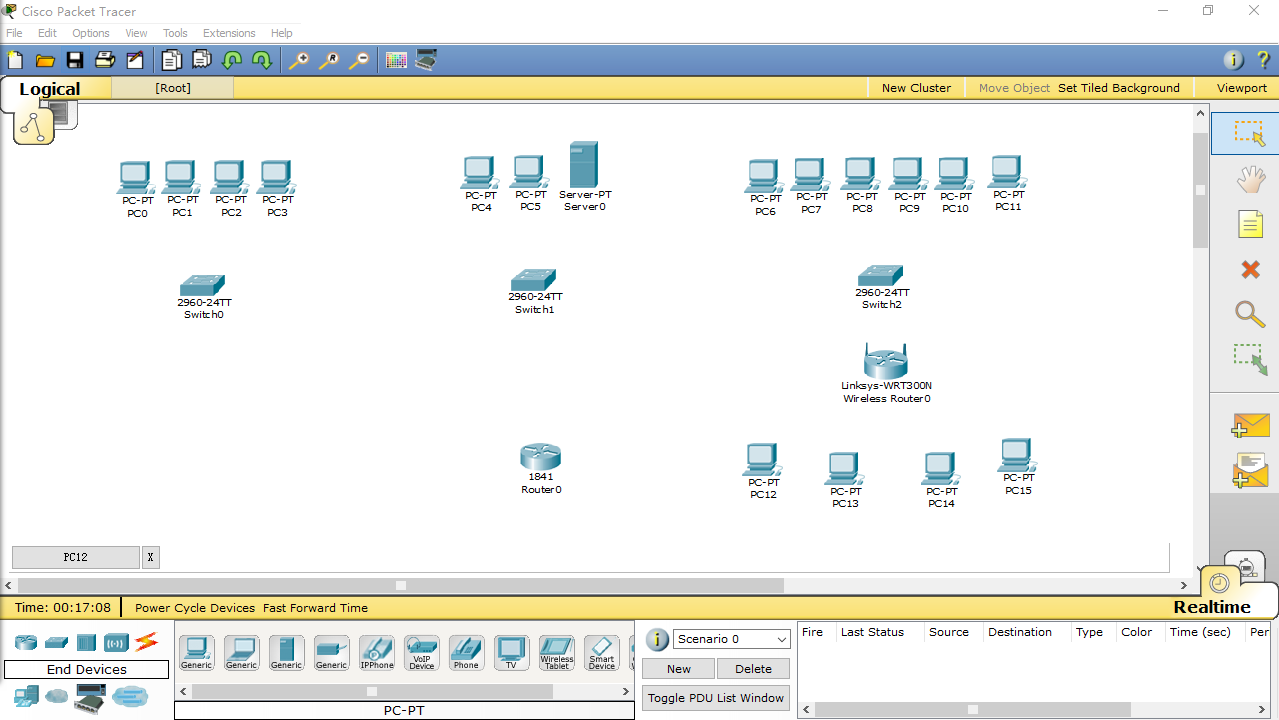
Computer Networks Lab 4

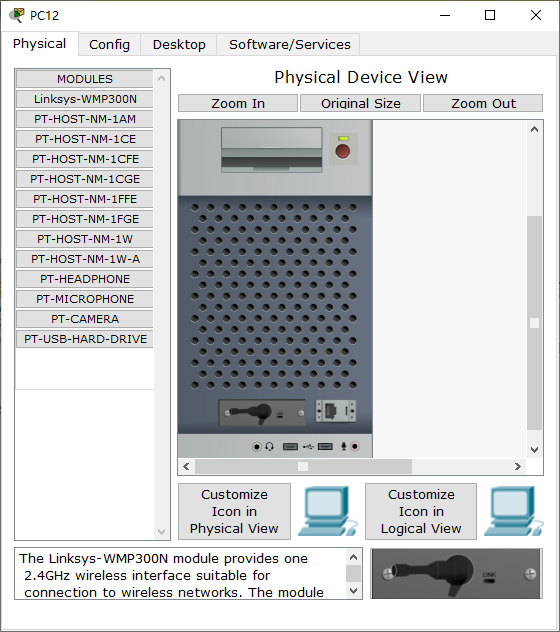
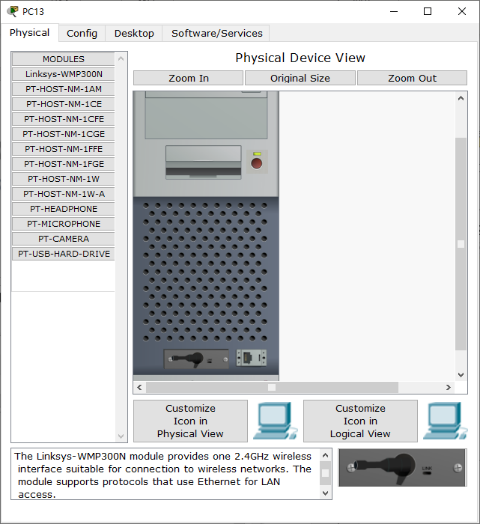
Name: CAO Xinyang

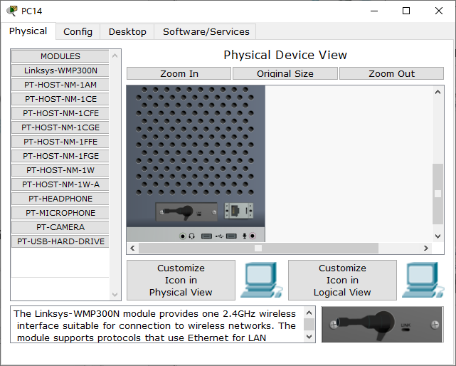
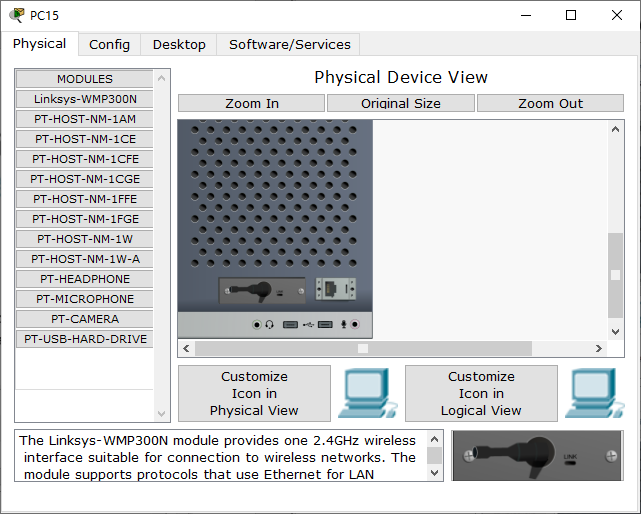
HDU ID: 20321308

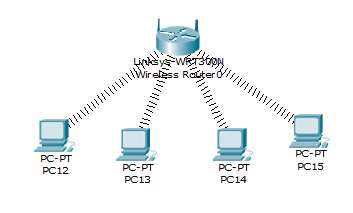
**1. Adding equipment.**



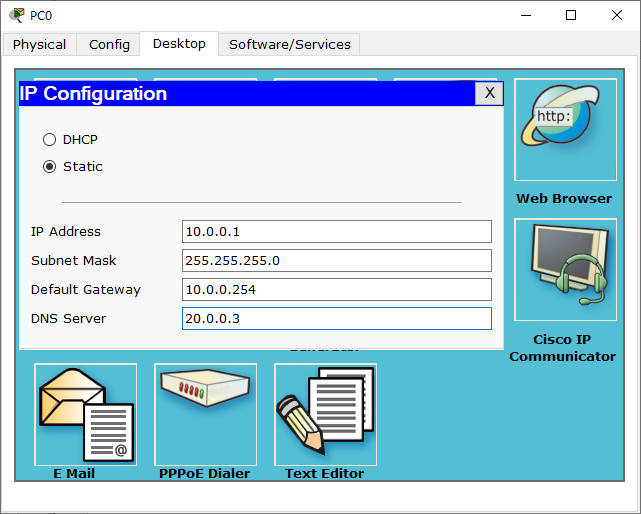
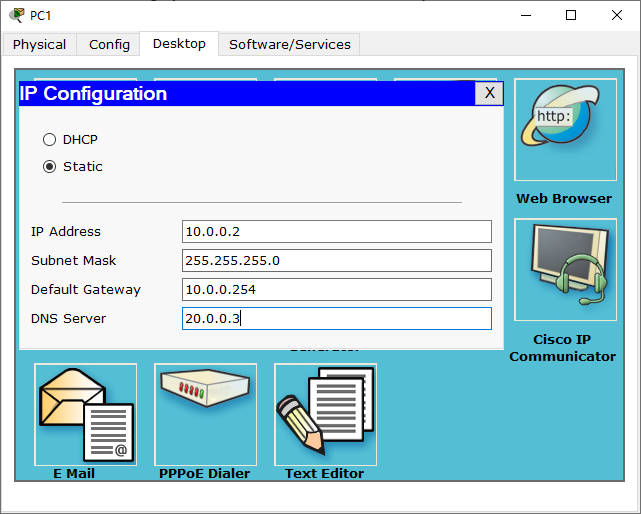
**2. Installing the Wi-Fi module in the PC.**

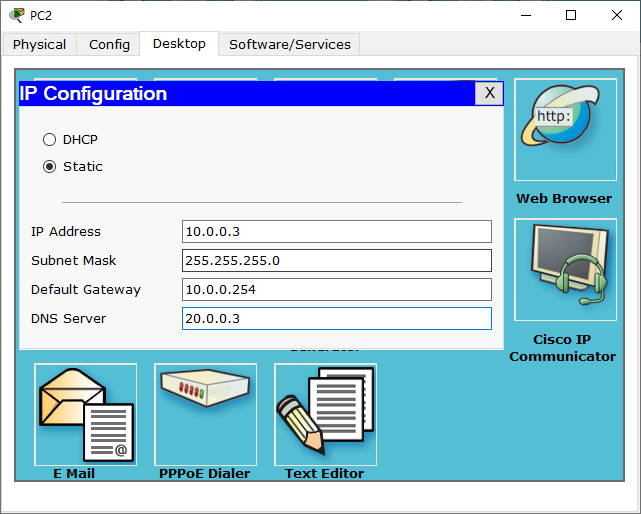
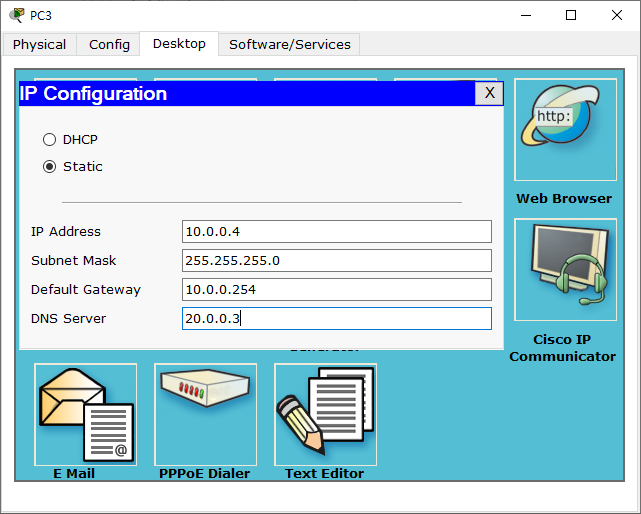
** **

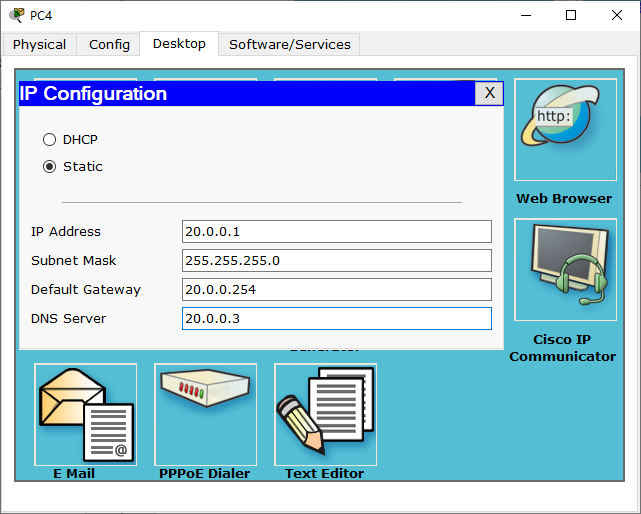
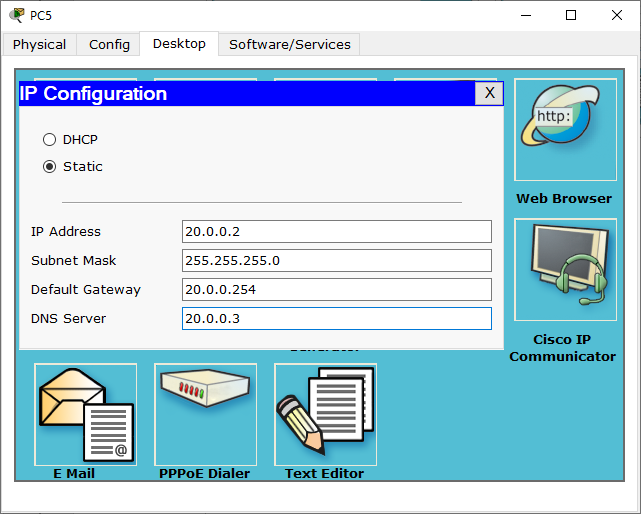
** **

****

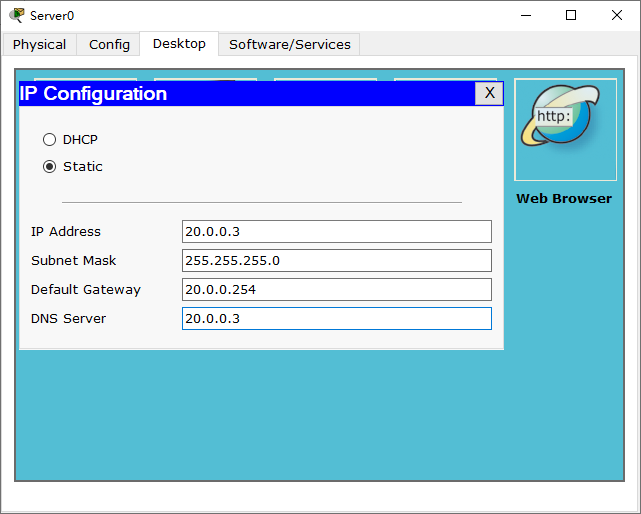
**3.** **Setting up the PCs of the first and second departments.**

** **

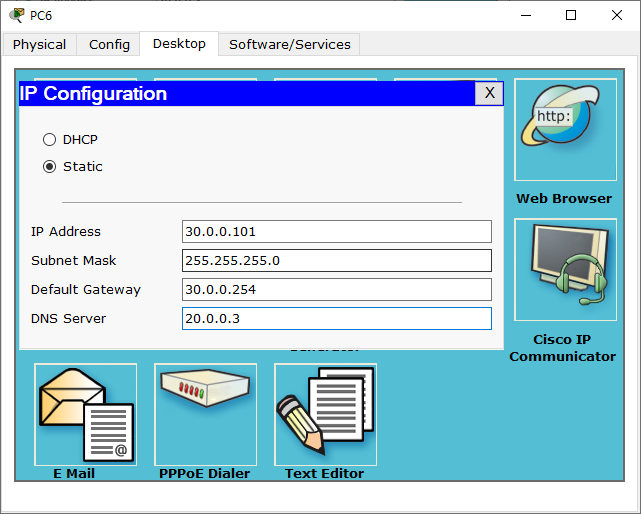
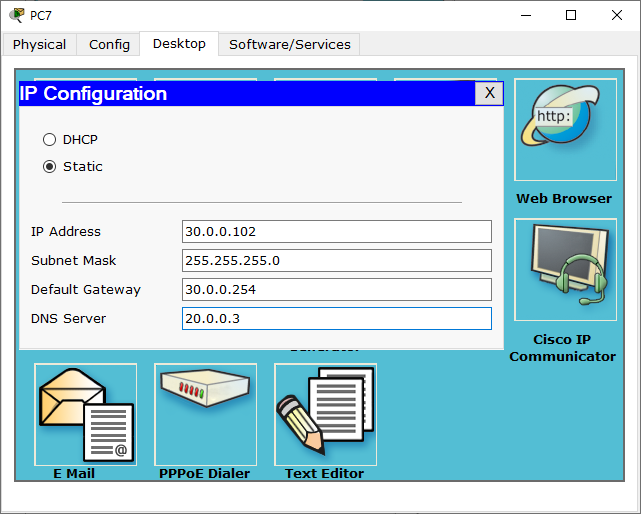
** **

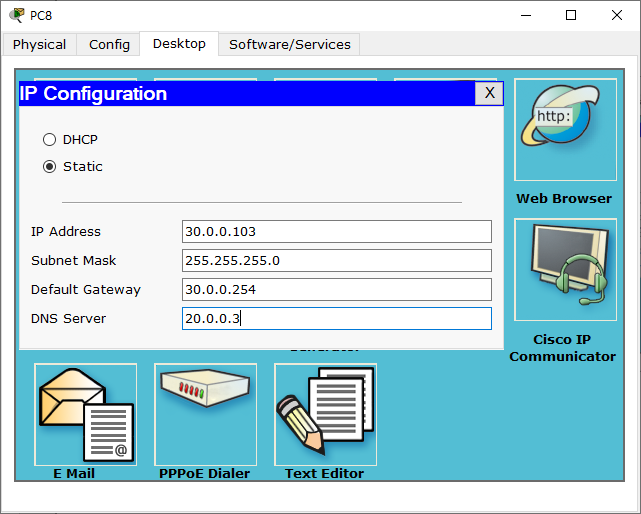
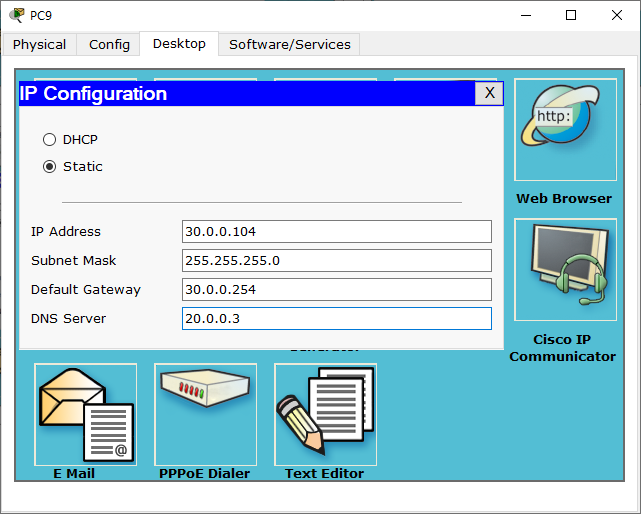
** **

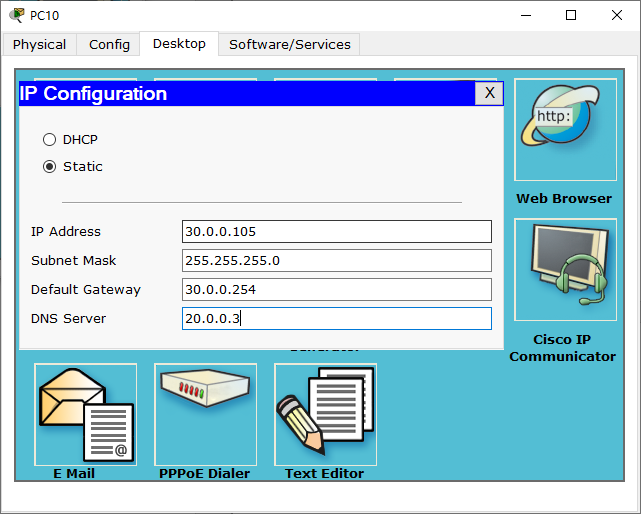
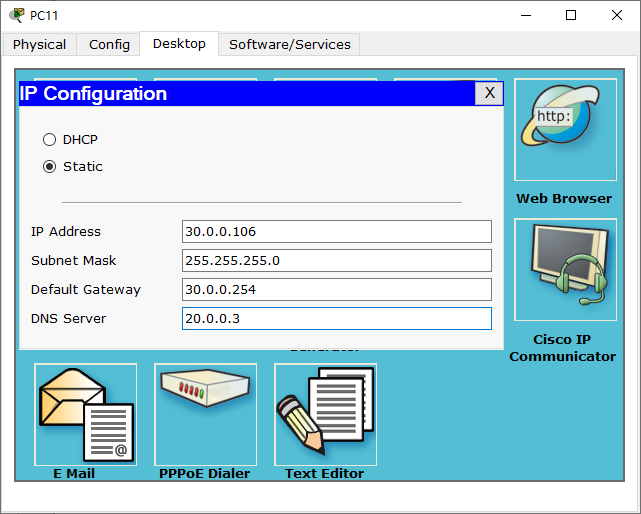
set the following settings on the server:

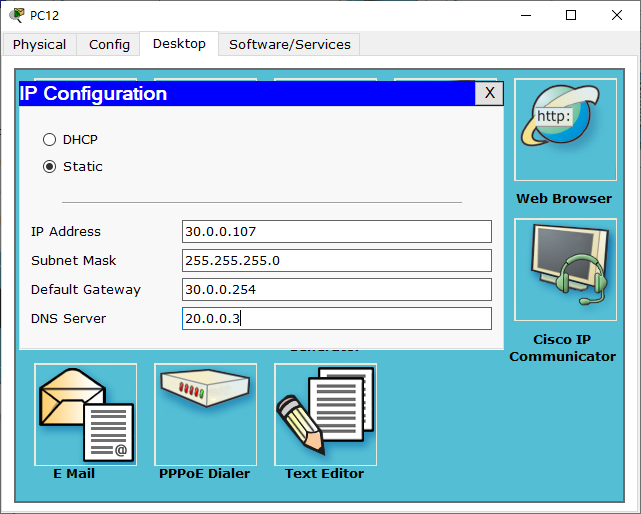
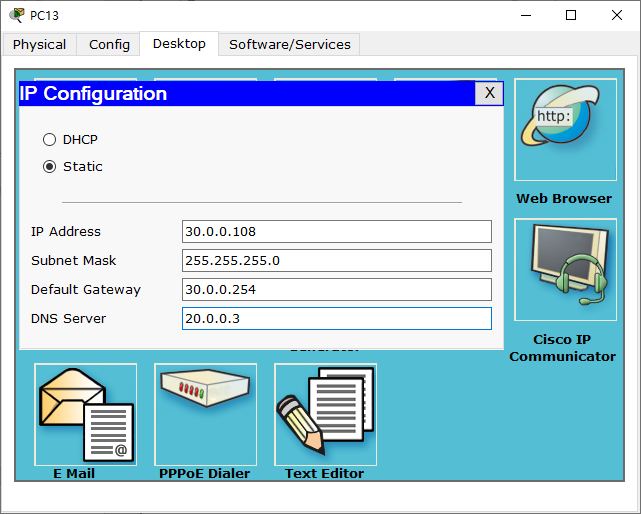


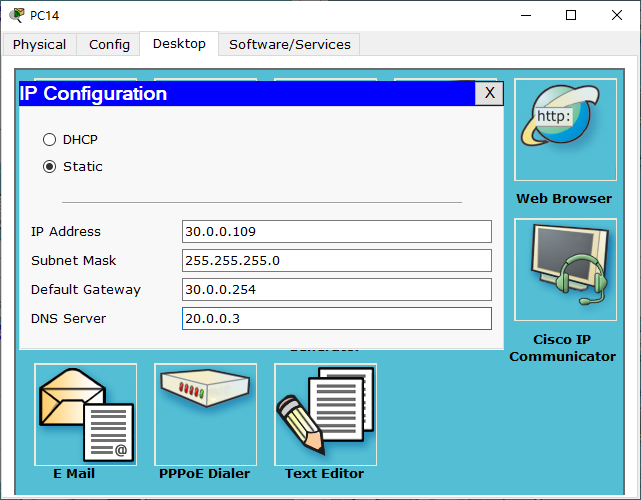
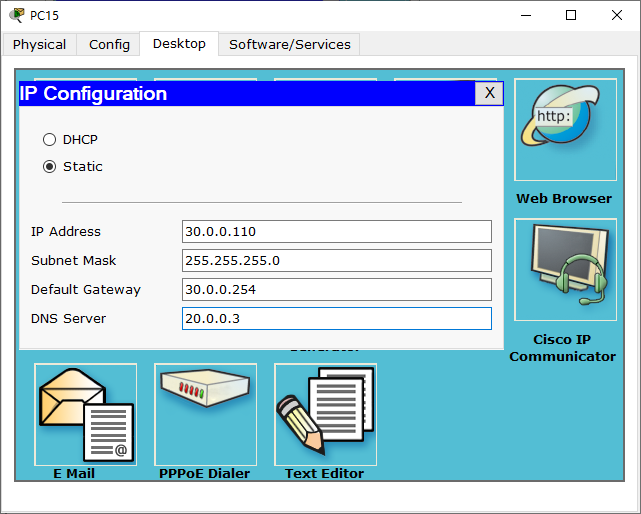
**4. Setting up the third department.**

** **

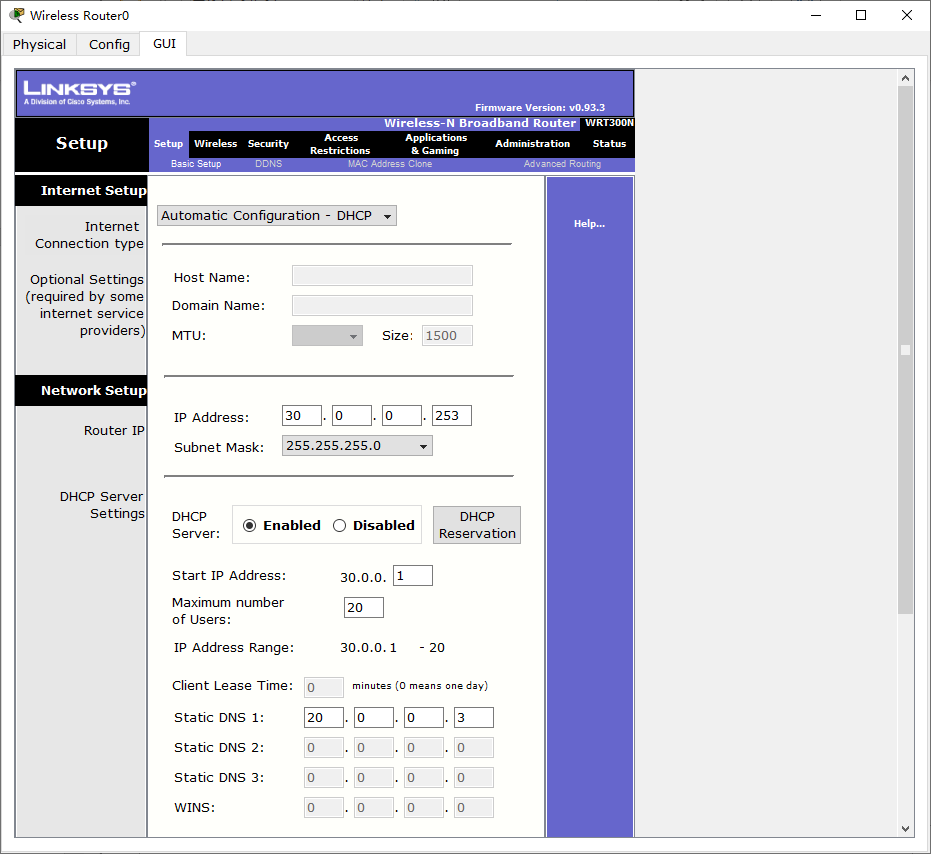
** **

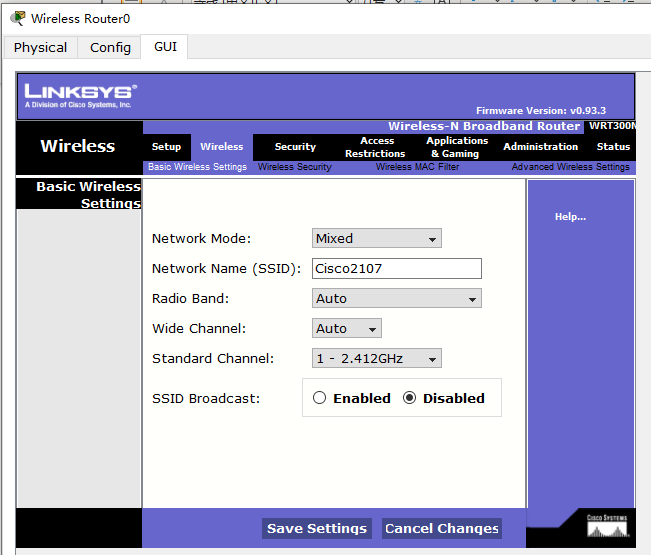
** **

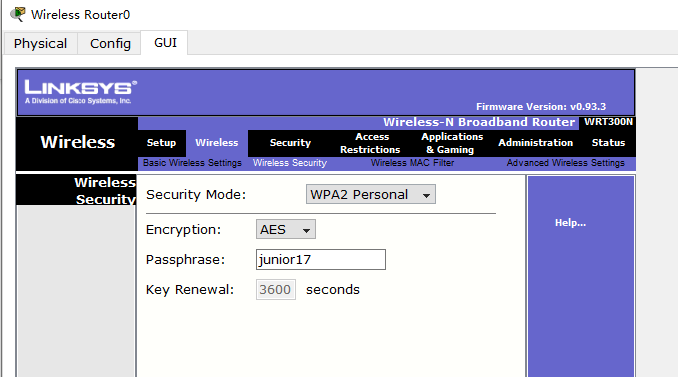
** **

** **

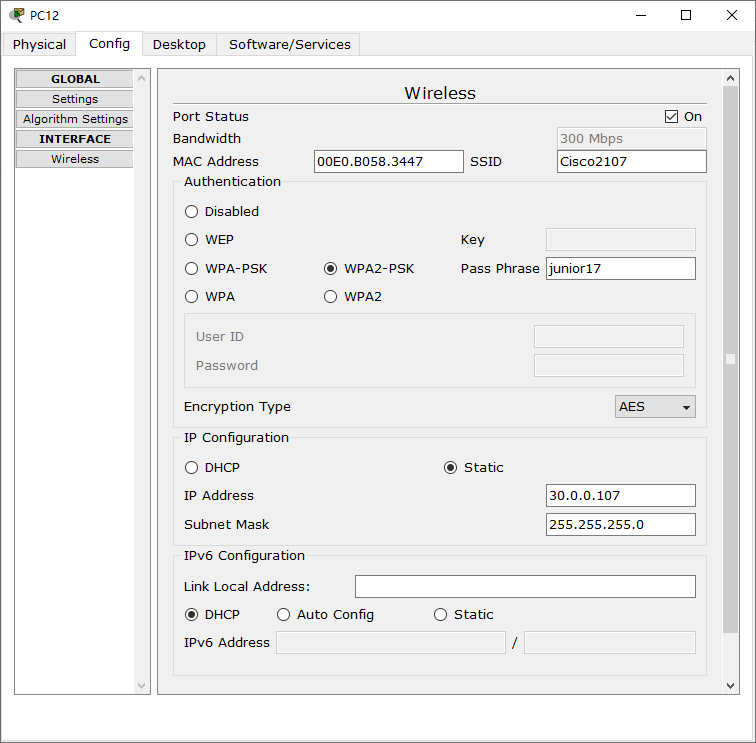
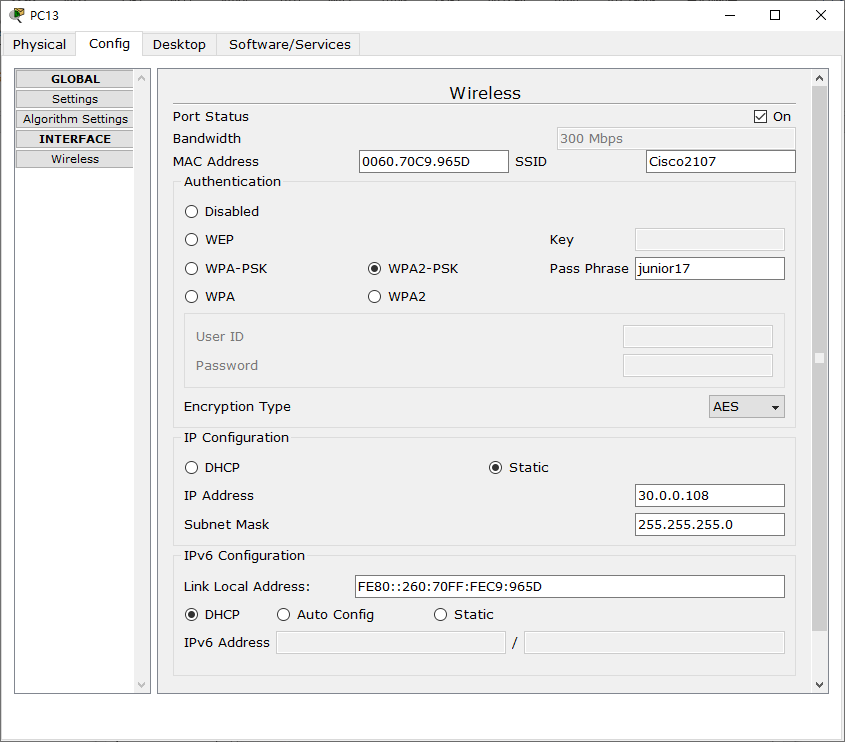
**5. Configuring the router.**

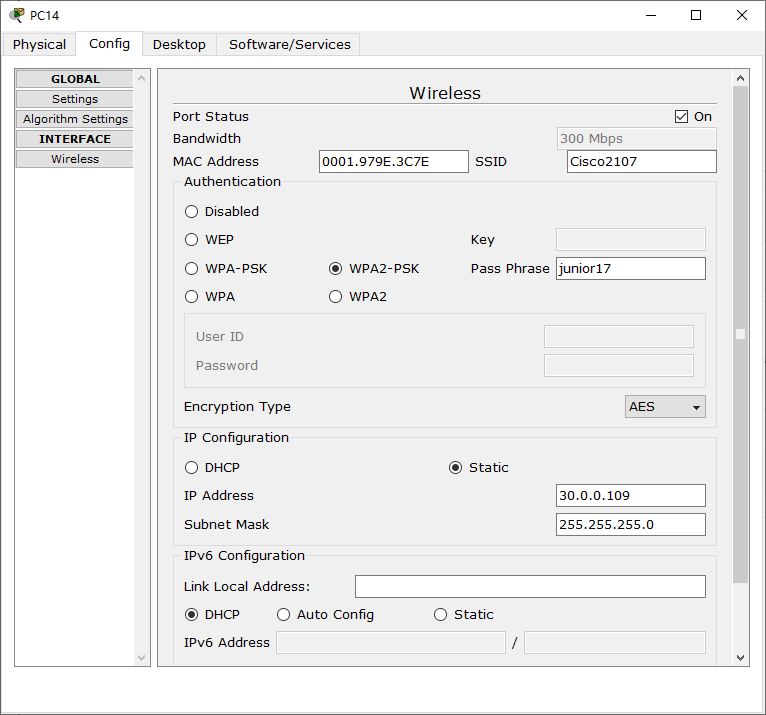
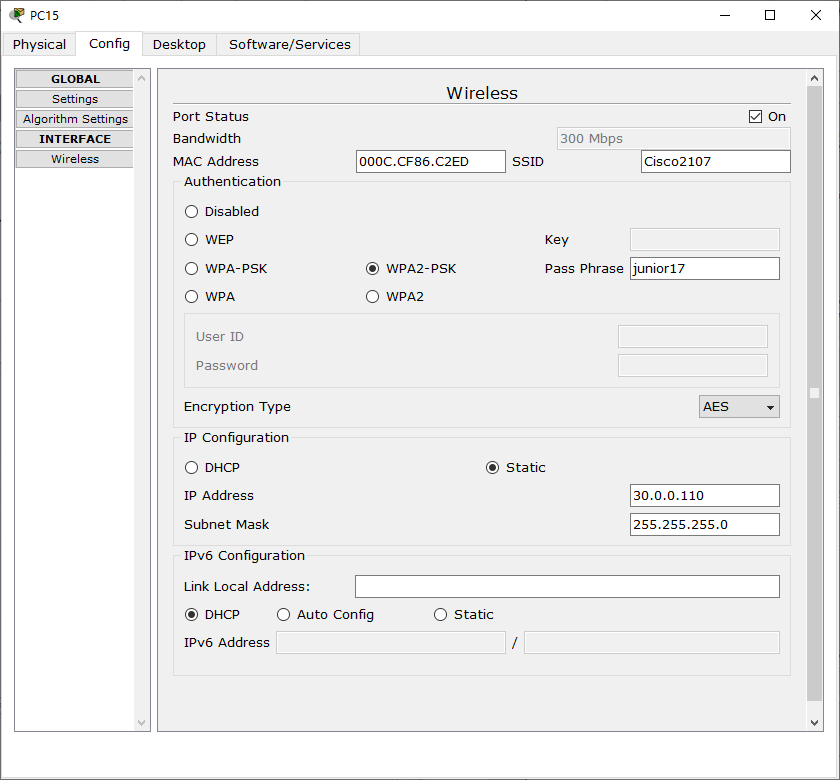
****

****

****

Setting up wireless PCs.

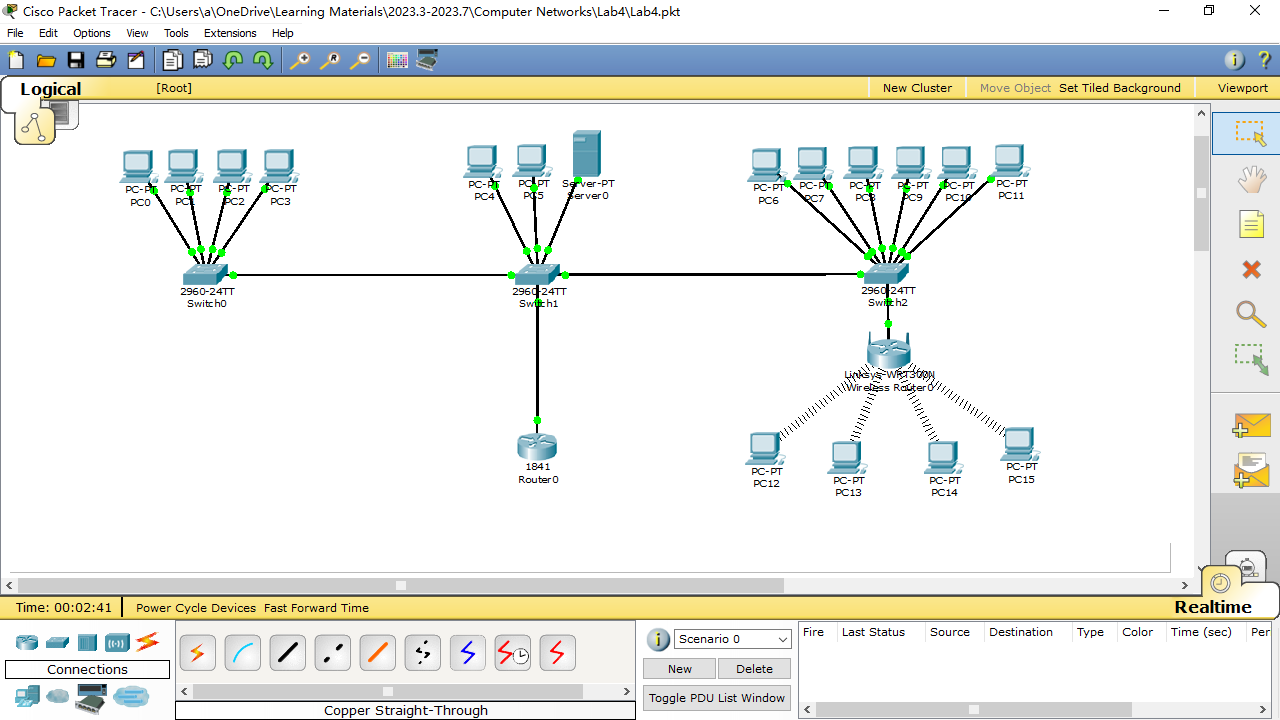
 

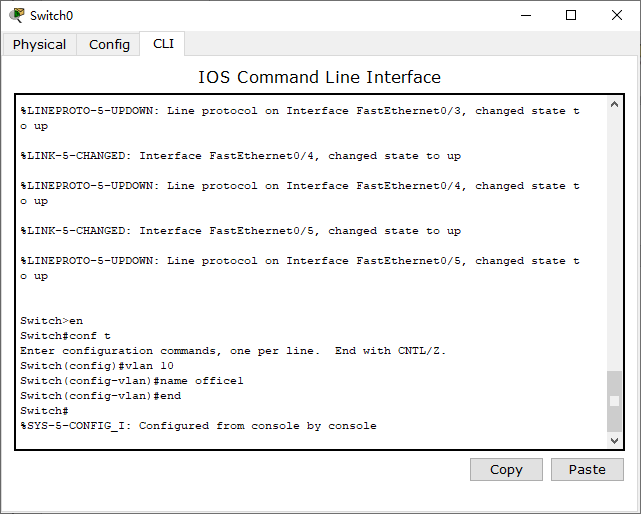
**6. Connect the cables and connect the departments.**

Connect the PC with a twisted pair.

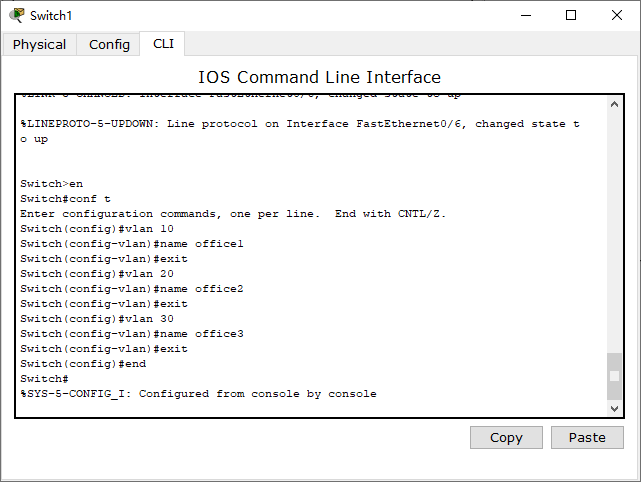
In all switches, connect the cables to FastEthernet clockwise. In the router, connect to the gigabit connector, having previously turned it on.

****

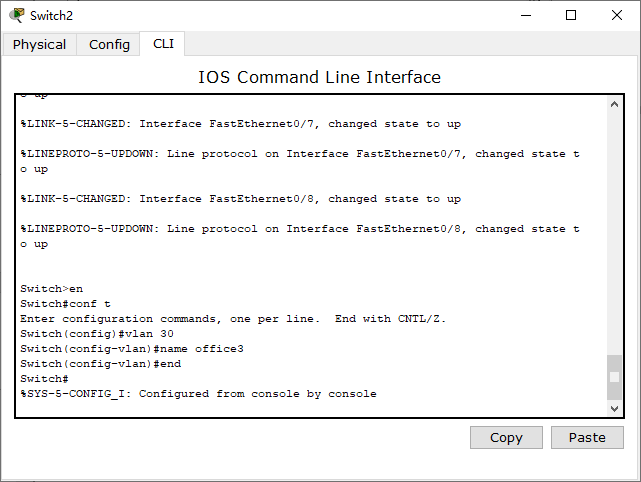
configure VLANs on all switches



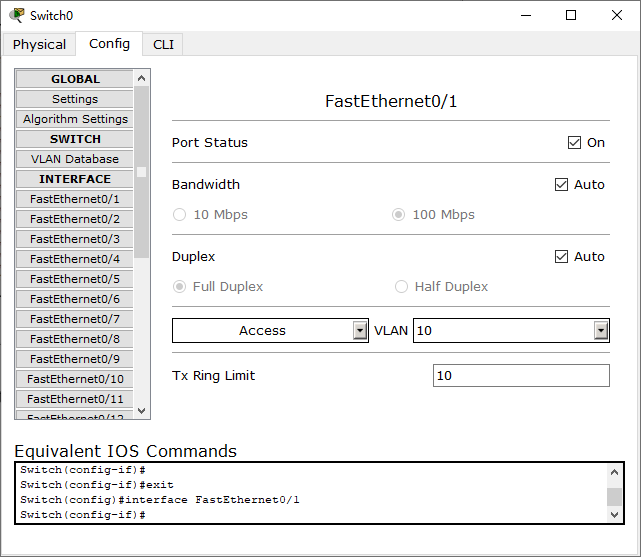
Open the switchboard in the second department and write the following commands:



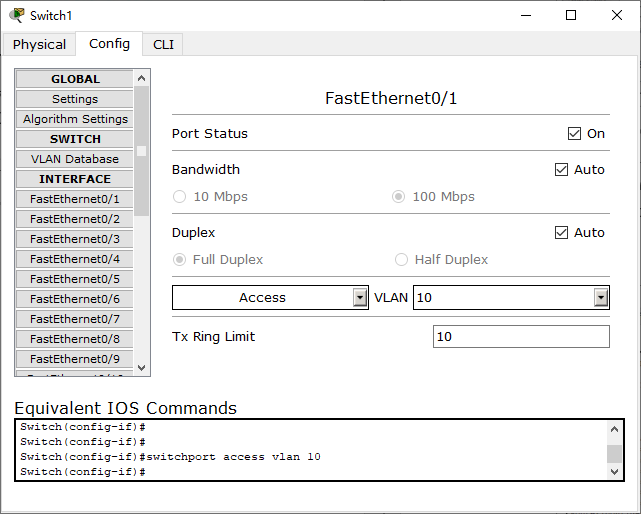
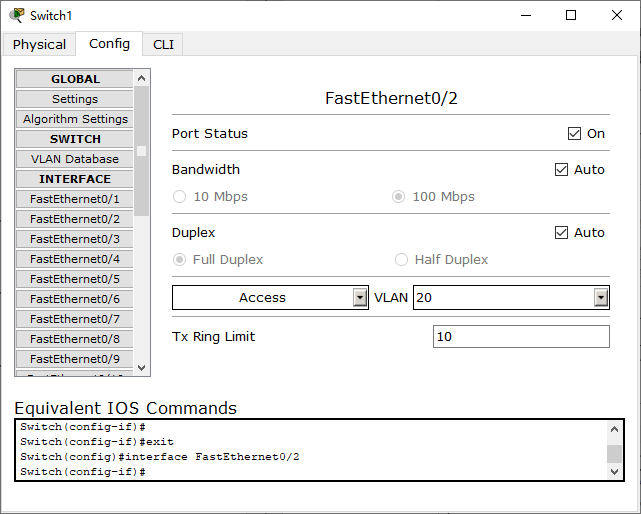
Open the switchboard in the third department and write the following commands:

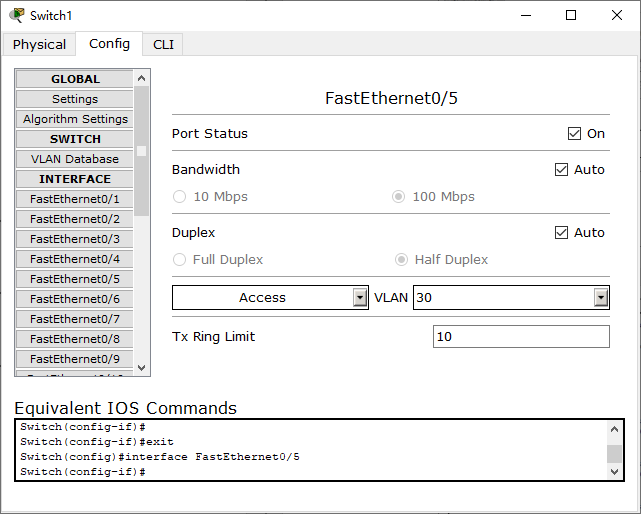
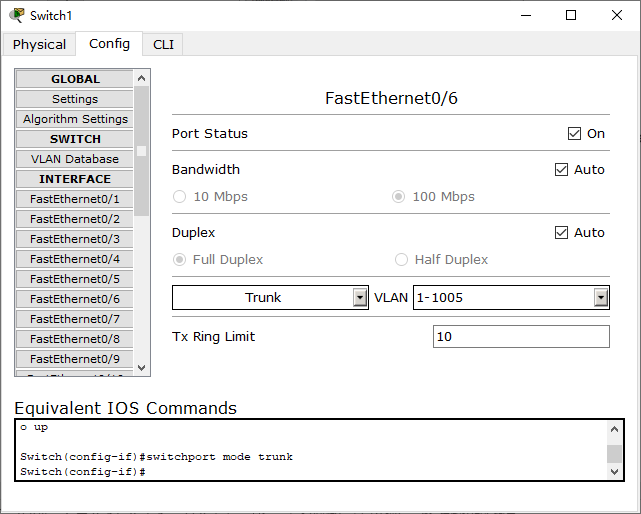


set VLAN 10 on the first switch for all ports to which there is a connection

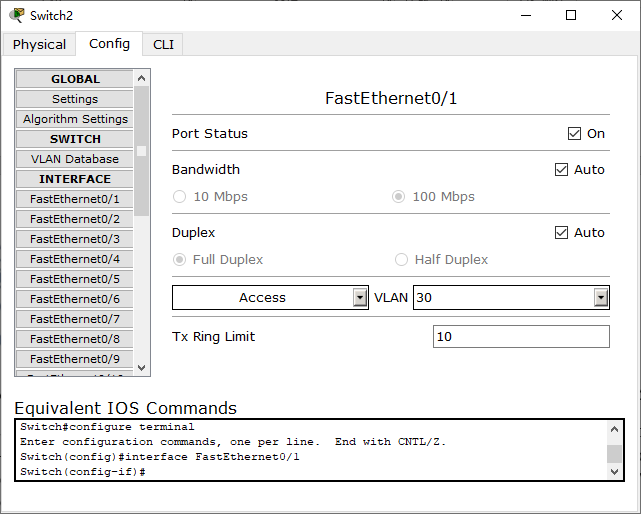
 ...(Fa0/2-Fa0/5 is the same as Fa0/1)

On the second switch, you need to set the port to which the switch from the first department of VLAN – 10 is connected, from the third VLAN – 30, and 2 PCs and the server of the second department of VLAN – 20. That is, Fa0/1 – VLAN 10, Fa0/2- Fa0/4 – VLAN 20, Fa0/5 – VLAN 30. Fa0/6, connecting the switch and the router are set to Trunk mode.

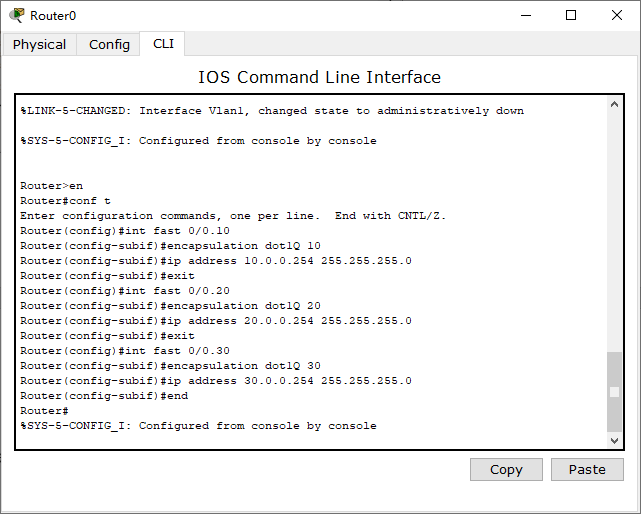
  …(Fa0/3- Fa0/4 are as same as Fa0/2)

On the third switch, set VLAN 30 (Fa0/1-Fa0/8) to all ports.

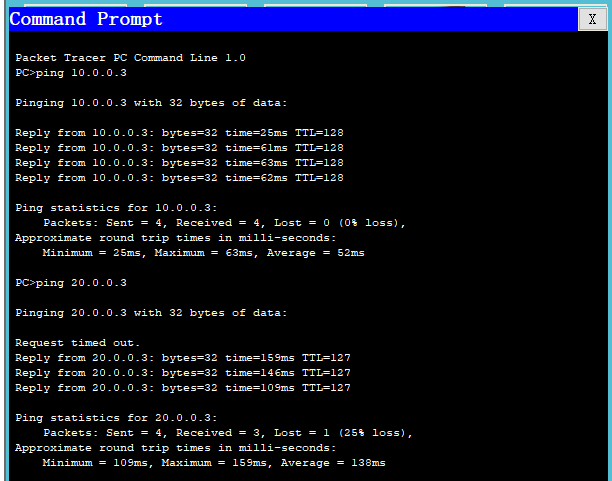
 …(Fa0/2-Fa0/8 are as same as Fa0/1)

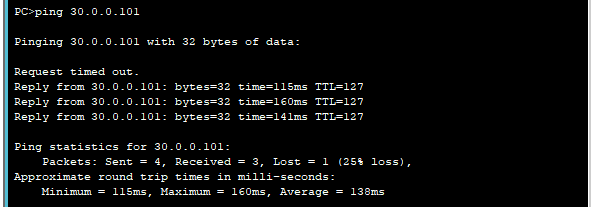
configure the router to work with the VLAN, go to the CLI tab and prescribes commands there:

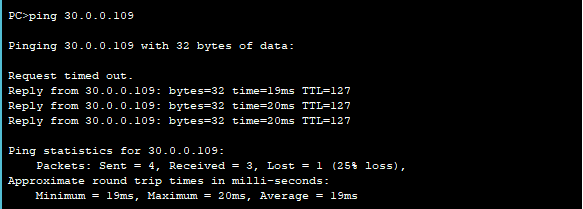


test the network with the ping command.

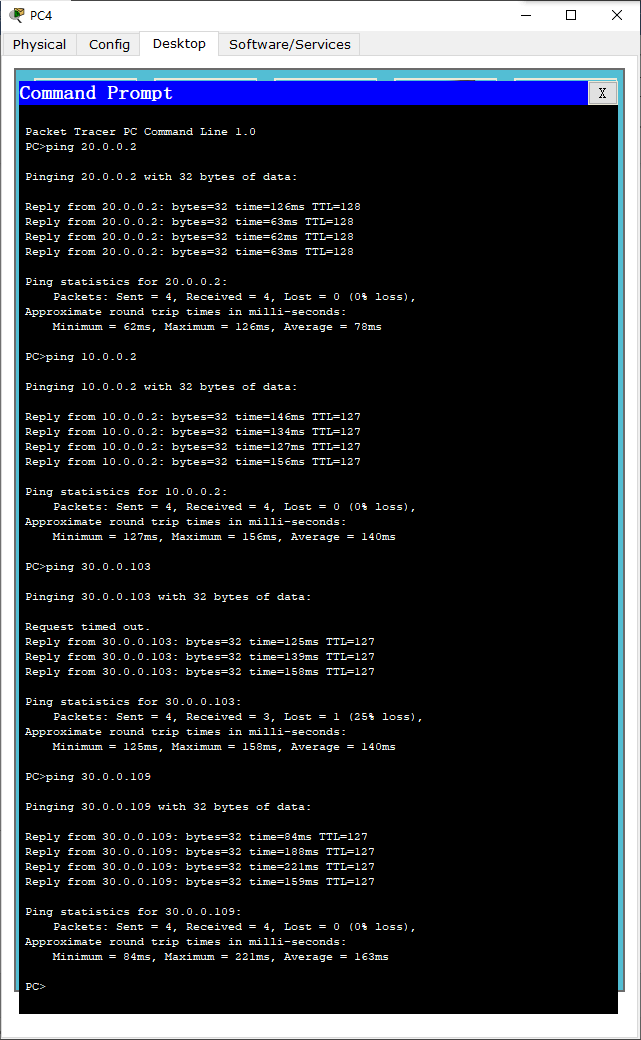
The first department:



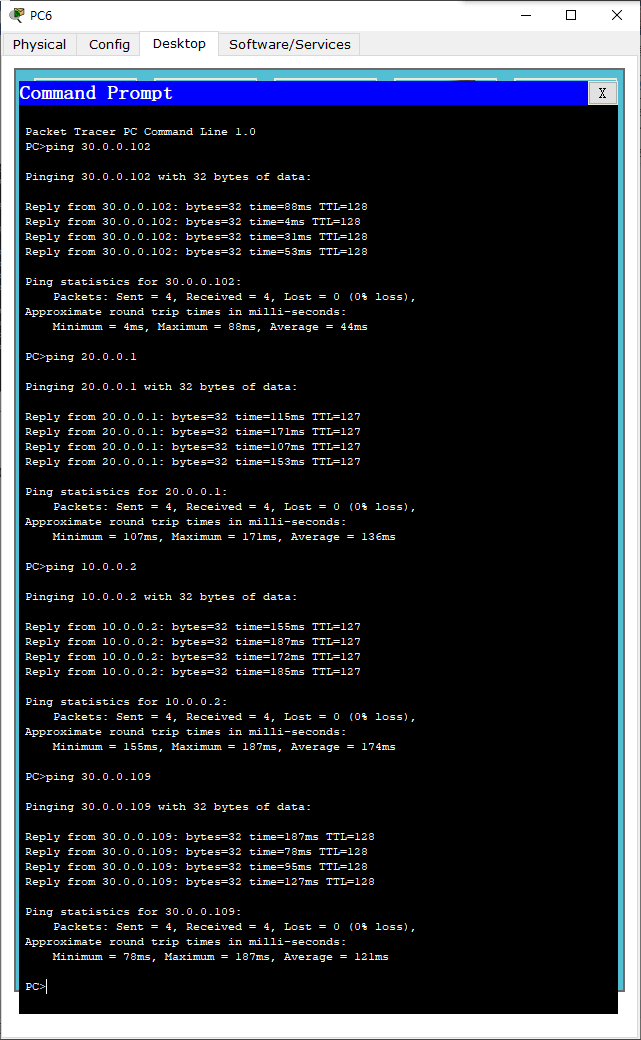




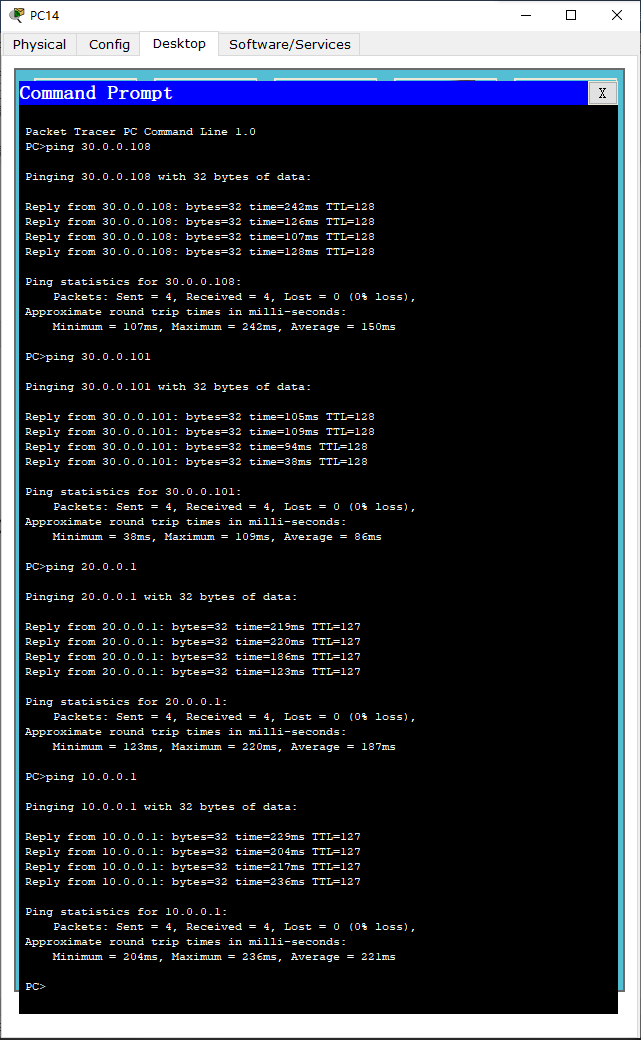
Second department:



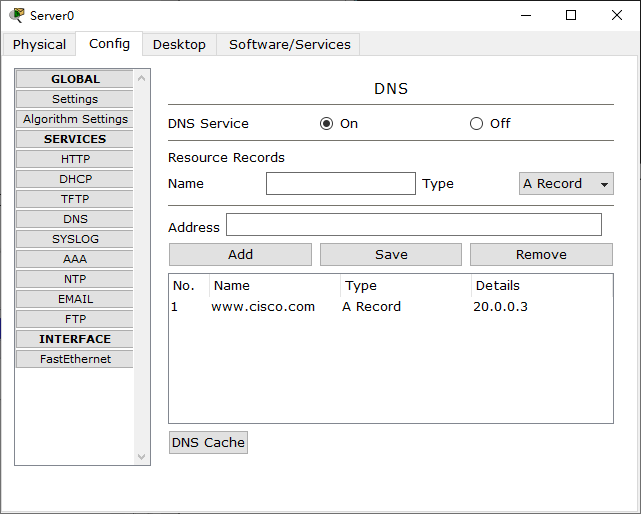
Third department (cable):

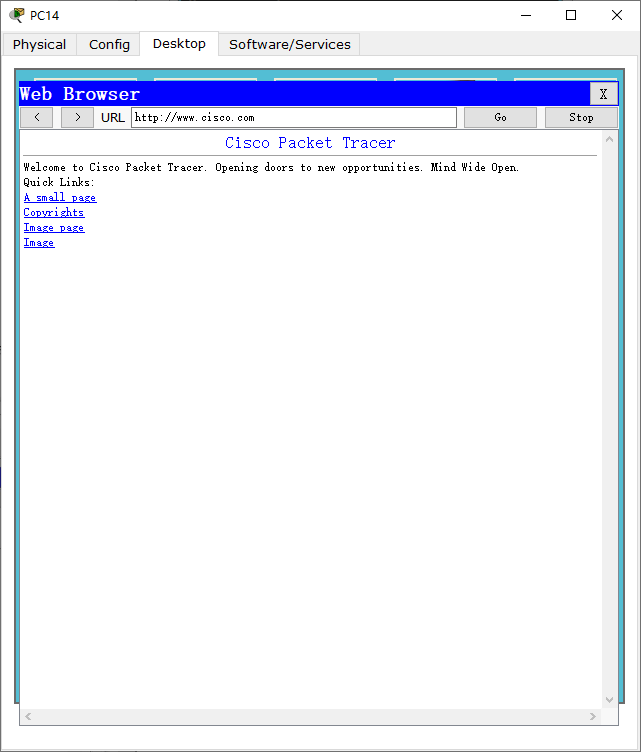


Third Department (Wi-Fi):



7. Server setup.





**8. (Done) Configure SSH.**

go into the router and write commands:

Router>en

Router#clock set 10:10:00 13 Oct 2017

Router#conf t

Router(config)#ip domain name ssh.dom

Router(config)#crypto key generate rsa

Router(config)#service password-encryption

Router(config)#username Valery privilege 15 password 8 junior17

Router(config)#aaa new-model

Router(config)#line vty 0 4

Router(config-line)#transport input ssh

Router(config-line)#logging synchronous

Router(config-line)#exec-timeout 60 0

Router(config-line)#exit

Router(config)#exit

Router#copy running-config startup-config

**9. (Done) Configure the protection against on each switch.**

open the switch and write commands:

Switch>en

Switch#conf t

Switch(config)#interface range fastEthernet 0/X-Y

Switch(config-if-range)#switchport mode access

Switch(config-if-range)#switchport port-security

Switch(config-if-range)#switchport port-security maximum K

Switch(config-if-range)#switchport port-security mac-address sticky

Switch(config-if-range)#switchport port-security violation shutdown

Switch(config-if-range)#end

As a result , the work was done as follows:

