

MIS

قسم نظم المعلومات الإدارية
كلية الاقتصاد والإدارة
جامعة الملك عبد العزيز



FINEL REPORT

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**MIS 376
SECOND SEMESTER**



INTRODUCTION:

This report centres on the development of a Local Area Network (LAN) for a new building, in accordance with the provided case study. The building spans four floors and encompasses several departments, including computer labs, human resources (HR), marketing, IT and management. The LAN design requires the establishment of separate Virtual Local Area Networks (VLANs) for each department and a shared VLAN for both computer labs. The network infrastructure will comprise five switches, one router, and Ethernet-connected hosts. The switches will function as access layer switches and will be interconnected using fibre optic technology.

REQIRMENT:

The host in the network will be connected to switches with Ethernet via: (CAT6e)

The switches will be connected to by using fiber optic: (om4)



SCREENSHOTS:

1- The best location for the rock cabinet. (You can choose any office)

First Floor Diagram (conference rooms will be used as computer Lab)

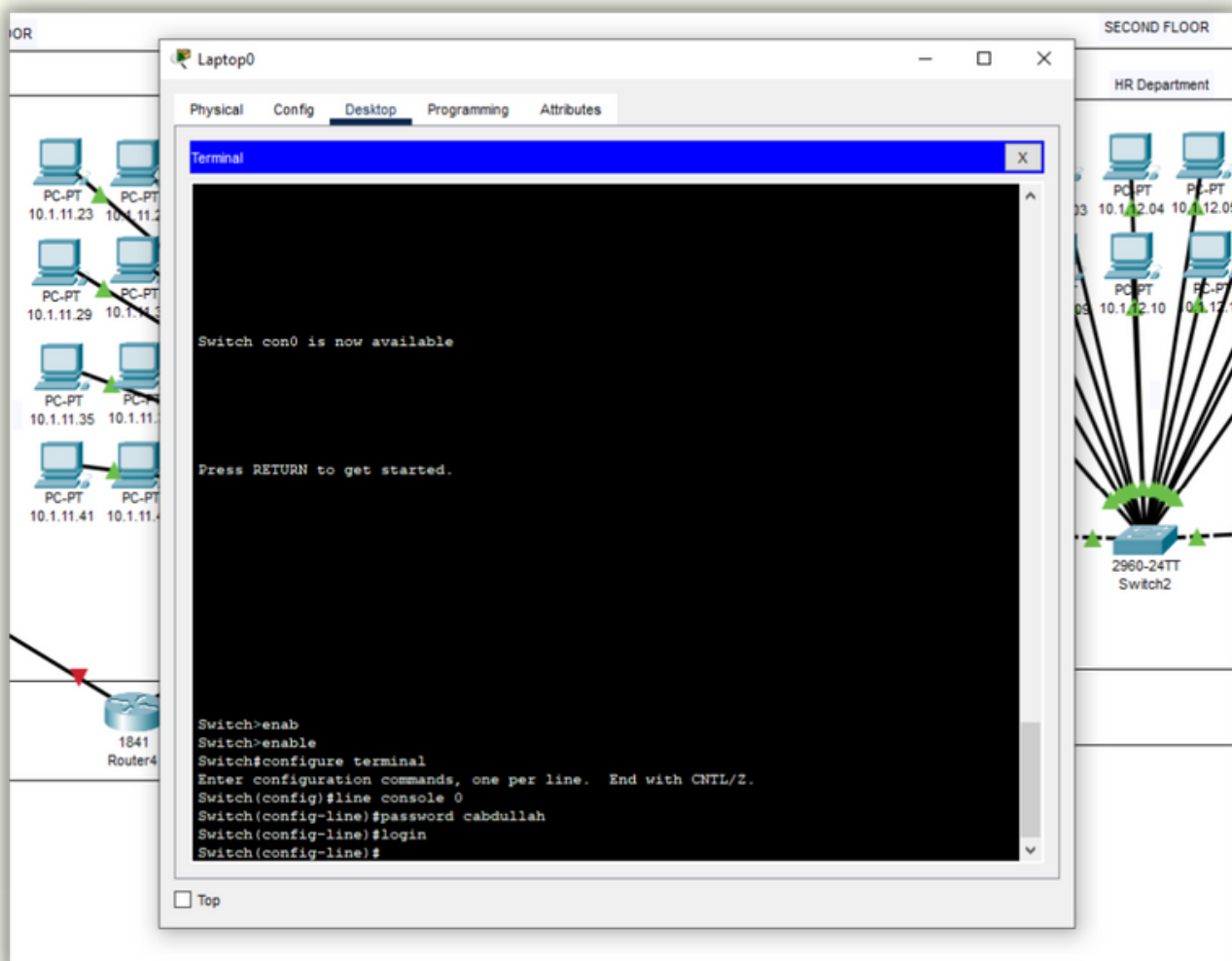


Second, Third, Fourth Floor Diagram.

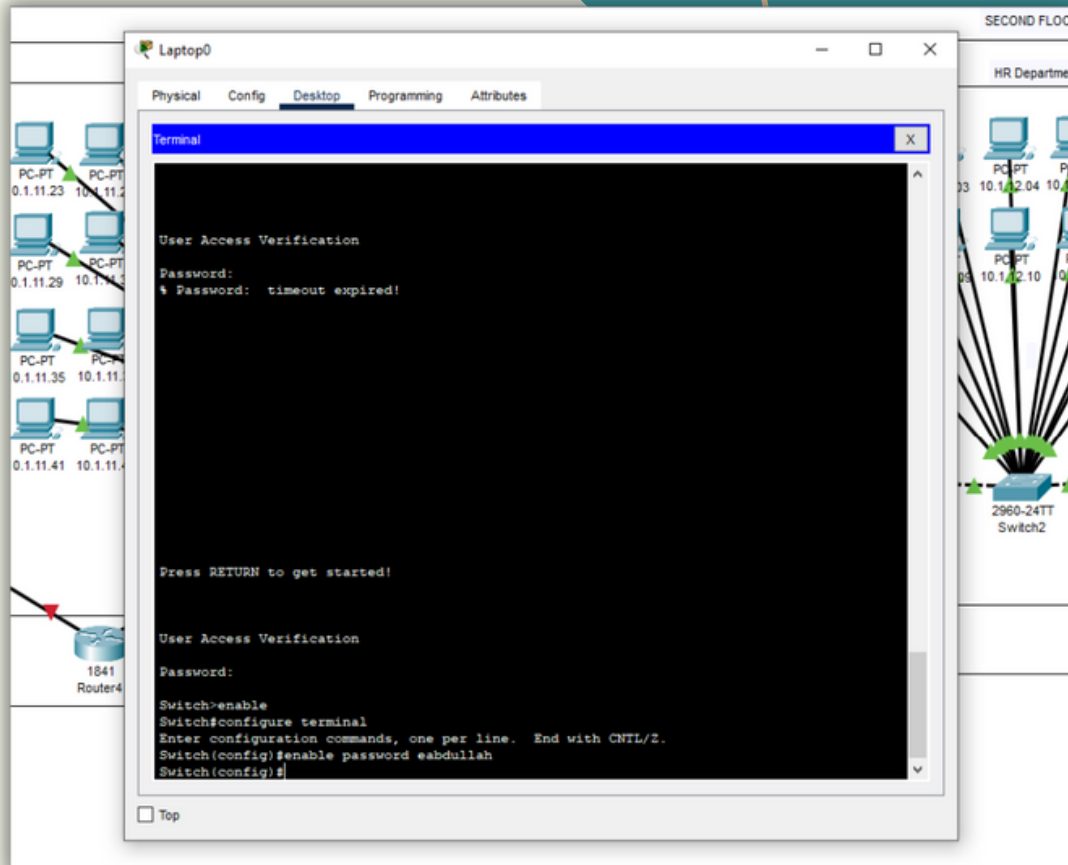


2- Enable passwords for all switches (console, enable, and telnet) Provide a screenshot

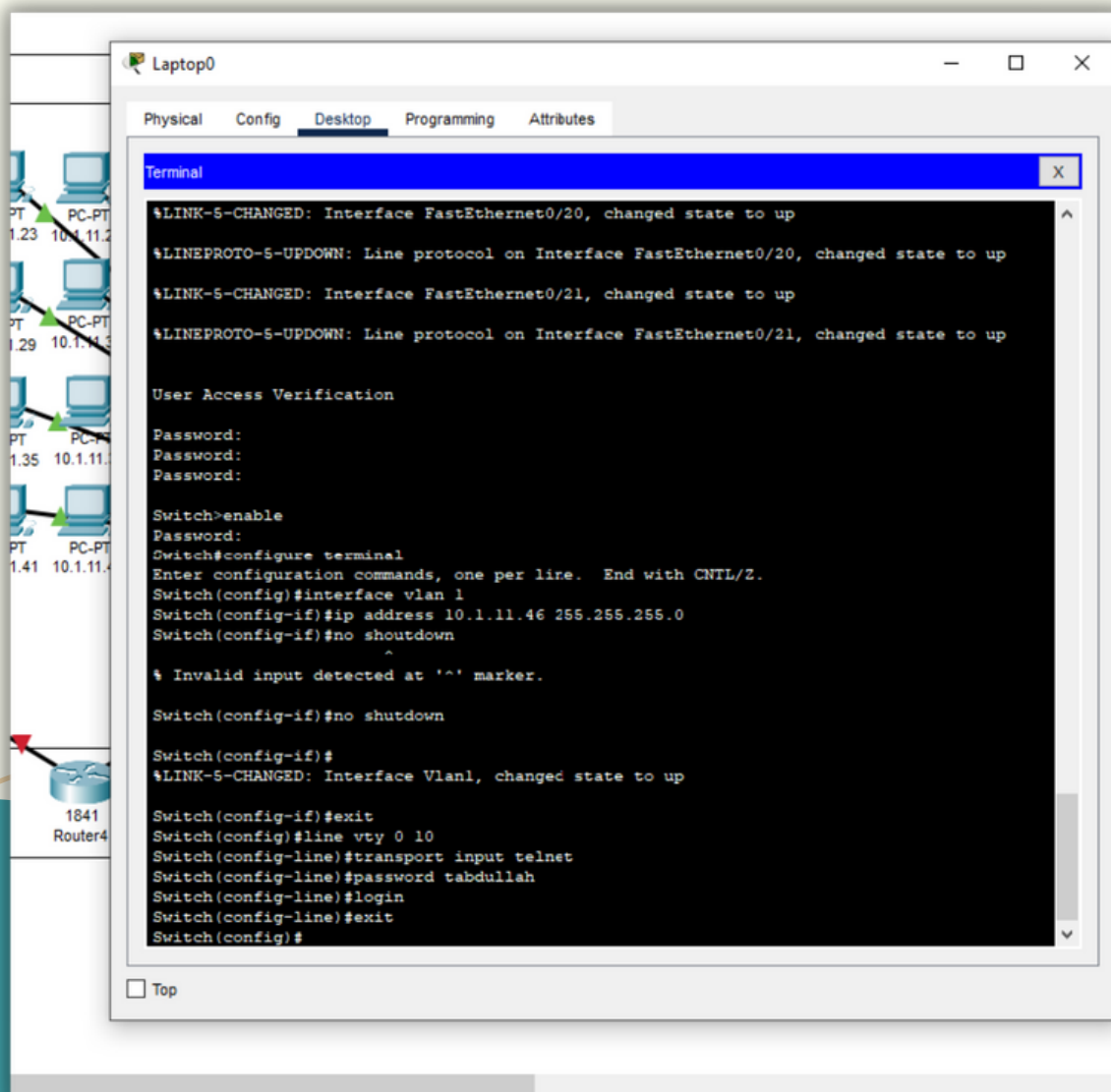
Assign Console password : (cabdullah)



Assign Enable password : (eabdullah)

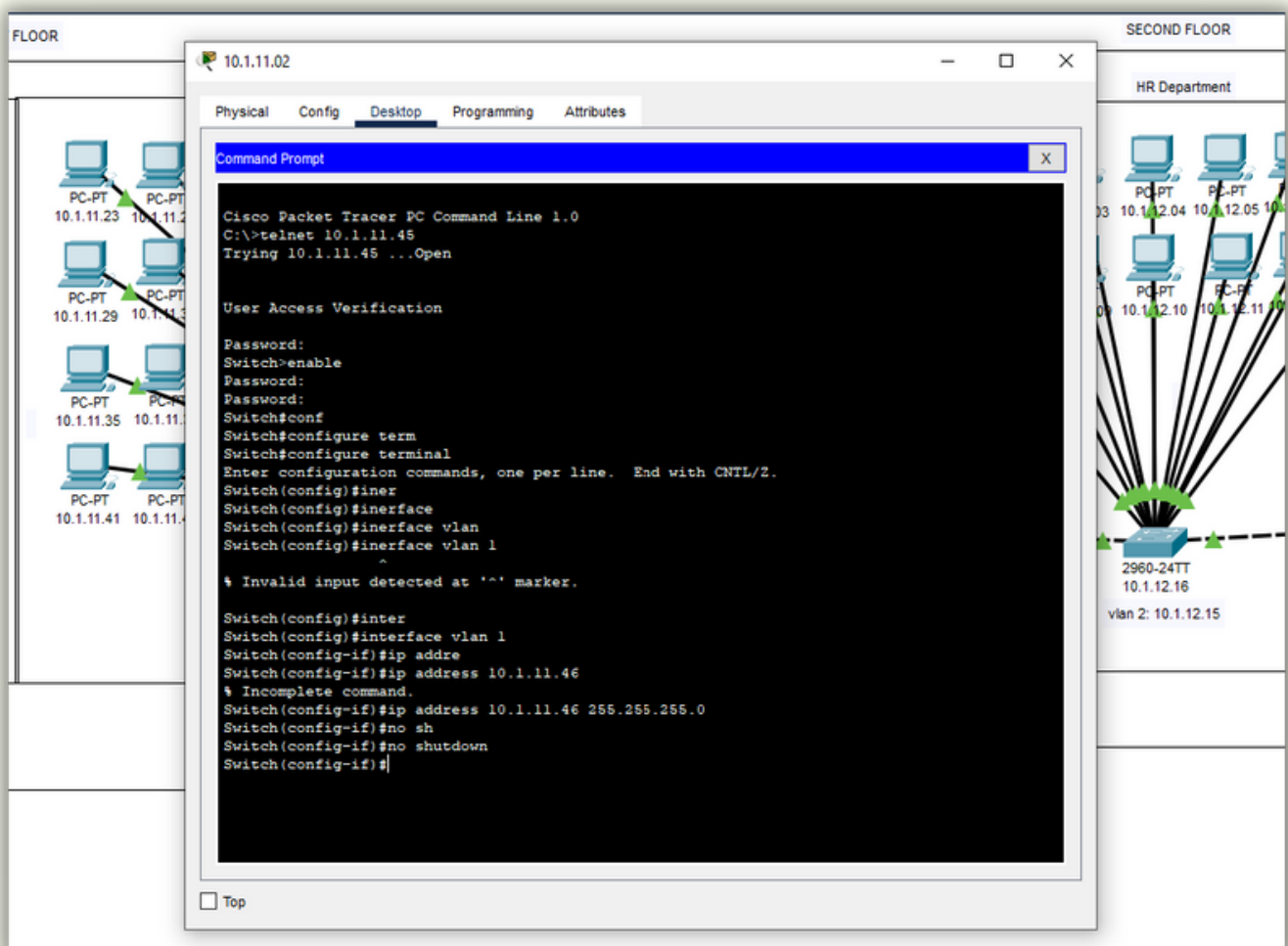


Assign Telnet password : (tabdullah)



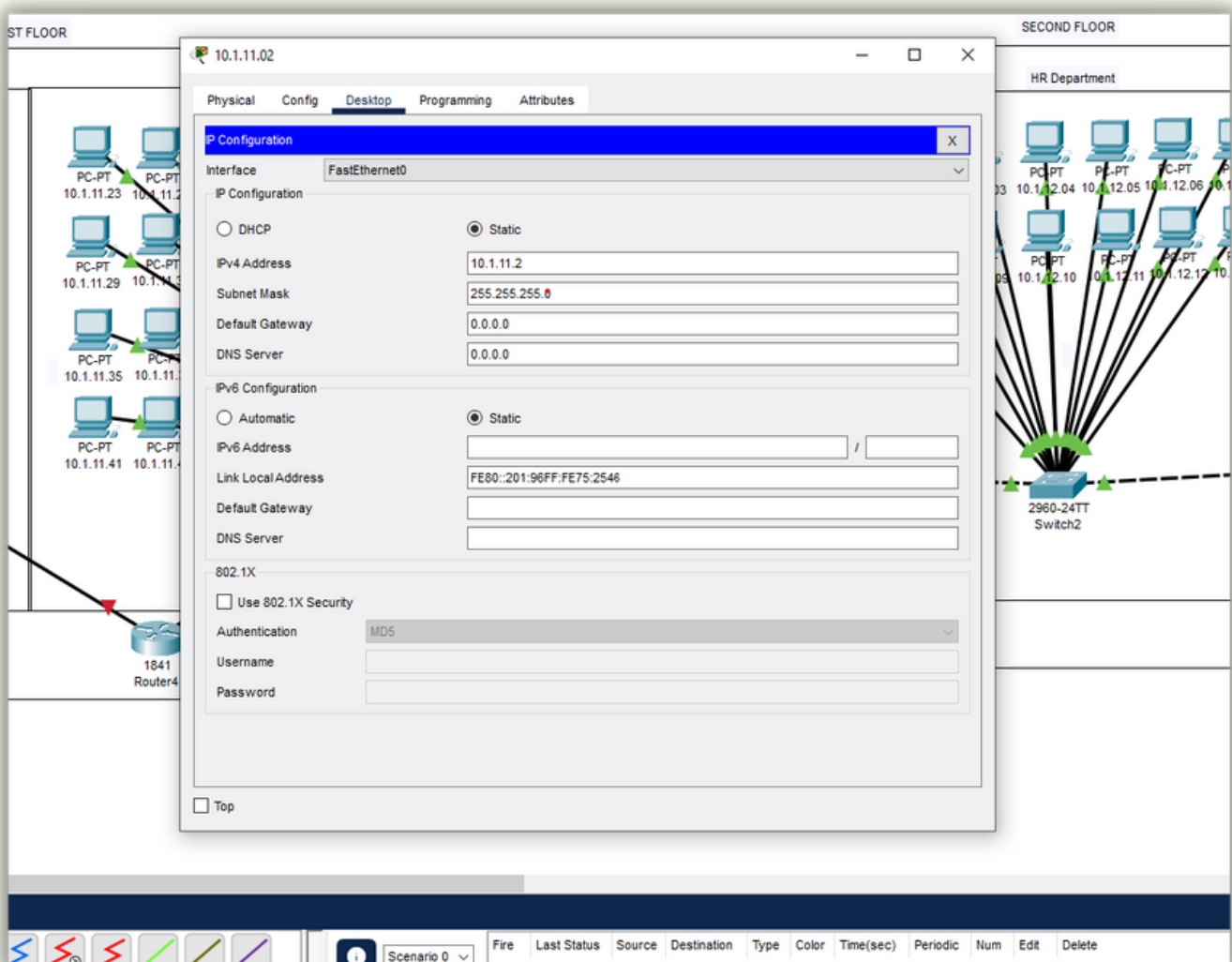
3- Create IP address for each switch. Provide a screenshot:

Switch one: IP: 10.1.11.46 note that I did same way with all switches to changes the IP

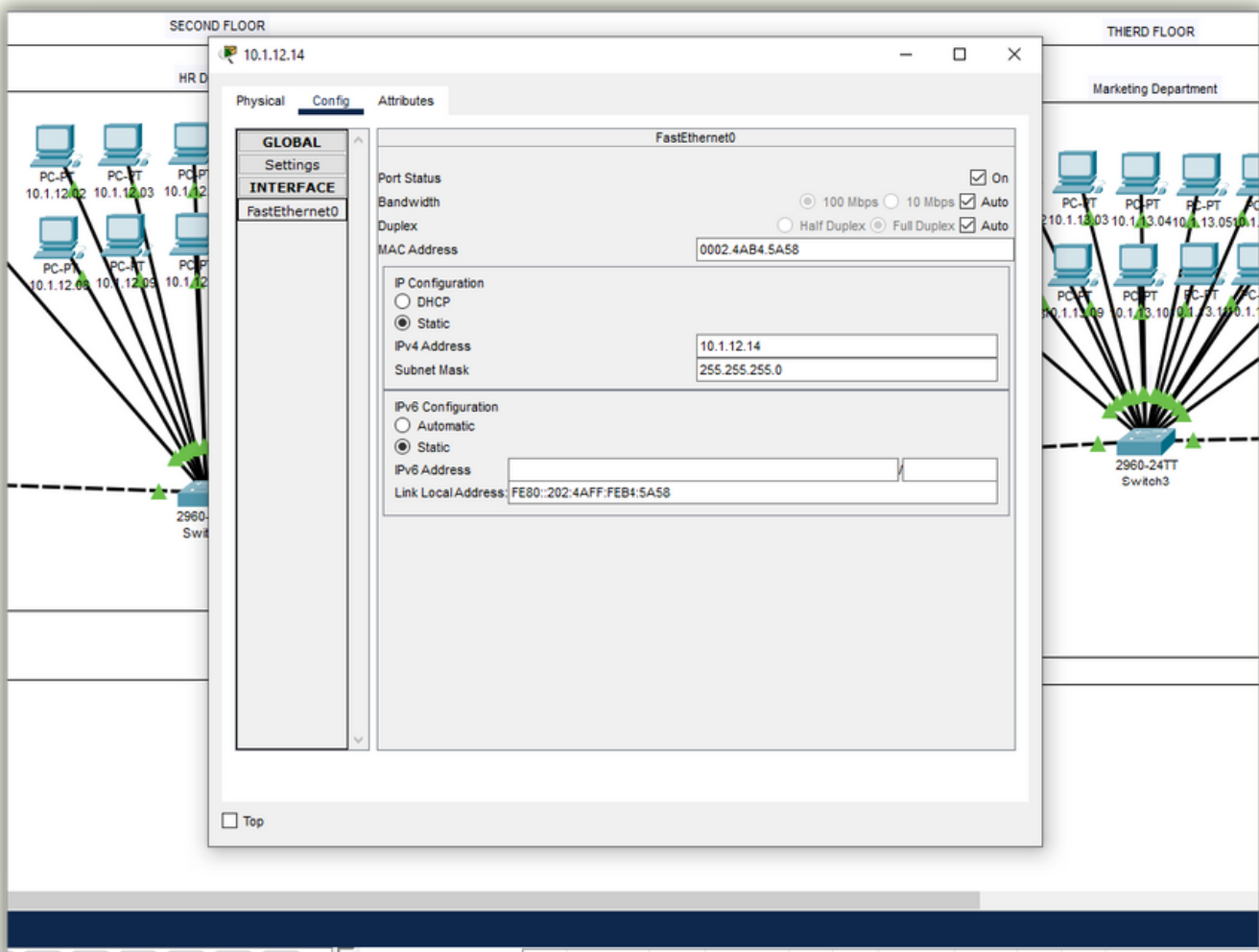


4- Assign a static IP address for each device (host). Provide a screenshot

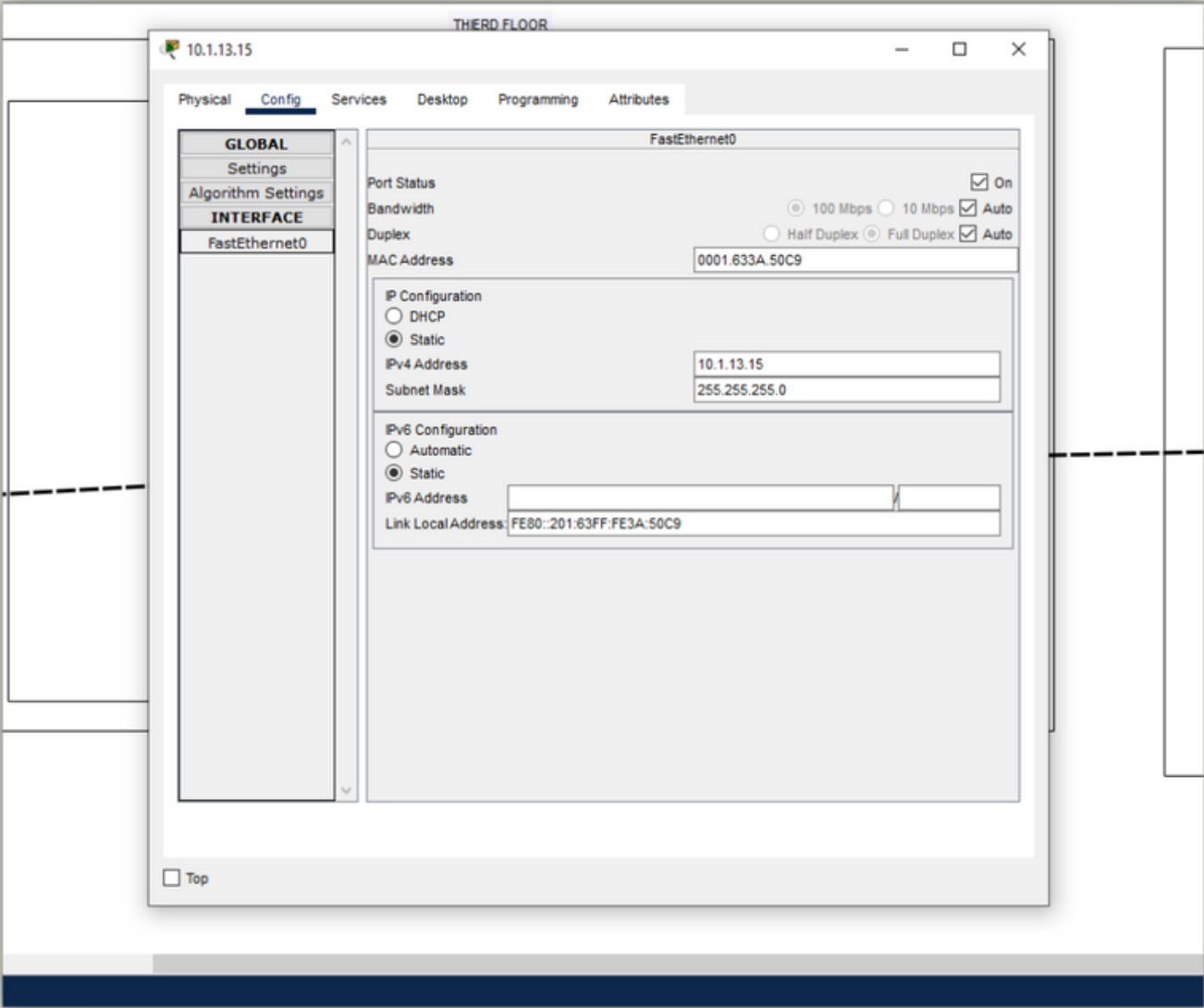
assign IP for Pc host: note that I did same way with all Pc hosts and give them IP



assign IP for server host :note that I did same way with the two servers hosts and give them IP

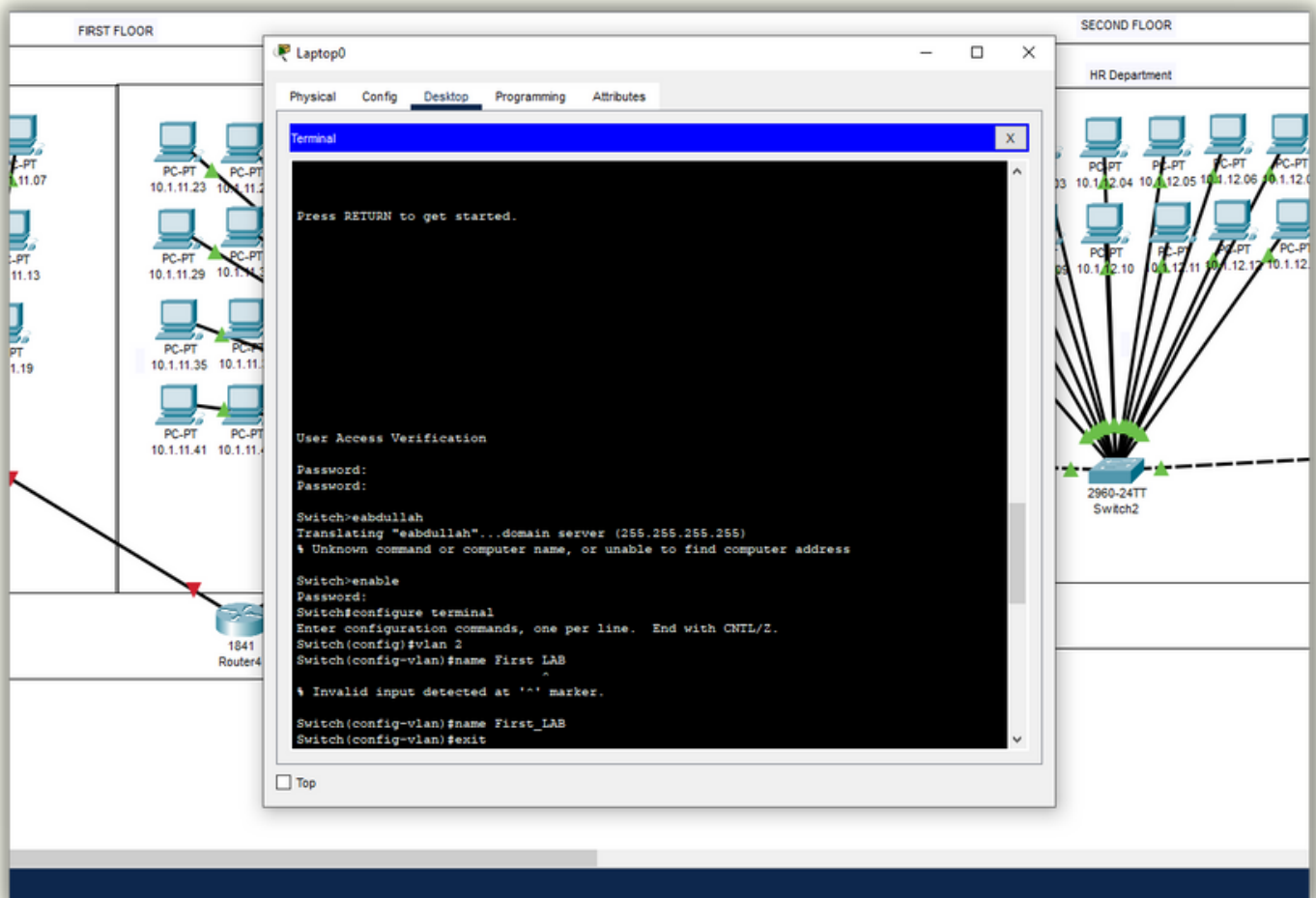


Assign IP for Printer host: note that I did same way with the two printer hosts and give them Ip



5- Create a VLANs. And assign IP address for each VLAN. Provide a screenshot.

Create Vlan 2 : I have create a vlen2 for the first lab and did the same way for other Vlans



Assign Ip address for vlan2 that i have created : I have assigned Ip address for vlan 2 for the first lab and did the same way for other Vlans

The screenshot displays a network simulation environment. A terminal window titled 'Laptop0' is open, showing the configuration of VLAN 2. The terminal output includes a table of VLANs and the configuration commands for VLAN 2.

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	-	0	0
2	enet	100002	1500	-	-	-	-	-	0	0
1002	fdi	101002	1500	-	-	-	-	-	0	0
1003	tr	101003	1500	-	-	-	-	-	0	0
1004	fdnet	101004	1500	-	-	-	ieee	-	0	0
1005	trnet	101005	1500	-	-	-	ibm	-	0	0

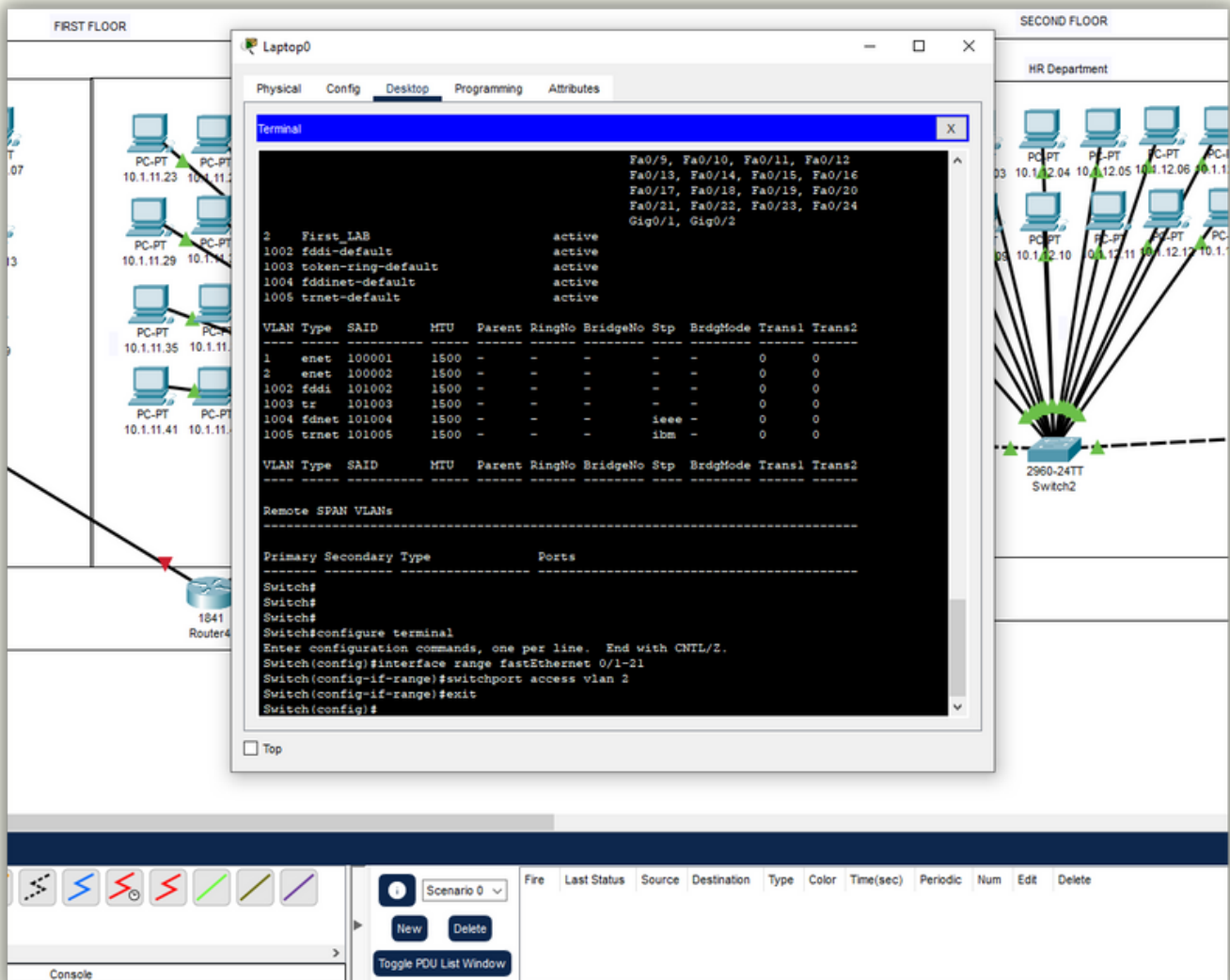
```
Switch#
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#interface vlan 2
Switch(config-if)#
%LINK-5-CHANGED: Interface Vlan2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan2, changed state to up
Switch(config-if)#ip address 10.1.11.45 255.255.255.0
Switch(config-if)#no shutdown
Switch(config-if)#exit
Switch(config)#exit
```

The network diagram shows a central switch labeled '2960-24TT Switch2' connected to multiple PCs. The PCs are labeled with IP addresses: 10.1.12.02, 10.1.12.03, 10.1.12.04, 10.1.12.05, 10.1.12.06, 10.1.12.07, 10.1.12.08, 10.1.12.09, 10.1.12.10, 10.1.12.11, and 10.1.12.12. The PCs are connected to the switch via a star topology.

6- Assign fast Ethernet to Vlan. Provide a screenshot.

Fast ethernet: in this step I have assign fast ethernet from 0/1-21 for vlan 2 in the first lap

And I did the same way to assign multiple fast ethernet for vlan 2 in the other switches.





CONCLUSION:

In summary, the report has outlined a comprehensive roadmap for building a LAN in a new building. The steps include a strategic selection of the rack cabinet location, implementation of strong password protocols for all switches, IP address assignment for each switch and device, VLAN creation and configuration, and password protection for all switches. Additionally, a screenshot has been provided for clarity and ease of implementation. By following these steps, the LAN can be built and maintained with security and efficiency in mind.

