Vic Modern Hotel Network Configuration

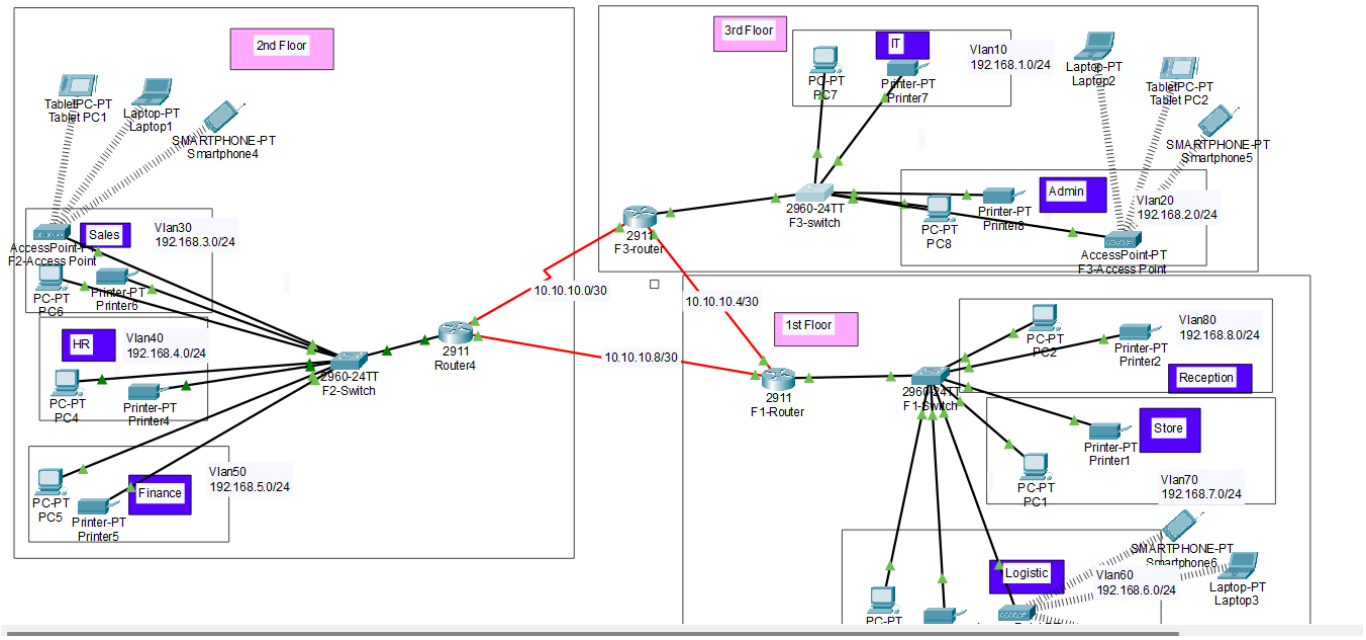
Step-by-Step Procedure for Configuring the Vic Modern Hotel Network in Cisco Packet Tracer

Step 1: Set Up the Network Topology

1. Create the Network Layout:

- Place three 2911 routers (Router1, Router2, Router3) in the IT department (3rd floor).
- Place three 2960 switches (Switch1, Switch2, Switch3) on each floor.
- Place PCs, printers, laptops, tablets, and smartphones in each department as per the provided network design.

Network Topology



Step 2: Configure Routers

2. Connect Routers:

- Connect Router1, Router2, and Router3 using serial DCE cables.
- Configure IP addresses for the serial interfaces as follows:
  - Router1 to Router2: 10.10.10.1/30, 10.10.10.2/30
  - Router2 to Router3: 10.10.10.5/30, 10.10.10.6/30
  - Router3 to Router1: 10.10.10.9/30, 10.10.10.10/30

3. Serial Interface Configuration:

Router1:

```
interface Serial0/0/0
 ip address 10.10.10.1 255.255.255.252
 clock rate 64000
 no shutdown
interface Serial0/0/1
 ip address 10.10.10.10 255.255.255.252
 no shutdown
```

Router2:

```
interface Serial0/0/0
 ip address 10.10.10.2 255.255.255.252
 no shutdown
interface Serial0/0/1
 ip address 10.10.10.5 255.255.255.252
 clock rate 64000
```

```
 no shutdown
```

Router3:

```
interface Serial0/0/0
 ip address 10.10.10.6 255.255.255.252
 no shutdown
interface Serial0/0/1
 ip address 10.10.10.9 255.255.255.252
 clock rate 64000
 no shutdown
```

4. Enable OSPF Routing:

Router1, Router2, Router3:

```
router ospf 1
 network 10.10.10.0 0.0.0.3 area 0
 network 10.10.10.4 0.0.0.3 area 0
 network 10.10.10.8 0.0.0.3 area 0
```

Step 3: Configure Switches and VLANs

5. Create VLANs on each switch:

Switch1:

```
vlan 80
 name Reception
vlan 70
 name Store
vlan 60
```

```
  name Logistics
```

Switch2:

```
vlan 50
  name Finance
vlan 40
  name HR
vlan 30
  name Sales
```

Switch3:

```
vlan 20
  name Admin
vlan 10
  name IT
```

6. Assign VLANs to Ports:

Switch1:

```
interface range fa0/1-3
  switchport mode access
  switchport access vlan 80
interface range fa0/4-6
  switchport mode access
  switchport access vlan 70
interface range fa0/7-9
  switchport mode access
```

```
  switchport access vlan 60
```

Switch2:

```
interface range fa0/1-3
  switchport mode access
  switchport access vlan 50
interface range fa0/4-6
  switchport mode access
  switchport access vlan 40
interface range fa0/7-9
  switchport mode access
  switchport access vlan 30
```

Switch3:

```
interface range fa0/1-3
  switchport mode access
  switchport access vlan 20
interface range fa0/4-6
  switchport mode access
  switchport access vlan 10
```

Step 4: Configure DHCP

7. Configure DHCP on Routers:

Router1:

```
ip dhcp pool Reception
  network 192.168.8.0 255.255.255.0
```

```
  default-router 192.168.8.1
ip dhcp pool Store
  network 192.168.7.0 255.255.255.0
  default-router 192.168.7.1
ip dhcp pool Logistics
  network 192.168.6.0 255.255.255.0
  default-router 192.168.6.1
```

Router2:

```
ip dhcp pool Finance
  network 192.168.5.0 255.255.255.0
  default-router 192.168.5.1
ip dhcp pool HR
  network 192.168.4.0 255.255.255.0
  default-router 192.168.4.1
ip dhcp pool Sales
  network 192.168.3.0 255.255.255.0
  default-router 192.168.3.1
```

Router3:

```
ip dhcp pool Admin
  network 192.168.2.0 255.255.255.0
  default-router 192.168.2.1
ip dhcp pool IT
  network 192.168.1.0 255.255.255.0
  default-router 192.168.1.1
```

Step 5: Configure SSH on Routers

8. Configure SSH:

Router1, Router2, Router3:

```
hostname Router1
ip domain-name vicmodernhotel.com
username admin privilege 15 secret adminpass
line vty 0 4
  login local
  transport input ssh
enable secret enablepass
crypto key generate rsa
  modulus 1024
```

Step 6: Configure Port Security

9. Configure Port Security on IT Switch:

Switch3:

```
interface fa0/1
  switchport mode access
  switchport port-security
  switchport port-security mac-address sticky
  switchport port-security mac-address sticky <Test-PC MAC address>
  switchport port-security violation shutdown
```

10. Place Test-PC in IT Department:

- Connect Test-PC to port fa0/1 on Switch3.

- Ensure it gets an IP address from the DHCP pool.

Testing

- Test Remote Login:
  - Use Test-PC to SSH into Router1, Router2, and Router3.
  - Verify connectivity across all devices.
  - Ensure port security is functioning correctly by trying to connect another device to fa0/1.

This configuration should cover all the required elements of the project. If you need further details or additional configurations, please let me know!