# **CN INNOVATIVE**

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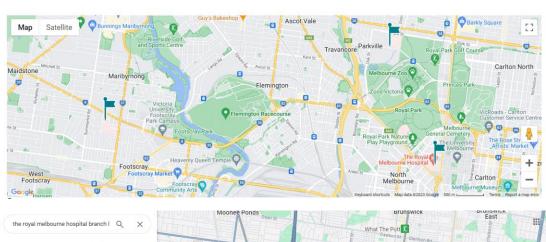
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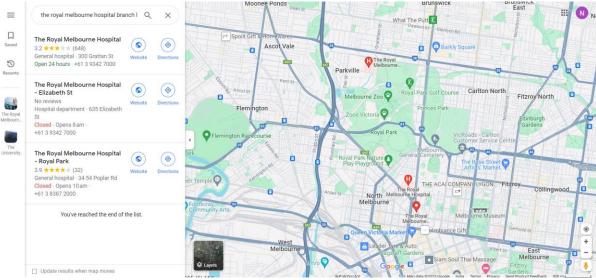
**Topic:** Melbourne Service Station

(<a href="https://www.thermh.org.au/">https://www.thermh.org.au/</a>)

# **Company map:**

## Melbourne Health hospitals





# **Company Overview:**

**Head Quarter:** Melbourne Health is a Victorian Government body that provides health care services in the Melbourne metropolitan area. The headquarters of Melbourne Health is located in the Royal Melbourne Hospital in Parkville, Victoria.

→ At the Royal Melbourne Hospital, we provide more than 120 services and 350 specialist clinics across our two hospital sites, 50+ community locations and in people's homes .

As a large public hospital and healthcare provider, we work with health professionals statewide to help deliver patient care. Our career and training opportunities for healthcare workers promote professional development and improve patient outcomes.

Melbourne Health Services is a prominent health provider in Australia, renowned for delivering comprehensive health solutions and services to its clientele. The institution has solidified its position in the healthcare sector and operates efficiently across two distinct locations within the same city. The primary hub of the organization, its hospital headquarters, is situated 20 kilometers away from the branch hospital.

The hospital headquarters serves as the central administrative and operational core of Melbourne Health Services. It is likely to house key administrative offices, management facilities, and strategic decision-making units. This central hub plays a crucial role in coordinating and overseeing the overall functioning of the health services provided by the institution.

The branch hospital, located 20 kilometers away from the hospital headquarters, serves as an extension of Melbourne Health Services. It is a satellite facility designed to cater to the healthcare needs of a specific region or community within the city. This distributed model allows the organization to reach a broader population while maintaining a centralized structure for administrative efficiency.

The geographical separation of 20 kilometers between the hospital headquarters and the branch hospital suggests a deliberate strategic positioning. This distance may be influenced by factors such as population density, accessibility, and the need to provide specialized services to distinct communities within the city.

Additionally, it could contribute to the institution's ability to handle different healthcare demands and emergencies effectively. By operating in two locations, Melbourne Health Services aims to enhance its capacity to deliver high-quality healthcare services, improve accessibility for patients, and optimize its overall operational efficiency. This dual-location strategy reflects a commitment to addressing the diverse healthcare needs of the community it serves while maintaining a cohesive and well-organized institutional structure.

The main Head quarter has the following department:

- 1) Medical Lead Operation & Consultancy Services
- 2) Medical Emergency and Reporting
- 3) Medical Records Management
- 4) Information Technology

- 5) Customer Service
- 6) Guest/Waiting area

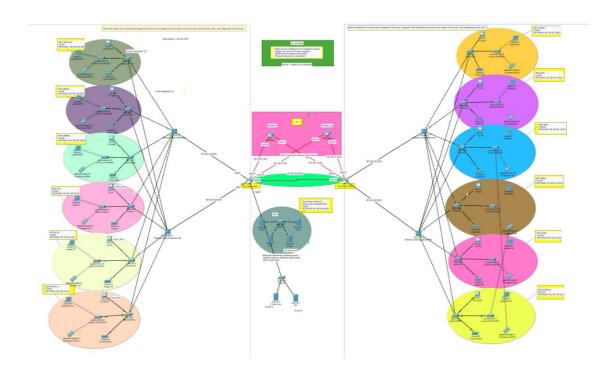
The Branch hospital has the following department:

- 1) Nurses & Surgery Operations
- 2) Hospital Labs
- 3) Human resource
- 4) Marketing
- 5) Finance
- 6) Guest/Waiting area

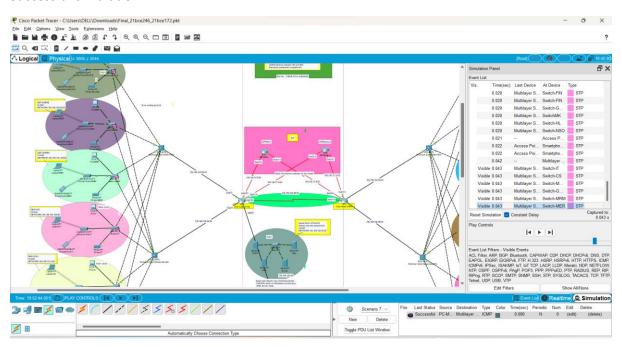
# **Used Concepts:**

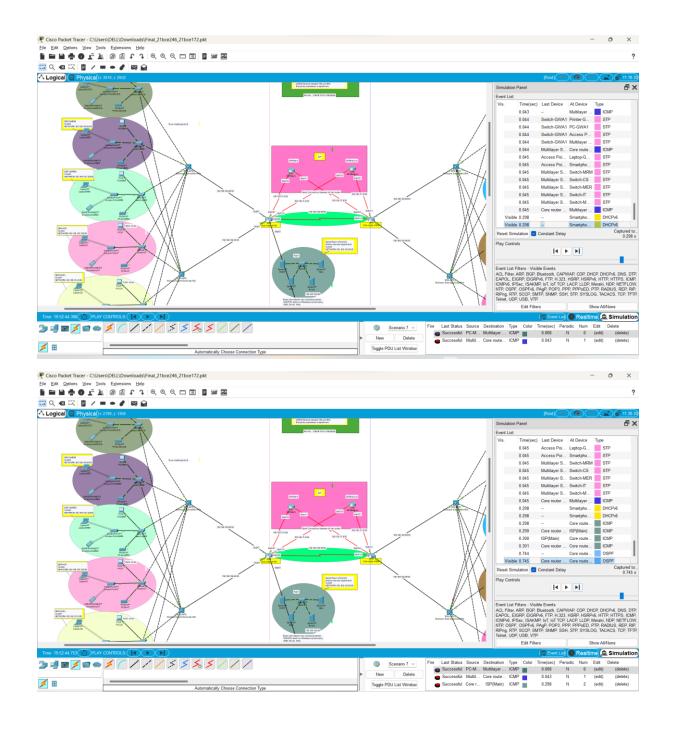
- Hierarchical model For redundancy.
- Access switches, Multilayer switches For Cost effectiveness.
- VLAN
- Subnetting
- Intervlan
- Wireless Vlan
- OSPF
- SSH
- Default static routing
- Next-hop Ip (When traffic is more)
- Email-server, FTP(File Transfer Protocol)-server.

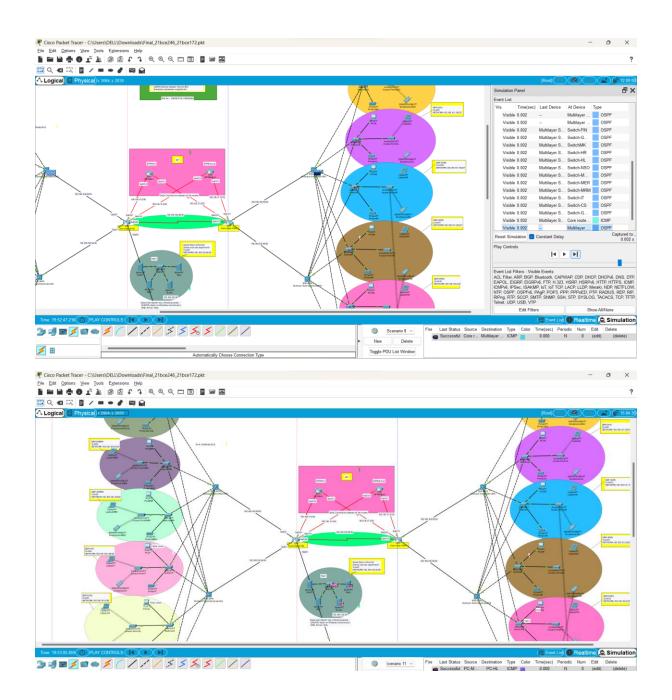
**Final Network:** 

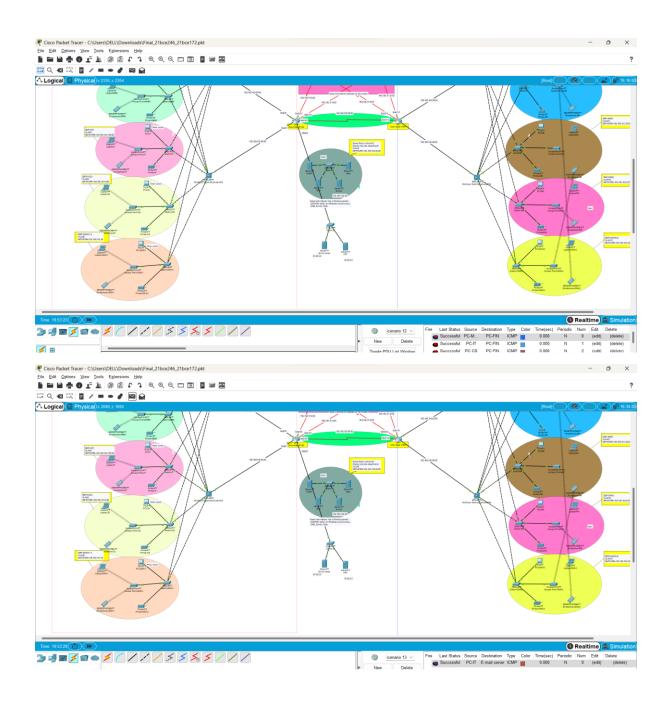


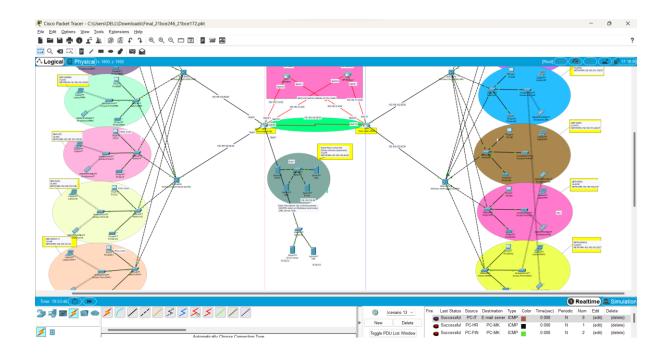
## Successful simulation:











## 1) VLANs & switch confi.

**VLAN** 

vlan 13

name GWA2

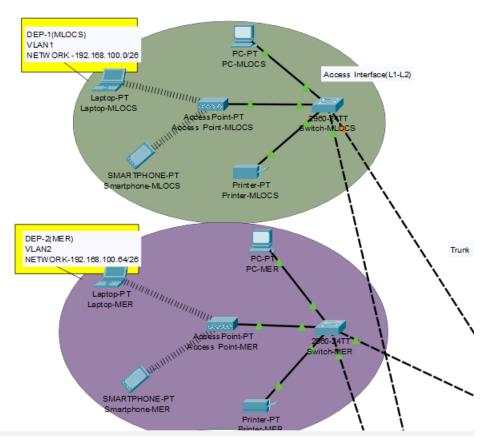
exit

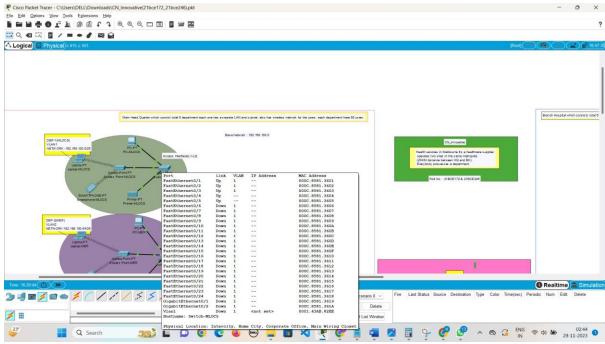
interface range fa0/4-5 switchport mode trunk exit

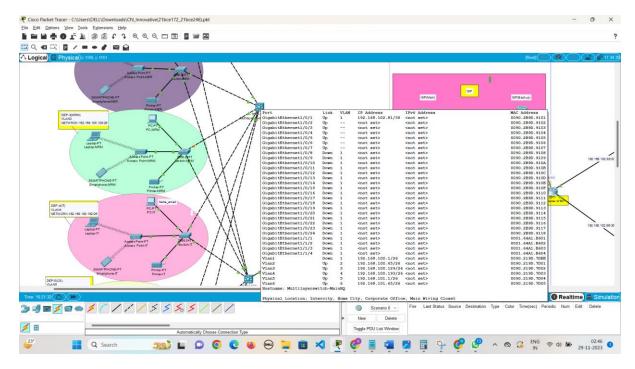
interface range fa0/1-3
switchport mode access
switchport access vlan 13
exit

interface range fa0/6-24 switchport mode access

switchport access vlan 13 exit
6(vlans)multilayer switches
interface range gig1/0/1 exit
vlan 8 vlan 9 vlan 10 vlan 11 vlan 12 vlan 13 exit
interface range Gig1/0/2-7 switchport trunk encapsulation dot1q switchport mode trunk exit
Created Vlans :







## 2) SSH

Switch>

Switch>enable

Switch#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#hostname SWITCH-IT

SWITCH-IT(config)#enable password cisco

SWITCH-IT(config)#no ip domain lookup

SWITCH-IT(config)#banner motd #No Unauthorised Access!!!#

SWITCH-IT(config)#line console 0

SWITCH-IT(config-line)#password cisco

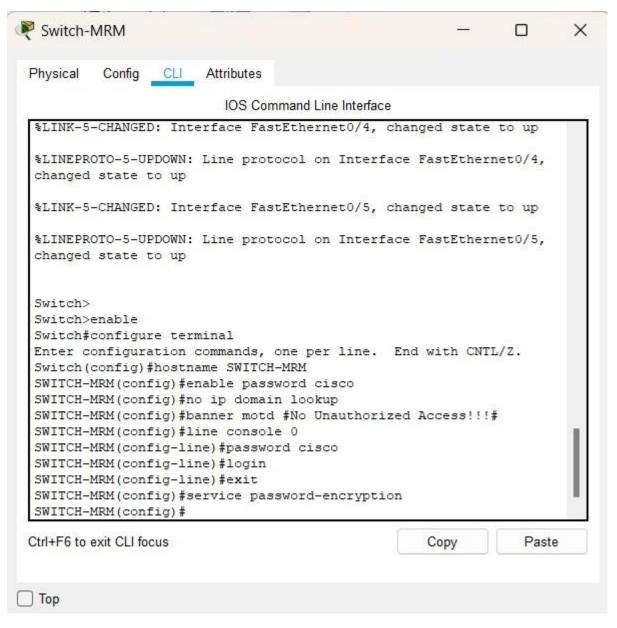
SWITCH-IT(config-line)#login

SWITCH-IT(config-line)#exit

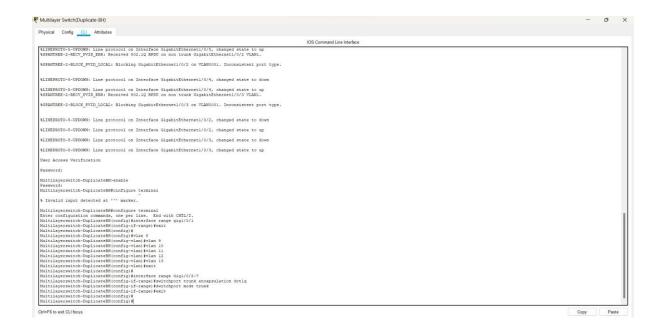
SWITCH-IT(config)#service password-encryption

SWITCH-IT(config)#

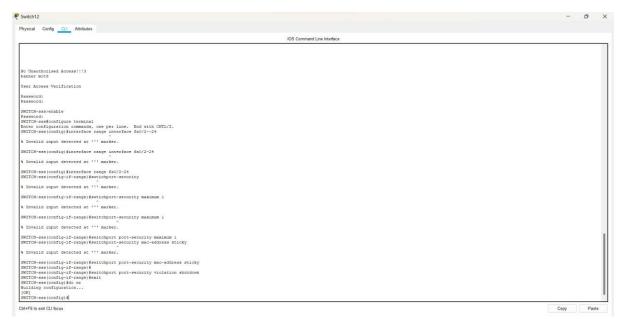
# Physical Config C1 Attributes IOS Command Line Interface \*\*ALINET-G-CRANGED: Interface GigabitTherent1/O/6, changed state to up \*\*ALINET-G-CRANGED: Interface GigabitTherent1/O/7, changed state to up \*\*ALINET-G-CRANGED: Line prococol on Interface GigabitTherent1/O/7, changed state to up \*\*ALINET-G-CRANGED: Interf



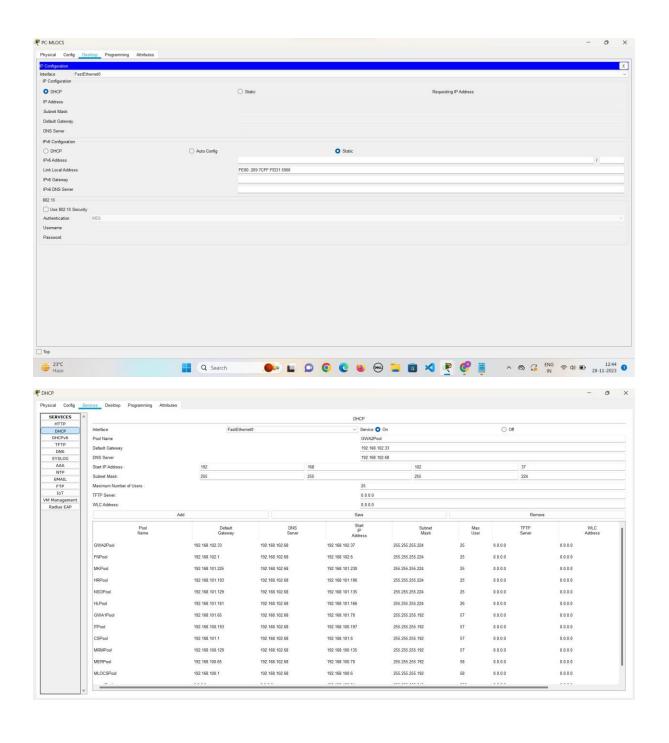
3) Assigning Vlans to all Multilayer switches



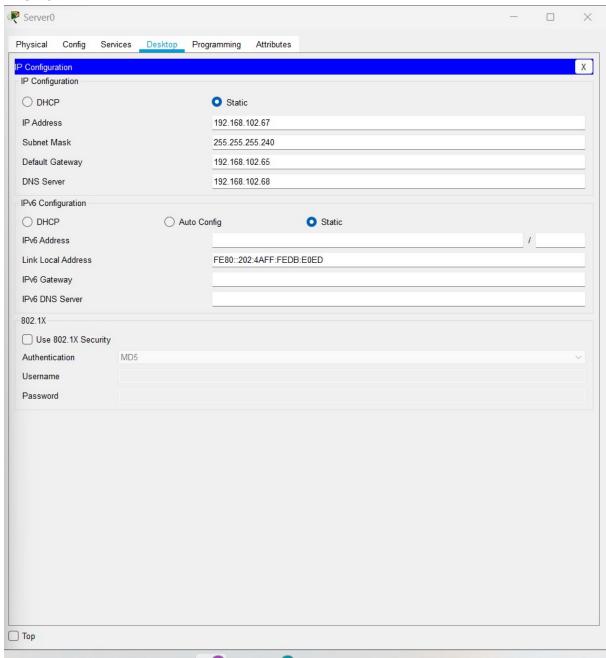
## 4) Switch port security:



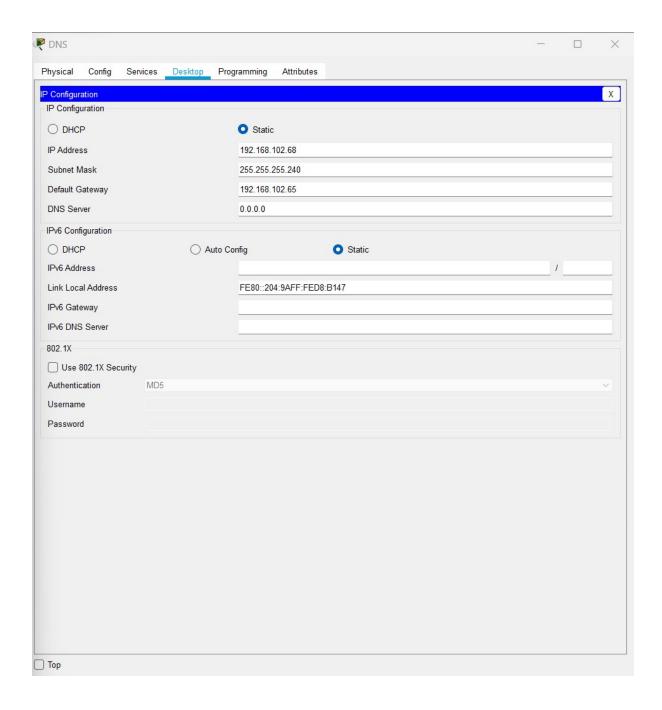
## 5)DHCP



## **DHCP -SERVER**

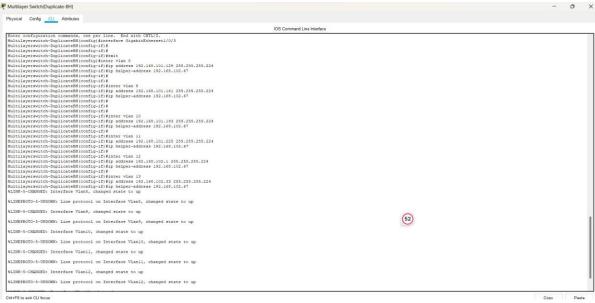


**DNS-SERVER** 



# 5) Intervlan of multilayer switch

```
inter vlan 1
ip address 192.168.100.1 255.255.255.192
ip helper-address 192.168.102.67
exit
inter vlan 2
ip address 192.168.100.65 255.255.255.192
ip helper-address 192.168.102.67
exit
inter vlan 3
ip address 192.168.100.129 255.255.255.192
ip helper-address 192.168.102.67
exit
inter vlan 4
ip address 192.168.100.193 255.255.255.192
ip helper-address 192.168.102.67
exit
inter vlan 5
ip address 192.168.101.1 255.255.255.192
ip helper-address 192.168.102.67
exit
inter vlan 6
ip address 192.168.101.65 255.255.255.192
ip helper-address 192.168.102.67
exit
Ln 176, Col 1
                                                100% Windows (CRLF) UTF-8
```



# 6) OSPF

ip routing

router ospf 10

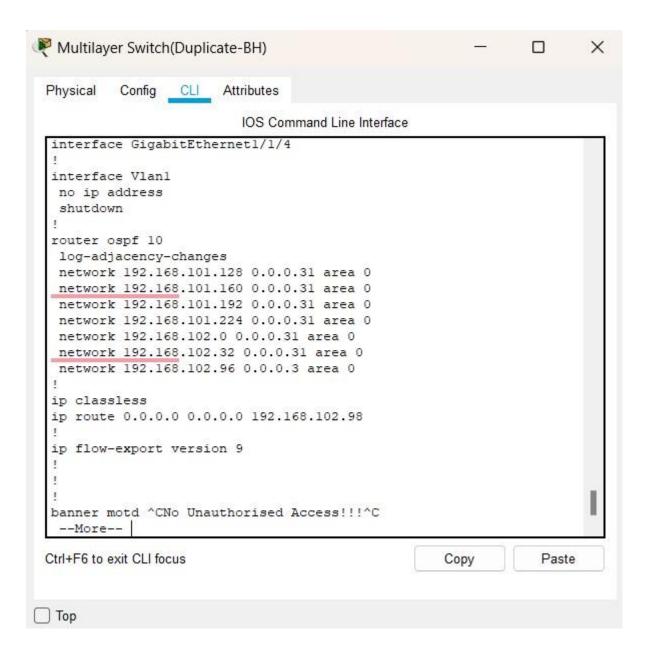
network 192.168.101.128 0.0.0.31 area 0

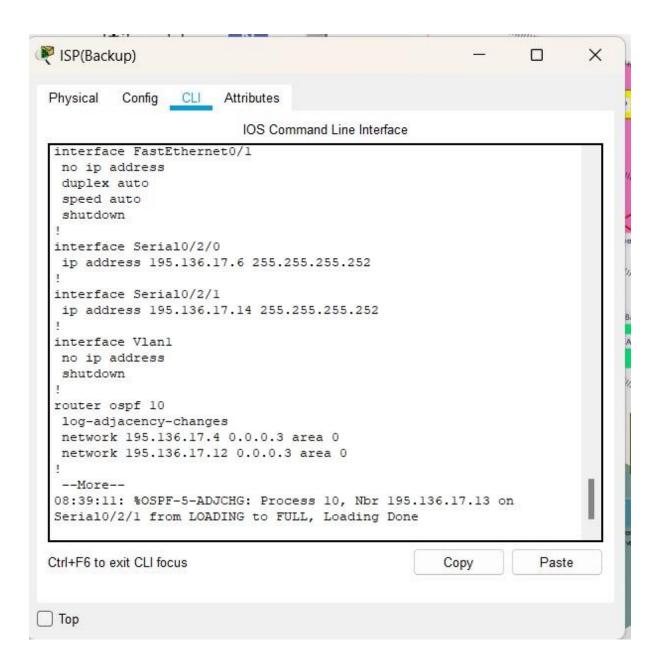
network 192.168.101.160 0.0.0.31 area 0

network 192.168.101.192 0.0.0.31 area 0 network 192.168.101.224 0.0.0.31 area 0 network 192.168.102.0 0.0.0.31 area 0 network 192.168.102.32 0.0.0.31 area 0 network 192.168.102.96 0.0.0.3 area 0 exit ip route 0.0.0.0 0.0.0.0 192.168.102.98 (255-240) routers router ospf 10 network 195.136.17.4 0.0.0.3 area 0 network 195.136.17.12 0.0.0.3 area 0

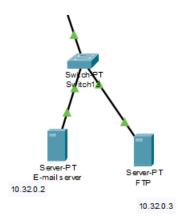
exit

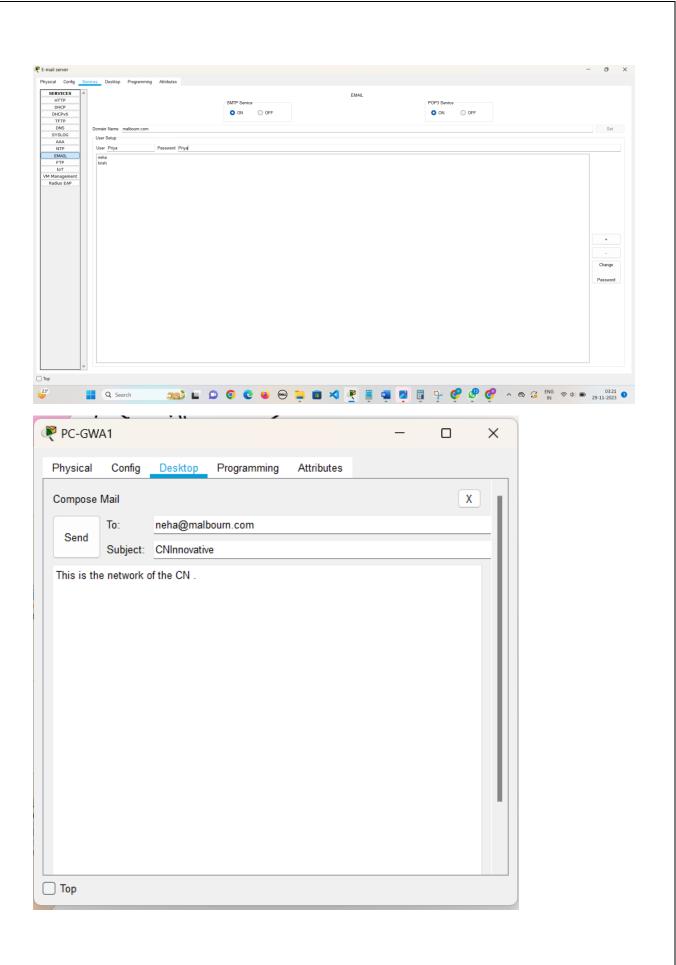
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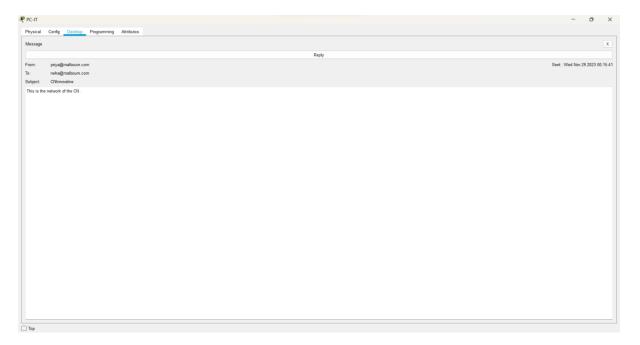




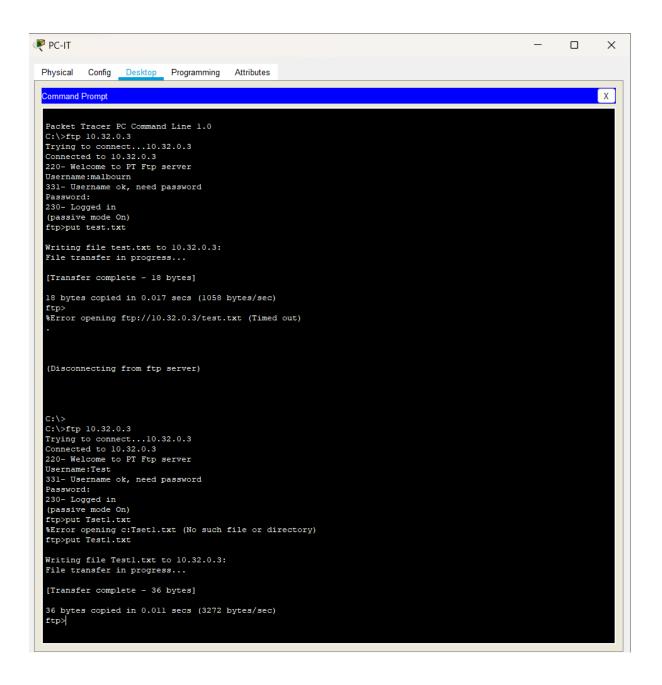
## 7) Email & FTP server:

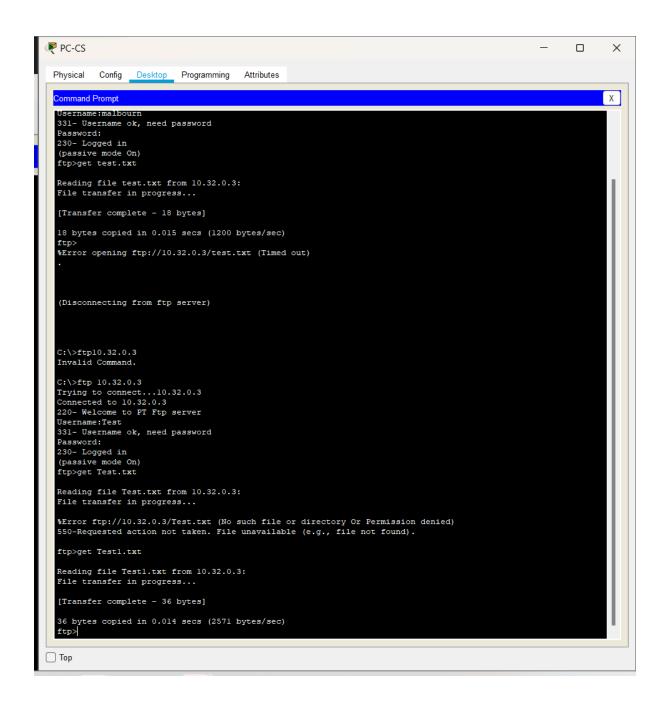


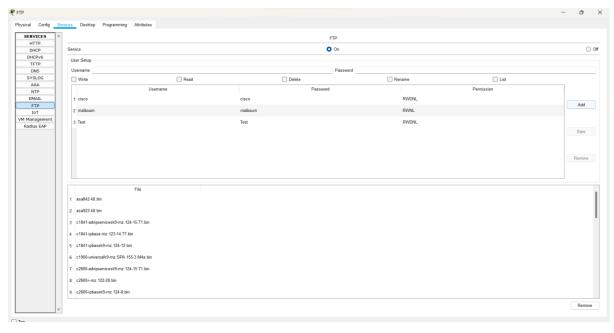


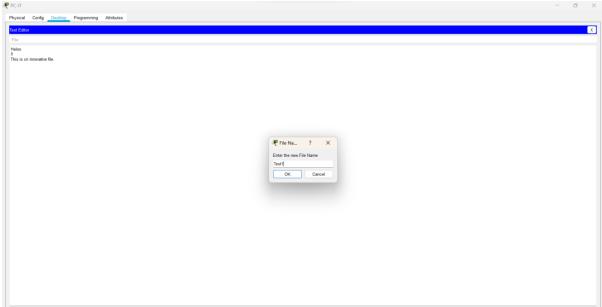


FTP









# 8) Wireless:

