HOTEL NETWORK MANAGEMENT

**********For f3 Router**********

```
Router>enable
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#Interface serial0/2/0
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial0/2/0, changed state to down
Router(config-if)#Interface serial0/2/1
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial0/2/1, changed state to down
Router(config-if)#int gig0/0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state
to up

Router(config-if)#int serial0/2/0
Router(config-if)#clock rate 64000
Router(config-if)#int serial0/2/1
Router(config-if)#clock rate 64000
Router(config-if)#do wr

Building configuration...
[OK]
Router(config-if)#
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

**********For F1 Router**********

```
Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#int se0/2/0
Router(config-if)#no shutdown
```

Router(config-if)#int se0/2/1
Router(config-if)#no shutdown
Router(config-if)#interface gig0/0
Router(config-if)#no shutdown

- No need to give clock rate here

Router(config-if)#int se0/2/1
Router(config-if)#clock rate 64000
This command applies only to DCE interfaces
Router(config-if)#int se0/2/0
Router(config-if)#clock rate 64000

**********For F2 Router **********

Router>enable
Router#config t
Router(config)#int se0/2/0
Router(config-if)#no shutdown

Router(config-if)#int se0/2/1
Router(config-if)#no shutdown

Router(config-if)#int gig0/0
Router(config-if)#no shutdown

- Give clock rate at interface serial0/2/1 only #where clock is shown at hovering

Router(config-if)#int se0/2/1
Router(config-if)#clock rate 64000
Router(config-if)#do wr
Building configuration...
[OK]

********** Configuring VLANS of 1st Floor**********

Switch>Enable
Switch#config terminal

Switch(config)#int range fa0/2-3
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 80
% Access VLAN does not exist. Creating vlan 80

Switch(config-if-range)#int range fa0/4-5
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 70
% Access VLAN does not exist. Creating vlan 70

```
Switch(config-if-range)#int range fa0/6-8
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 60
Switch(config-if-range)#do wr
Building configuration...
[OK]
```

- Interface fa0/1 must be in trunk mode
- **Trunk Mode** is a communication line or physical link, such as a wire or optical line, designed **to carry multiple signals simultaneously.**

```
Switch(config-if)#interface range fa0/1
Switch(config-if-range)#switchport mode trunk
```

********** Configuring VLAN's of 2nd floor **********

```
Switch>enable
Switch#config terminal
Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#int range fa0/2-3
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 50
% Access VLAN does not exist. Creating vlan 50

Switch(config-if-range)#int range fa0/4-5
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 40
% Access VLAN does not exist. Creating vlan 40

Switch(config-if-range)#int range fa0/6-8
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 30
% Access VLAN does not exist. Creating vlan 30

Switch(config-if-range)#int range fa0/1
Switch(config-if-range)#switchport mode trunk
```

********** Configure VLAN's of 3rd Floor **********

```
Switch>enable
Switch#config terminal
Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#int range fa0/2-3
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 20
% Access VLAN does not exist. Creating vlan 20

Switch(config-if-range)#int range fa0/4-6
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 10
```

% Access VLAN does not exist. Creating vlan 10

Switch(config-if-range)#int range fa0/1
Switch(config-if-range)#switchport mode trunk

********** IP Addressing **********

******** For F1 Router **********
Router>enable
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#int se0/2/0
Router(config-if)#ip address 10.10.10.5 255.255.255.252

Router(config-if)#int se0/2/1
Router(config-if)#ip address 10.10.10.9 255.255.255.252

Router(config-if)#do wr
Building configuration...
[OK]

**********For F2 Router **********
Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#int se0/2/0
Router(config-if)#ip address 10.10.10.1 255.255.255.252

Router(config-if)#int se0/2/1
Router(config-if)#ip address 10.10.10.10 255.255.255.252

Router(config-if)#do wr
Building configuration...
[OK]

*********For F3 Router **********

Router>enable
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#int se0/2/0
Router(config-if)#ip address 10.10.10.2 255.255.255.252

Router(config-if)#int se0/2/1
Router(config-if)#ip address 10.10.10.6 255.255.255.252

```
Router(config-if)#do wr
Building configuration...
[OK]
```

********** Inter-VLAN Routing **********
******For 1st Floor **********

```
Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#int gig0/0.80
Router(config-subif)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0.80, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.80, changed
state to up

Router(config-subif)#encapsulation dot1Q 80
Router(config-subif)#ip address 192.168.8.1 255.255.255.0
Router(config-subif)#ex

Router(config)#int gig0/0.70
Router(config-subif)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0.70, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.70, changed
state to up

Router(config-subif)#encapsulation dot1Q 70
Router(config-subif)#ip address 192.168.7.1 255.255.255.0
Router(config-subif)#
Router(config-subif)#ex

Router(config)#int gig0/0.60
Router(config-subif)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0.60, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.60, changed
state to up

Router(config-subif)#encapsulation dot1Q 60
Router(config-subif)#ip address 192.168.6.1 255.255.255.0
Router(config-subif)#
Router(config-subif)#do wr
Building configuration...
[OK]
Router(config-subif)#
```

**********Obtaining IP Address Dynamically with routers configured as the DHCP Server**********

******** For F1 Router **********

```
Router(config)#service dhcp
Router(config)#ip dhcp pool Reception
Router(dhcp-config)#network 192.168.8.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.8.1      #default gateway
Router(dhcp-config)#dns-server 192.168.0.1
Router(dhcp-config)#ex

Router(config)#service dhcp
Router(config)#ip dhcp pool Store
Router(dhcp-config)#network 192.168.7.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.7.1       #default gateway
Router(dhcp-config)#dns-server 192.168.7.1
Router(dhcp-config)#ex

Router(config)#ip dhcp pool Logistic
Router(dhcp-config)#network 192.168.6.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.6.1          #default gateway
Router(dhcp-config)#dns-server 192.168.6.1
Router(dhcp-config)#do wr
```

********* Inter VLAN Routing for 2nd floor **********

```
Router(config)#int gig0/0.50
Router(config-subif)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0.50, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.50, changed
state to up

Router(config-subif)#encapsulation dot1Q 50
Router(config-subif)#ip address 192.168.5.1 255.255.255.0
Router(config-subif)#ex

Router(config)#int gig0/0.40
Router(config-subif)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0.40, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.40, changed
state to up

Router(config-subif)#encapsulation dot1Q 40
Router(config-subif)#ip address 192.168.4.1 255.255.255.0
Router(config-subif)#ex

Router(config)#int gig0/0.30
Router(config-subif)#
```

%LINK-5-CHANGED: Interface GigabitEthernet0/0.30, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.30, changed state to up

Router(config-subif)#encapsulation dot1Q 30
Router(config-subif)#ip address 192.168.3.1 255.255.255.0
Router(config-subif)#ex

****** DHCP Server for F2 Router **********
Router(config)#service dhcp
Router(config)#ip dhcp pool Finance
Router(dhcp-config)#network 192.168.5.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.5.1
Router(dhcp-config)#dns-server 192.168.5.1
Router(dhcp-config)#ex

Router(config)#ip dhcp pool HR
Router(dhcp-config)#network 192.168.4.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.4.1
Router(dhcp-config)#dns-server 192.168.4.1
Router(dhcp-config)#ex

Router(config)#ip dhcp pool Sales
Router(dhcp-config)#network 192.168.3.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.3.1
Router(dhcp-config)#dns-server 192.168.3.1
Router(dhcp-config)#do wr
Router(dhcp-config)#ex

********** Inter VLAN Routing for 3rd Floor **********
Router(config)#int gig0/0.20
Router(config-subif)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0.20, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.20, changed state to up

Router(config-subif)#encapsulation dot1Q 20
Router(config-subif)#ip address 192.168.2.1 255.255.255.0
Router(config-subif)#ex

Router(config)#int gig0/0.10
Router(config-subif)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0.10, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.10, changed state to up

```
Router(config-subif)#encapsulation dot1Q 10
Router(config-subif)#ip address 192.168.1.1 255.255.255.0
Router(config-subif)#do wr
```

********** DHCP Server for F3 Router **********

```
Router(config)#service dhcp
Router(config)#ip dhcp pool Admin
Router(dhcp-config)#network 192.168.2.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.2.1
Router(dhcp-config)#dns-server 192.168.2.1
Router(dhcp-config)#ex

Router(config)#ip dhcp pool IT
Router(dhcp-config)#network 192.168.1.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.1.1
Router(dhcp-config)#dns-server 192.168.1.1
Router(dhcp-config)#do wr
Router(dhcp-config)#ex
```

********** Configuring OSPF**********

********F1**********

```
Router>enable
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#router ospf 10
Router(config-router)#network 10.10.10.4 255.255.255.252 area 0
Router(config-router)#network 10.10.10.8 255.255.255.252 area 0
Router(config-router)#network 192.168.8.0 255.255.255.0 area 0
Router(config-router)#network 192.168.7.0 255.255.255.0 area 0
Router(config-router)#network 192.168.6.0 255.255.255.0 area 0
Router(config-router)#do wr
Building configuration...
[OK]
```

*******F2*********

```
Router>enable
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#router ospf 10
Router(config-router)#network 10.10.10.0 255.255.255.252 area 0
Router(config-router)#network 10.10.10.8 255.255.255.252 area 0
Router(config-router)#network 192.168.40.0 255.255.255.0 area 0
Router(config-router)#network 192.168.50.0 255.255.255.0 area 0
Router(config-router)#network 192.168.30.0 255.255.255.0 area 0
Router(config-router)#do wr
```

****** F3 **********

```
Router>enable
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#router ospf 10
Router(config-router)#network 10.10.10.0 255.255.255.252 area 0
Router(config-router)#network 10.10.10.4 255.255.255.0 area 0
Router(config-router)#network 192.168.2.0 255.255.255.0 area 0
Router(config-router)#network 192.168.1.0 255.255.255.0 area 0
Router(config-router)#do wr
Building configuration...
[OK]
```