A Synopsis Submitted

Cisco packet tracer project "MODERN HOSPITAL NETWORK DESIGN" , By : JAY JETWANI

Designed A Network Of hospital Which Connects different floors Department To Each Other Through Various Points Undertaken Like No.Of PCs , Static IP Address ,VLANs ,Subnet Masks And Gateways

This hospital will have 3 floors. There will be three departments on the first floor, which will be reception, medical store and inquiry center.

1. There will also be three departments on the second floor, Billing center, Document deposit and feedback center.
2. The Head administration and head, Admin department will be on the third floor.
3. There will be three Other departments on the Third floor, which will be Branch , Branch 1 and Branch 2.
4. There will be three Other departments on the Second floor, which will be SubBranch ,SubBranch 1 and SubBranch 2.
5. There will be three Other departments on the First floor, which will be Head Office, Head Office 1 and Head Office 2.
6. Printer ,PC, Mobile and laptop should be connected to Wireless on every floor. Each department should have different VLANs.
7. There will be a Research lab on the third floor, a Medicial lab on the second floor, medical lab and research lab will be interconnected .
8. There will be a reception center on the first floor, all floors will be connected to it, medical lab and research lab will also be connected.
9. There will be an Inquiry office on the first floor in which IP phones will be connected.

   There will also be an inquiry office in other departments in which IP phones will be connected. Research lab and medical lab will also be connected.
10. There will be a main counter in which token center, registration center, inquiry center, data center, deposit center, receipt center will be interconnected.

I have been using the following topic:-

1.Inter-Vlan Routing

2.Vlan Trunking Protocol

3.Wireless Local Area Network

4.Enhanced Interior Gateway Routing Protocol

5.Standard Access-List

6.Configuring Port Security

7.VOIP Configuration

Server

1.HTTP Server

2.DNS Server

3.WEB Server

4.FTP Server

Main Router f0/0 192.168.50.3/24 f0/1 192.168.22.150/24		
f0/0.10 192.168.10.1/24	f0/0.40 192.168.11.1/24	f0/0.10 192.168.41.1/24
f0/0.20 192.168.20.1/24	f0/0.50 192.168.23.1/24	f0/0.20 192.168.51.1/24
f0/0.30 192.168.30.1/24	f0/0.60 192.168.31.1/24	f0/0.30 192.168.61.1/24

Floor 3 Switch	IP Address	Floor 2 Switch	IP Address	Floor 1	IP Address
Cabin 1 :- Vlan 80 :- Head administration Vlan 70:- Admin Vlan 60:-Sub Admin	Cabin 1:- pc1 192.168.10.50/24 pc2 192.168.20.100/24 pc3 192.168.30.100/24	Cabin 1:- Vlan 80 :- Billing Center Vlan 70:- Document deposit Vlan 60:- Feedback Center	pc1 192.168.11.52/24 pc2 192.168.23.52/24 pc3 192.168.31.52/24	Vlan 80:- Reception Vlan 70:- Medical Store Vlan 60:- Inquiry Center	pc1 192.168.41.81/24 pc2 192.168.51.81/24 pc3 192.168.61.81/24
Cabin 2 :- Vlan 80 :- Head administration Vlan 70:- Admin Vlan 60:-Sub Admin	IP Address pc1 192.168.10.51/24 pc2 192.168.20.101/24 pc3 192.168.30.151/24	Cabin 2:- Vlan 80 :- Billing Center Vlan 70:- Document deposit Vlan 60:- Feedback Center	IP Address pc1 192.168.11.53/24 pc2 192.168.23.53/24 pc3 192.168.31.53/24	Cabin 2:- Vlan 80:- Reception Vlan 70:- Medicial Store Vlan 60:- Inquiry Center	pc1 192.168.41.82/24 pc2 192.168.51.82/24 pc3 192.168.61.82/24
		Cabin 3:- Vlan 80 :- Billing Center Vlan 70:- Document deposit Vlan 60:- Feedback Center	IP Address Cabin 1:- pc1 192.168.11.63/24 pc2 192.168.23.63/24 pc3 192.168.31.63/24	Cabin 3:- Vlan 80:- Reception Vlan 70:- Medical Store Vlan 60:- Inquiry Center	pc1 192.168.41.83/24 pc2 192.168.51.83/24 pc3 192.168.61.83/24

MAIN ROUTER DHCP POOL	IP ADDRESS
192.168.22.150	192.168.22.1-192.168.22.254

RESEARCH LAB ROUTER DHCP POOL	IP ADDRESS
192.168.50.102	192.168.50.1-192.168.50.254

MEDICAL LAB ROUTER DHCP POOL	IP ADDRESS
172.168.10.22	172.168.10.1-172.168.10.254

INQUIRY OFFICE	IP Address
int f0/0.10	Data 192.168.45.2
int f0/0.20	Voice 192.168.46.10
EPHONE 1 101030	IP DHCP Pool 192.168.46.1-192.168.46.254 IP VOICE Pool 192.168.45.1-192.168.45.254
EPHONE 2 101020	
EPHONE 3 101010	
EPHONE 4 101040	
EPHONE 5 101050	

INQUIRY OFFICE 2	IP Address
int f0/0.10	Data 192.168.48.2
int f0/0.20	Voice 192.168.47.2
EPHONE 1 202070	IP Dhcp pool Data 192.168.45.1-192.168.45.254 IP Dhcp pool Voice 192.168.46.1-192.168.46.254
EPHONE 2 202060	
EPHONE 3 202050	
EPHONE 4 202030	
EPHONE 5 202040	
EPHONE 6 202020	
EPHONE 7 202080	

MAIN CENTER Router	
Router 0	
f0/0	2.2.2.10/24
f0/1	192.168.5.18/24
f1/0	24.24.24.20/24
f1/1	192.168.4.18/24
Router 1	
f0/0	12.12.12.10/24
f0/1	192.168.2.18/24
f1/0	24.24.24.10/24
f1/1	192.168.1.18/24
Router 2	
f0/0	12.12.12.20/24
f0/1	2.2.2.2/24
f1/0	192.168.6.18/24
f1/1	192.168.3.18/24

		Main Counter Switch		Default Gateway
Router 1	Switch 1	Token Center	192.168.2.1-192.168.2.254	192.168.2.18
	switch 2	Token center	192.168.1.1-192.168.1.254	192.168.1.18
Router 2	Switch 1	Data Center	192.168.6.1-192.168.6.254	192.168.6.18
	Switch 2	Inquiry Center	192.168.3.1-192.168.3.254	192.168.3.18
Router 0	Switch 1	Deposit Center	192.168.5.1-192.168.5.254	192.168.5.18
	Switch 2	Receipt Center	192.168.4.1-192.168.4.254	192.168.4.18

Floor 3 Switch	IP Address	Floor 2 Switch	IP Address	Floor 1	IP Address
Cabin 1 :- Branch Vlan 80 :- branch Vlan 70:- branch1 Vlan 60:- branch2	Cabin 1:- pc 192.168.10.11/24 -192.168.10.13 pc 192.168.20.11/24 -192.168.20.13 pc 192.168.30.11/24 -192.168.30.13	Cabin 1:-SubBranch Vlan 80 :- Subbranch Vlan 70:- Subbranch1 Vlan 60:- Subbranch2	pc 192.168.11.21/24 -192.168.11.23 pc 192.168.23.21/24 -192.168.23.23 pc 192.168.31.21/24 -192.168.31.23	Cabin :- HeadOffice Vlan 80:- HeadOffice Vlan 70:- HeadOffice1 Vlan 60:- HeadOffice2	pc1 192.168.41.31/24-192.168.41.33 pc2 192.168.51.31/24-192.168.53.33 pc3 192.168.61.31/24-192.168.61.33

Main Element:-

Access Point-PT / Access Point-PT-A / Access Point -PT-N:- These are generic wireless access points with minimal configuration options.

IP Phone 7960 with Cisco VoIP Adapter :- Use for display caller information and call managment.

TabletPC-PT And SmartPhone-PT :- Wireless and mobility solutions provide highly secure access to network resources.

Cisco Catalyst 3560-24PS:- Cisco Catalyst 3560 series can be considered a layer 3 switch. provides high-speed scalability with low latency.

Cisco ASA 5506-X series is a powerful desktop firewall,provides advanced security features.This use for Vlan Database ,User Manager,Bookmark Manager,Traffic Controller.

Important Points:-

This project is made in this version Cisco packet tracer 7.2 Window 7 32 bit.

When you click on any PC it shows "DHCP failed. APIPA is being used" or if any other IP shows then go to its IP field and put it in static once then put it back in Dhcp.