



Practical App.

Course name: Computer Networks I

Course Code: CNE 309

Lecturer: Dr. Ahmed ElShafee

Exam number: Midterm – Model Answer

Exam Date: 03/04/2016

Time Allowed: 45 minutes

<p>ID :</p> <p>Name:</p>

Total
20



below figure shows a local area network infrastructure for a building of 2 floors + ground.

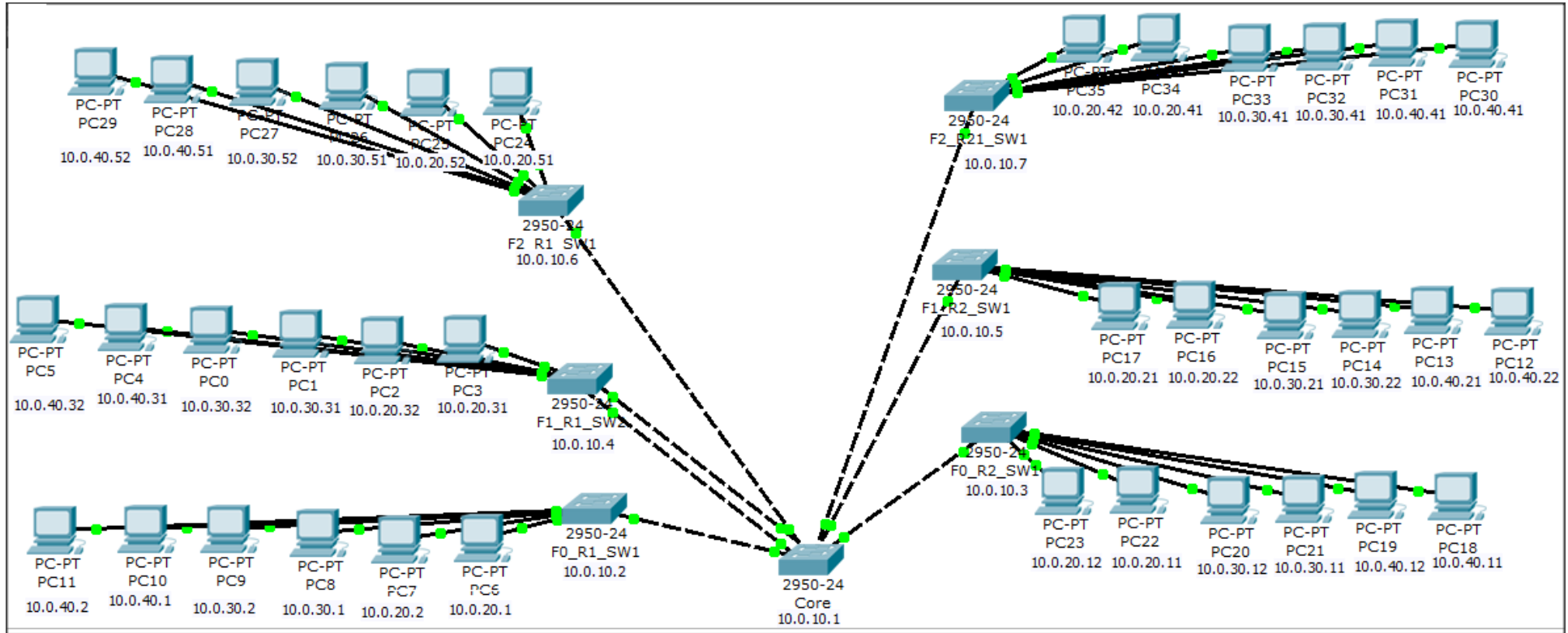
The core switch names SW100 is placed in the ground floor. the core switch exchanging traffic between edge switches, has no direct connection to PCs.

Each floor is covered with two edges.

Administrator decide to divide physical LAN into 3 logical LANs, the core is responsible of broadcasting the logical LANs information for other switches.

Administrator decided to assign the first seven ports (1-7) of each edge to the first logical LAN, then the 2nd seven ports (8-14) to the 2nd logical LAN, and the 3rd seven ports (15-21) to the 3rd logical, the rest ports are used to carry traffic between core and other edge switches.

Complete the missing configuration commands in the following tables





1. Core switch configuration

#	instruction	command
1	Enter privilege mode	enable
2	Enter configuration mode	config t
3	Assign switch name	hostname SW100
4	Configure telnet connections	line vty 0 4 password cisco login
5	Protect console connection	line console 0 password cisco login
6	Protect switch login (2 passwords)	enable password cisco enable secret cisco1
7	Assign switch IP	interface vlan 1 ip address 10.0.10.1 255.255.255.0 no shutdown
8	enable core broadcasting logical LANs	vtp domain ACU vtp mode server
9	Create VLANs	vlan 2 name Finance vlan 3 name HR vlan 4 name Admin



10	Configure ports speed, duplexing, operation mode (carry traffic between switches mode)	<pre>interface range fa0/1-24 speed auto duplex auto interface range fa0/1-24 switchport mode trunk</pre>	
11	Save configuration to ROM	<pre>copy running-config startup-config</pre>	

2. Configure Edge SW101

#	instruction	command	
12	Assign switch name	<pre>hostname SW101</pre>	
13	Assign switch IP	<pre>interface vlan 1 ip address 10.0.10.2 255.255.255.0 no shutdown</pre>	
14	Enable edge to receive logical LAN configuration from core	<pre>vtp domain ACU vtp mode client</pre>	
16	Configure ports (speed, duplex)	<pre>interface range fa0/1-24 speed auto duplex auto interface range fa0/1-24 switchport mode trunk</pre>	

17	Configure ports regarding their VLANs, and ports that exchanges traffic to core switch	<pre>interface range fa0/22-24 switchport mode trunk 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</pre>
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3. Display & verification

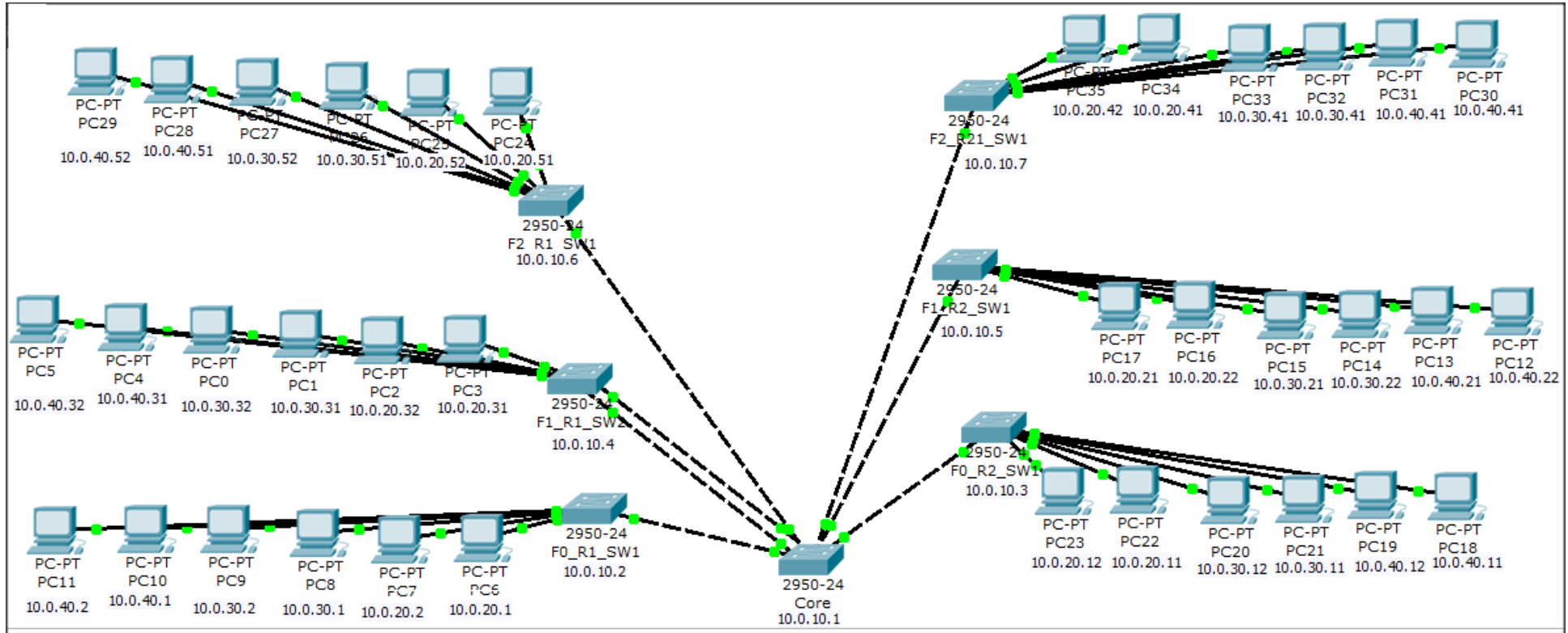
#	instruction	command
18	Display logical LANS on a switch	<pre>show vlan</pre>
19	Display interfaces status on a switch	<pre>show ip interface brief</pre>

4. System verification and troubleshooting

#	instruction	command
20	Make sure that PC32 can communicate with PC29	<pre>Ping 10.0.40.52</pre>



21	Result? Justify?	Time out Different vlan	
22	Make sure that SW100 can communicate with SW101	Ping 10.0.10.2	
23	Result? justify?	Ok Same vlan	
24	Remote login to SW100 from PC 32	telnet 10.0.10.1	
25	Result? justify?	Time out Same vlan	





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