CISCO VOIP

Simple Project

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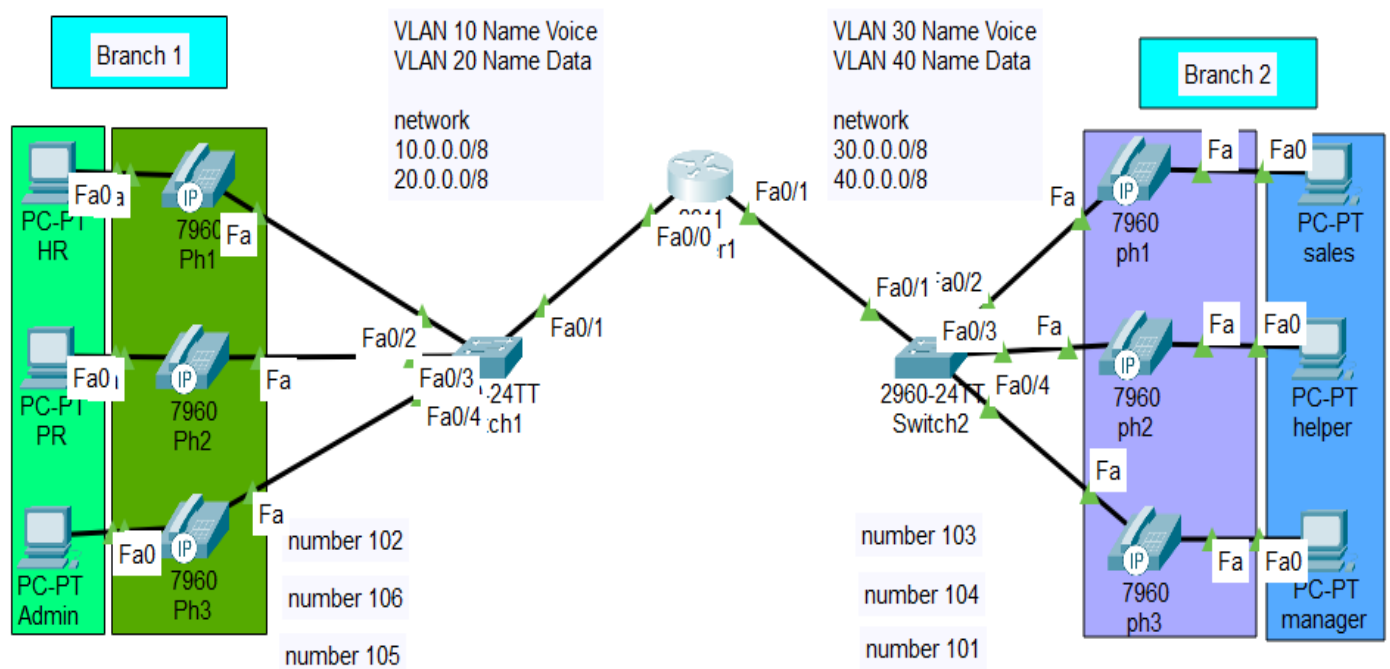
- **Project simple in Voice IP.**
  - A simple project consisting of two branches connected to a router, and each branch contains three telephones. We can say that it is working configurations to router So that we can connect mobile devices to each other.

  ➢ What are configurations?
  - Create four VLANS 10,20,30,40
  - in switch 1 create two vlans 10 name voice, 20 name data.
  - in switch 2 create two vlans 30 name voice, 40 name data.
  - Assign ports in switches in VLANs
  - Active mode trunk in two switches.
  - Configurations inter vlan in router So that we can connect vlans to each other.
  - Configurations DHCP in router to branches
  - Branch1 contain network
    - 10.0.0.0/8 getaway 10.0.0.1   in voice   option 150
    - 20.0.0.0/8 getaway 20.0.0.1   in data
  - Branch2 contain network
    - 30.0.0.0/8 getaway 30.0.0.1   in voice   option 150
    - 40.0.0.0/8 getaway 40.0.0.1   in data
  - Configuration telephone service in router.
  - After configuration telephone service in router choose telephone number and telephone dn.

Topology Project

VLAN 10 Name Voice
VLAN 20 Name Data

network
10.0.0.0/8
20.0.0.0/8

VLAN 30 Name Voice
VLAN 40 Name Data

network
30.0.0.0/8
40.0.0.0/8

Branch 1

Branch 2

number 102
number 106
number 105

number 103
number 104
number 101

- ## Configurations to switches create VLANs 10,20,30,40

Switch 1	Switch 2
SW1(config)#vlan 10	SW2(config)#vlan 30
SW1(config-vlan)#name voice	SW2(config-vlan)#name voice
SW1(config-vlan)#vlan 20	SW2(config-vlan)#vlan 40
SW1(config-vlan)#name data	SW2(config-vlan)#name data

- ## Configurations to switches assign Ports in VLANs 10,20,30,40

Switch 1	Switch 2
SW1(config)#int range fa0/2-4	SW2(config)#int range fa0/2-4
SW1(config-if-range)#switch access vlan 20	SW2(config-if-range)#switch access vlan 40
SW1(config-if-range)#switch voice vlan 10	SW2(config-if-range)#switch voice vlan 30
SW1(config-if-range)#	SW2(config-if-range)#

- ## Configurations to switches active protocol trunking

Switch 1	Switch 2
SW1(config)#int fa0/1	SW2(config)#int fa0/1
SW1(config-if)#switch mode trunk	SW2(config-if)#switch mode trunk

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- **Configurations to Router assign Ips two ports and inter vlan**

Router
R1(config)#int fa0/0
R1(config-if)#no sh
R1(config-if)#int fa0/0.10
R1(config-subif)#encapsulation dot1Q 10
R1(config-subif)#ip address 10.0.0.1 255.0.0.0
R1(config)#int fa0/0
R1(config-if)#no sh
R1(config-if)#int fa0/0.20
R1(config-subif)#encapsulation dot1Q 20
R1(config-subif)#ip address 20.0.0.1 255.0.0.0
R1(config)#int fa0/1
R1(config-if)#no sh
R1(config-if)#int fa0/0.30
R1(config-subif)#encapsulation dot1Q 30
R1(config-subif)#ip address 30.0.0.1 255.0.0.0
R1(config)#int fa0/1
R1(config-if)#no sh
R1(config-if)#int fa0/0.40
R1(config-subif)#encapsulation dot1Q 40
R1(config-subif)#ip address 40.0.0.1 255.0.0.0

- **Configurations dhcp in router**

R1(config)#ip dhcp pool voic1
R1(dhcp-config)#net 10.0.0.0 255.0.0.0
R1(dhcp-config)#default-router 10.0.0.1
R1(dhcp-config)#option 150 ip 10.0.0.1
R1(dhcp-config)#ip dhcp pool voic2
R1(dhcp-config)#net 30.0.0.0 255.0.0.0
R1(dhcp-config)#default-router 30.0.0.1
R1(dhcp-config)#option 150 ip 30.0.0.1
R1(dhcp-config)#ip dhcp pool data1
R1(dhcp-config)#net 20.0.0.0 255.0.0.0
R1(dhcp-config)#default-router 20.0.0.1
R1(dhcp-config)#ip dhcp pool data2
R1(dhcp-config)#net 40.0.0.0 255.0.0.0
R1(dhcp-config)#default-router 40.0.0.1

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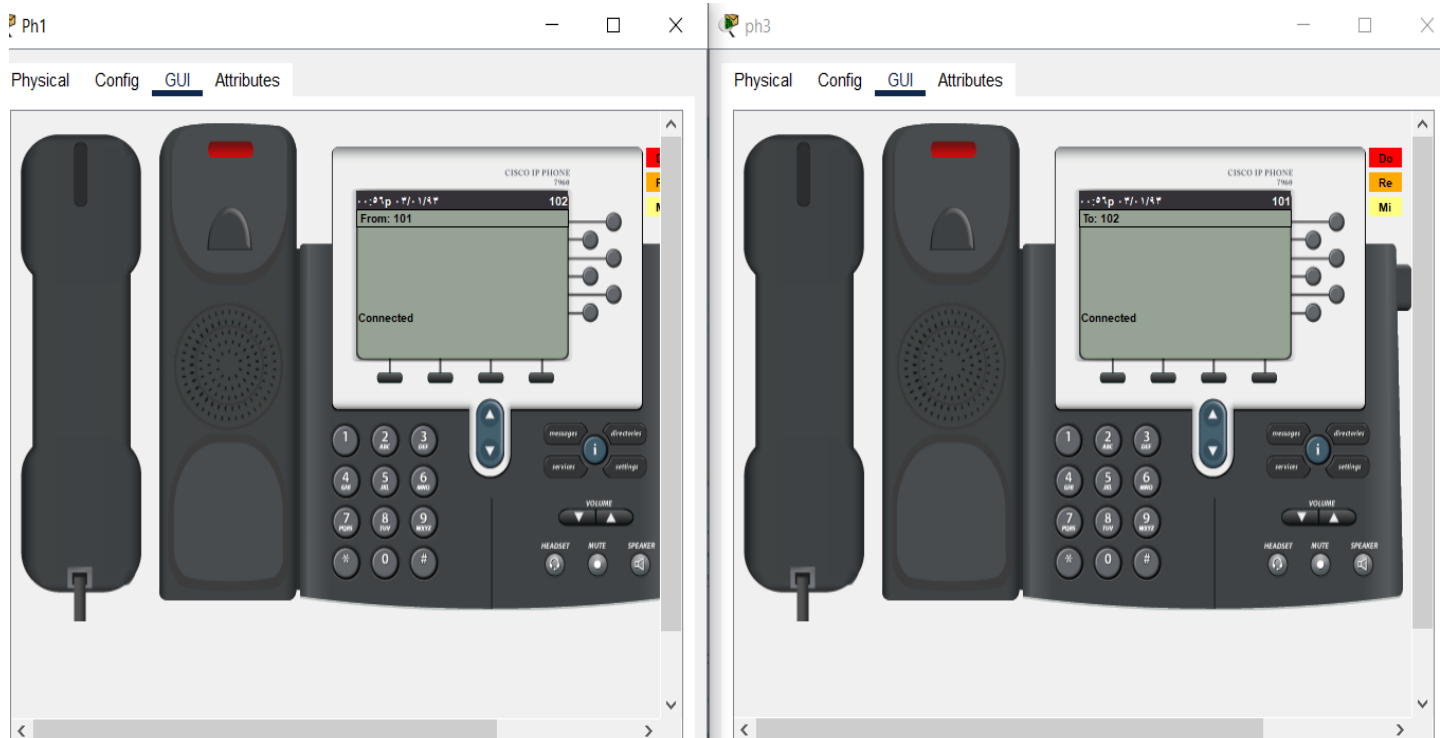- **Configurations Call manager and active telephone service in router**

```
R1(config)#telephony-service
R1(config-telephony)#max-ephones 10
R1(config-telephony)#max-dn 10
R1(config-telephony)#ip source-address 30.0.0.1 port 2000
R1(config-telephony)#ip source-address 10.0.0.1 port 1000
R1(config)#ephone-dn 1
R1(config-ephone-dn)#number 101
R1(config-ephone-dn)#ephone-dn 2
R1(config-ephone-dn)#number 102
R1(config-ephone-dn)#ephone-dn 3
R1(config-ephone-dn)#number 103
R1(config-ephone-dn)#ephone-dn 4
R1(config-ephone-dn)#number 104
R1(config-ephone-dn)#ephone-dn 5
R1(config-ephone-dn)#number 105
R1(config-ephone-dn)#ephone-dn 6
R1(config-ephone-dn)#number 106
R1(config-ephone-dn)#exit
R1(config)#
R1(config)#ephone 1
R1(config-ephone)#type 7960
R1(config-ephone)#button 1:1
R1(config-ephone)#ephone 2
R1(config-ephone)#type 7960
R1(config-ephone)#button 1:2
R1(config-ephone)#ephone 3
R1(config-ephone)#type 7960
R1(config-ephone)#button 1:3
R1(config-ephone)#ephone 4
R1(config-ephone)#type 7960
R1(config-ephone)#button 1:4
R1(config-ephone)#ephone 5
R1(config-ephone)#type 7960
R1(config-ephone)#button 1:5
R1(config-ephone)#ephone 6
R1(config-ephone)#type 7960
R1(config-ephone)#button 1:6
R1(config-ephone)#exit
R1(config)#
R1(config)#do wr
Building configuration...
[OK]
R1(config)#
```
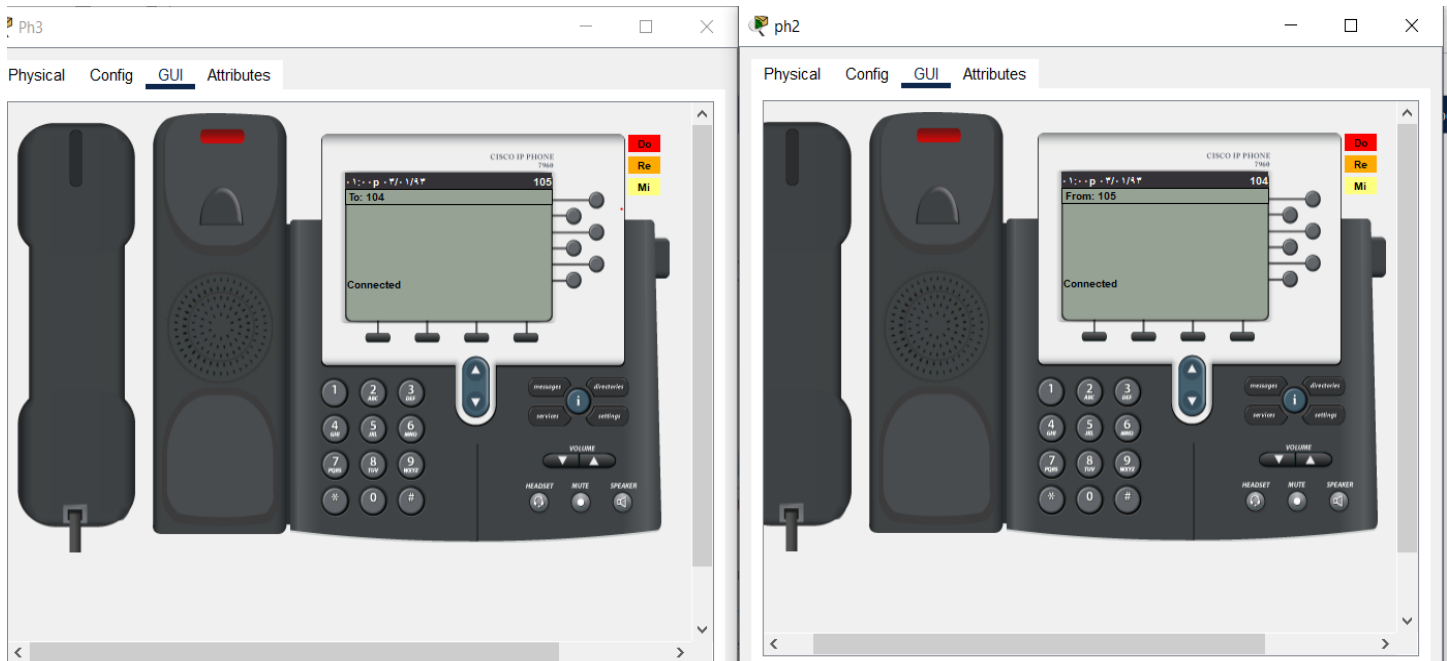
- **Phone numbers two branches**

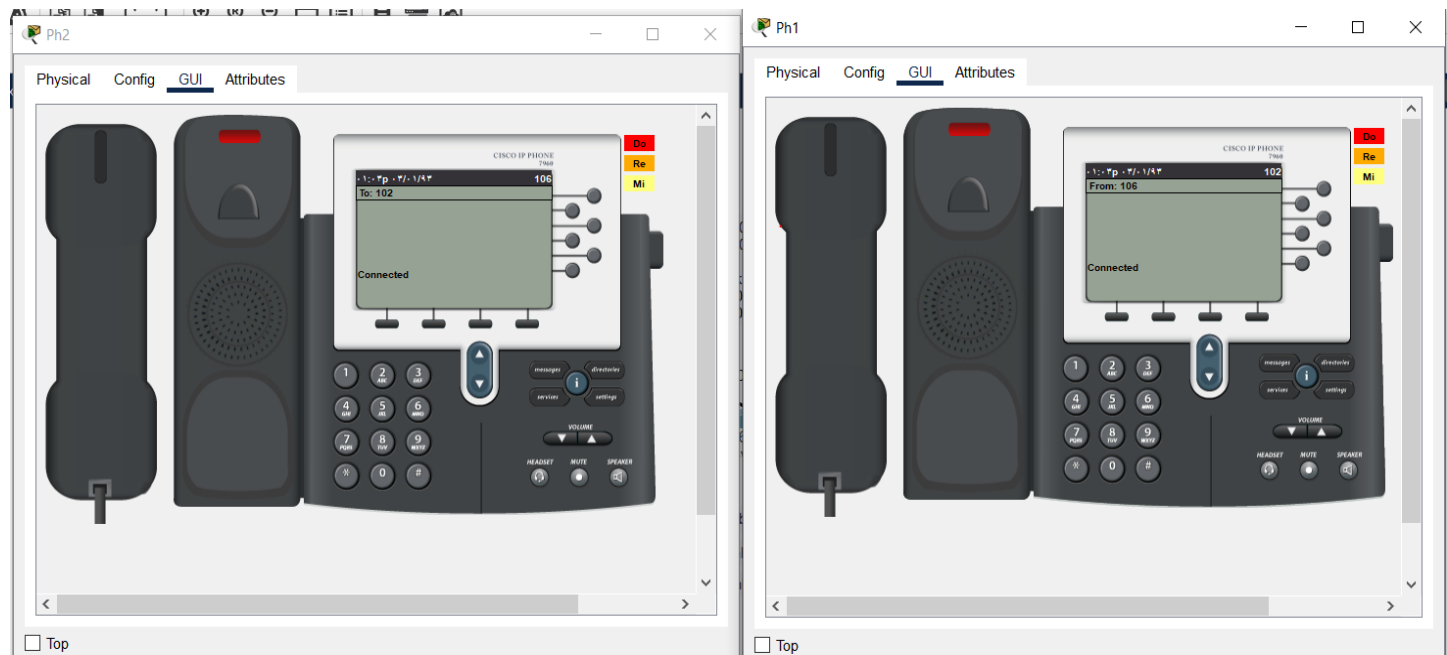| Phone service	Phone Number
HR	102
PR	106
Admin	105
Sales	103
Helper	104
Manager	101

Testing and call phone

- **The device HR (number 102) in branch 1 call device Manager (number 101) in branch 2**

- **The device Helper (number 104) in branch 2 call device Admin (number 105) in branch 1**

- **The device HR (number 102) call device PR (number 106) in the same branch 1.**

Thank You

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