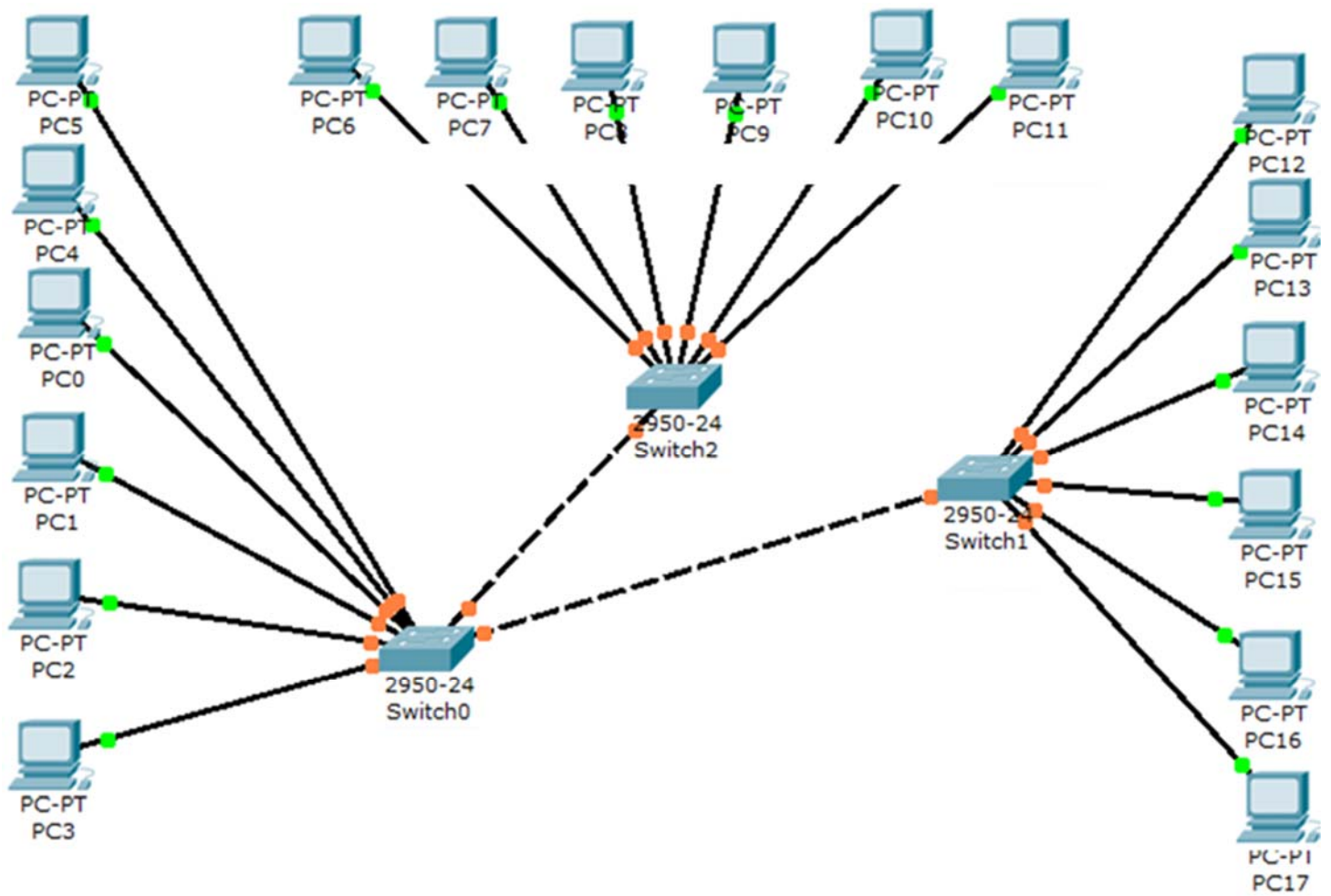
Lecture (05) Building your First LAN

By:

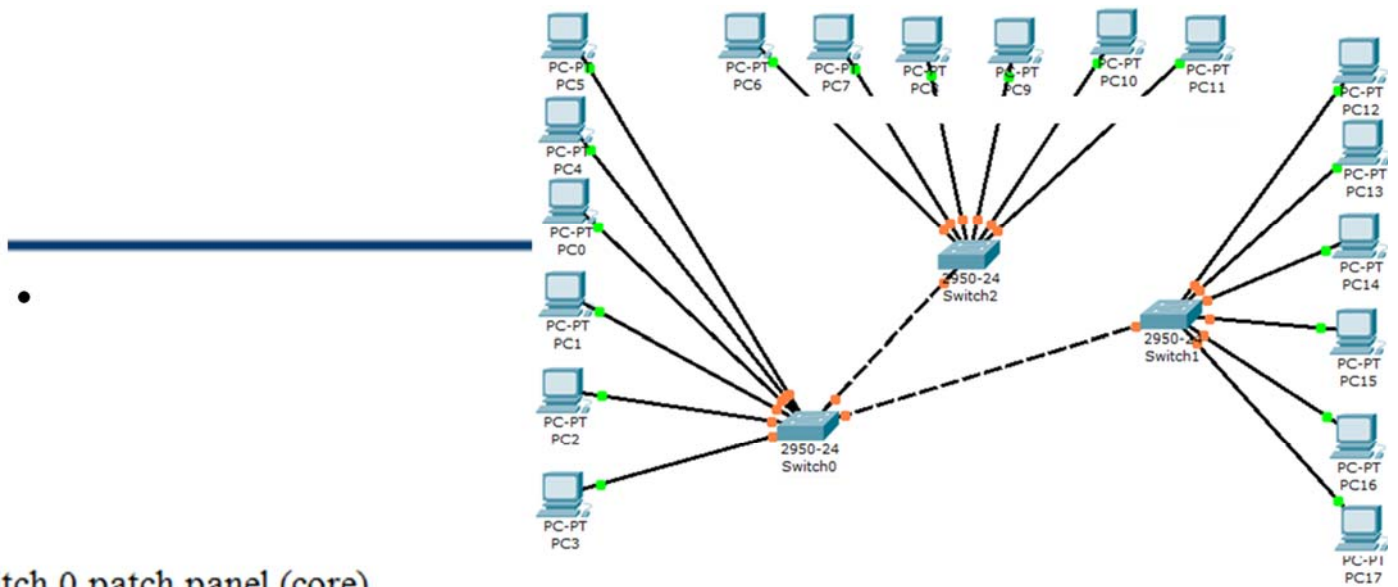
Dr. Ahmed ElShafee

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Networks I

-
- Build a local area network for a building of three floors.
 - Consists of 3 L2 switches.
 - One is the core and is responsible of distributing VLANs to the other edge/distributer switches.
 - LAN contains three type of users (employees, managers, and Visitors)
 - Build LAN topology and configure all nodes and PCs
 - (note: connect at least two different PCs of each type of uses to each switch).
 - Write down selected IPs and port on the following figure.



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Switch 0 patch panel (core)

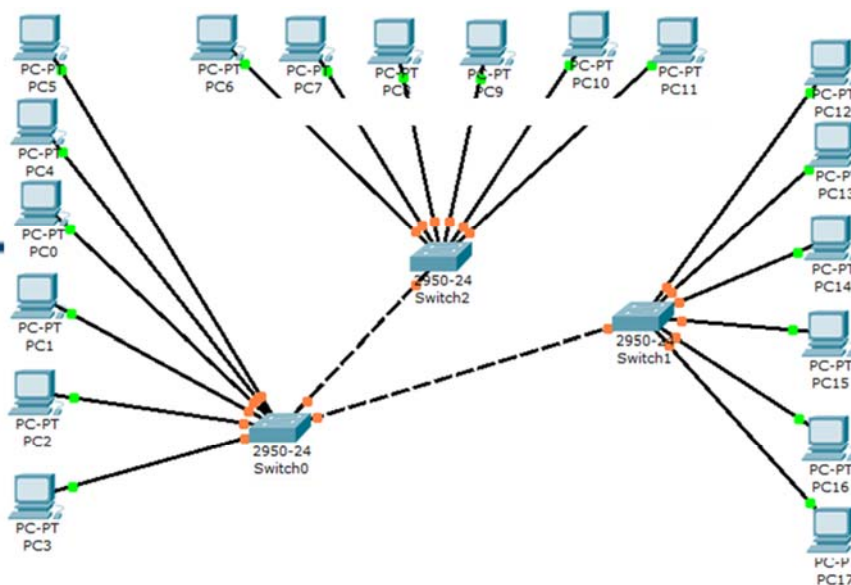
Port	1	3	5	7	9	11	13	15	17	19	21	23
vlan												
Room												

Port	2	4	6	8	10	12	14	16	18	20	22	24
vlan												
Room												

Switch IP	
Host name	

VLANs		
number	name	IP
1	native	10.0.10.0
2	Managers	10.0.20.0
3	Employees	10.0.30.0
4	clients	10.0.40.0

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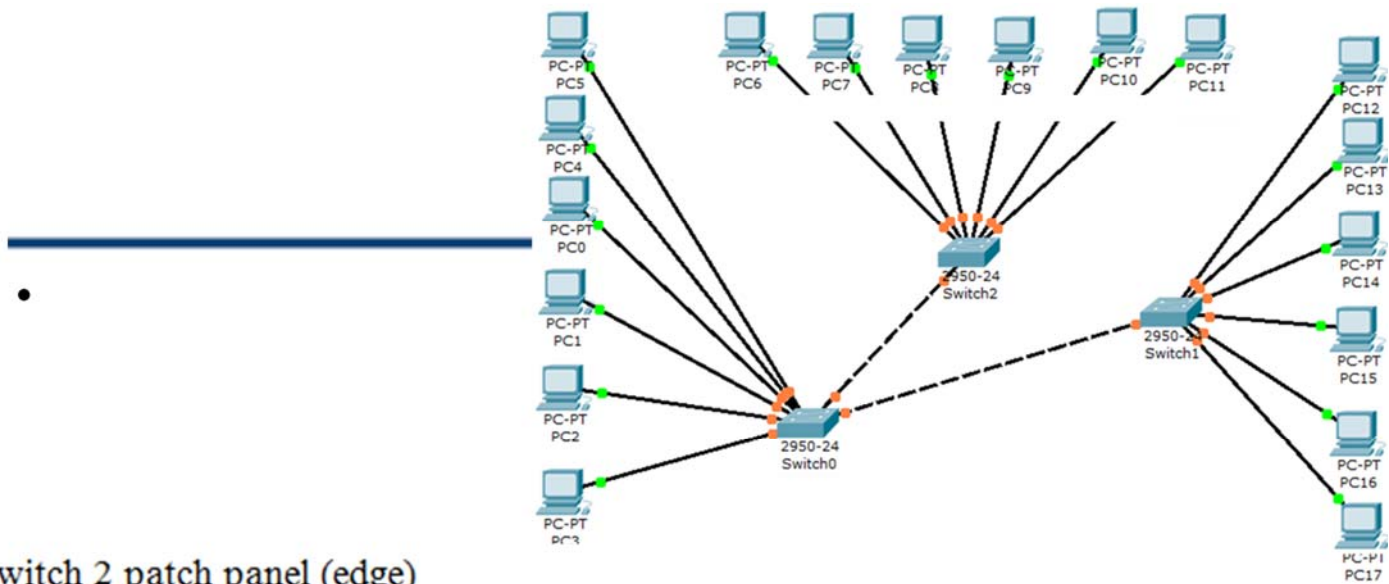


Switch 1 patch panel (edge)

Port	1	3	5	7	9	11	13	15	17	19	21	23
vlan												
Room												

Port	2	4	6	8	10	12	14	16	18	20	22	24
vlan												
Room												

Switch IP	
Host name	



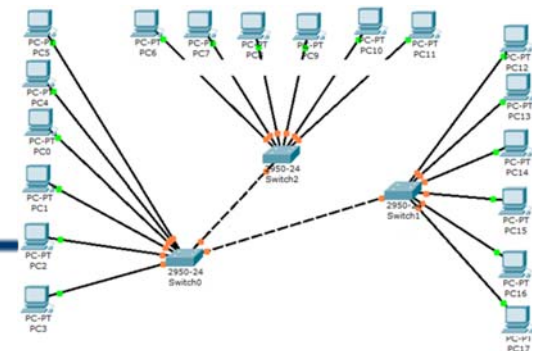
Switch 2 patch panel (edge)

Port	1	3	5	7	9	11	13	15	17	19	21	23
vlan												
Room												

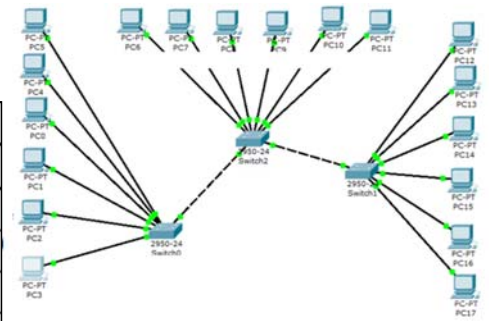
Port	2	4	6	8	10	12	14	16	18	20	22	24
vlan												
Room												

Switch IP	
Host name	

PC000		PC001	
Room		Room	
Switch		Switch	
Port		Port	
Vlan		Vlan	
IP		IP	
MAC		MAC	
PC002		PC003	
Room		Room	
Switch		Switch	
Port		Port	
Vlan		Vlan	
IP		IP	
MAC		MAC	
PC004		PC005	
Switch		Switch	
Port		Port	
Vlan		Vlan	
IP		IP	
MAC		MAC	

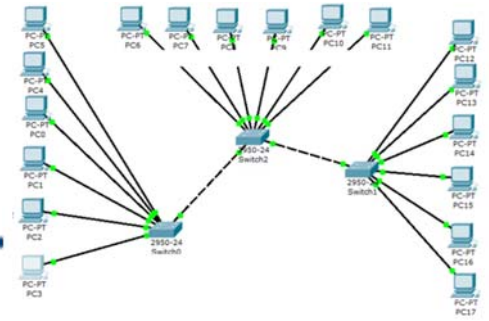


PC006		PC007	
Room		Room	
Switch		Switch	
Port		Port	
Vlan		Vlan	
IP		IP	
MAC		MAC	
PC008		PC009	
Room		Room	
Switch		Switch	
Port		Port	
Vlan		Vlan	
IP		IP	
MAC		MAC	
PC010		PC011	
Room		Room	
Switch		Switch	
Port		Port	
Vlan		Vlan	
IP		IP	
MAC		MAC	

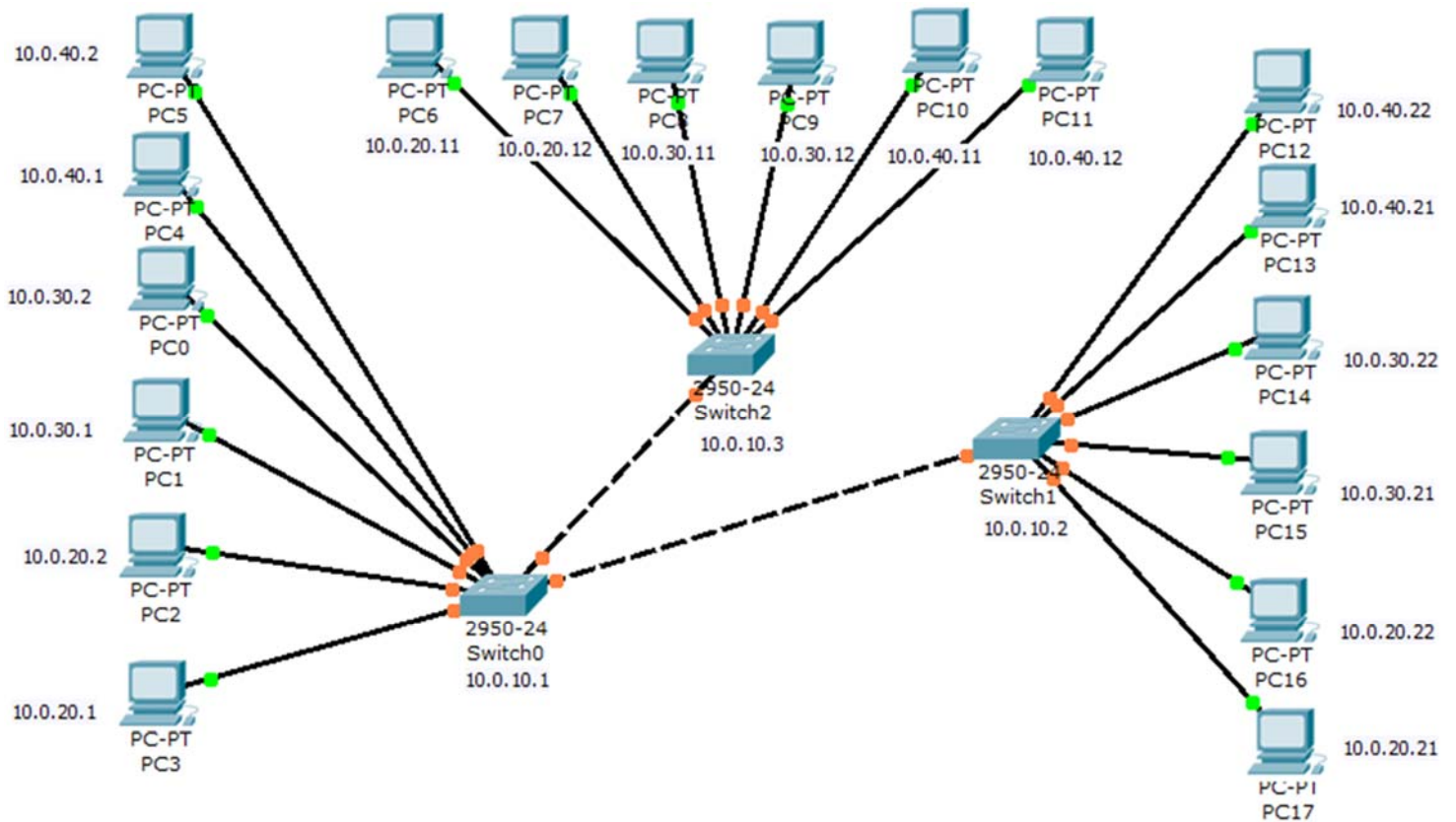


networks I

PC012		PC013	
Room		Room	
Switch		Switch	
Port		Port	
Vlan		Vlan	
IP		IP	
MAC		MAC	
PC014		PC015	
Room		Room	
Switch		Switch	
Port		Port	
Vlan		Vlan	
IP		IP	
MAC		MAC	
PC016		PC017	
Room		Room	
Switch		Switch	
Port		Port	
Vlan		Vlan	
IP		IP	
MAC		MAC	



Networks I



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SW00

enabl

config t

hostname FL00-R01-SW01

banner motd #FL00-R01-SW01 -
10.0.10.1#

line vty 0 4

password cisco

login

line console 0

password cisco

login

enable password cisco

enable secret cisco1

vtp domain ACU

vtp mode server

interface vlan 1

ip address 10.0.10.1 255.255.255.0

no shutdown

vlan 2

name Finance

vlan 3

name HR

vlan 4

name Administration

interface range fa0/1-24

speed auto

duplex auto

interface range fa0/1-7

switchport mode access

switchport access vlan 2

interface range fa0/8-14

switchport mode access

switchport access vlan 3

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```
interface range fa0/15-21
switchport mode access
switchport access vlan 4

interface range fa0/22-24
switchport mode trunk

end
```

```
SW02
****
enabl
config t
hostname FL01-R01-SW02
banner motd #FL01-R01-SW02 -
10.0.10.2#

line vty 0 4
password cisco
login

line console 0
password cisco
login

enable password cisco

enable secret cisco1

vtp domain ACU
vtp mode client
```

```
interface vlan 1
ip address 10.0.10.2 255.255.255.0
no shutdown

interface range fa0/1-24
speed auto
duplex auto

interface range fa0/1-7
switchport mode access
switchport access vlan 2

interface range fa0/8-14
switchport mode access
switchport access vlan 3

interface range fa0/15-21
switchport mode access
switchport access vlan 4

interface range fa0/22-24
switchport mode trunk
end
```

```
copy running-config startup-config
```

```
SW03
****
enabl
config t
hostname FL01-R03-SW03
banner motd #FL01-R03-SW03 -
10.0.10.3#

line vty 0 4
password cisco
login

line console 0
password cisco
login

enable password cisco

enable secret cisco1

vtp domain ACU
vtp mode client
```

```
interface vlan 1
ip address 10.0.10.3 255.255.255.0
no shutdown

interface range fa0/1-24
speed auto
duplex auto
interface range fa0/1-7
switchport mode access
switchport access vlan 2

interface range fa0/8-14
switchport mode access
switchport access vlan 3

interface range fa0/15-21
switchport mode access
switchport access vlan 4

interface range fa0/22-24
switchport mode trunk

end
```

```
copy running-config startup-config
```

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Thanks,..
See you next week (ISA),...

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Networks I