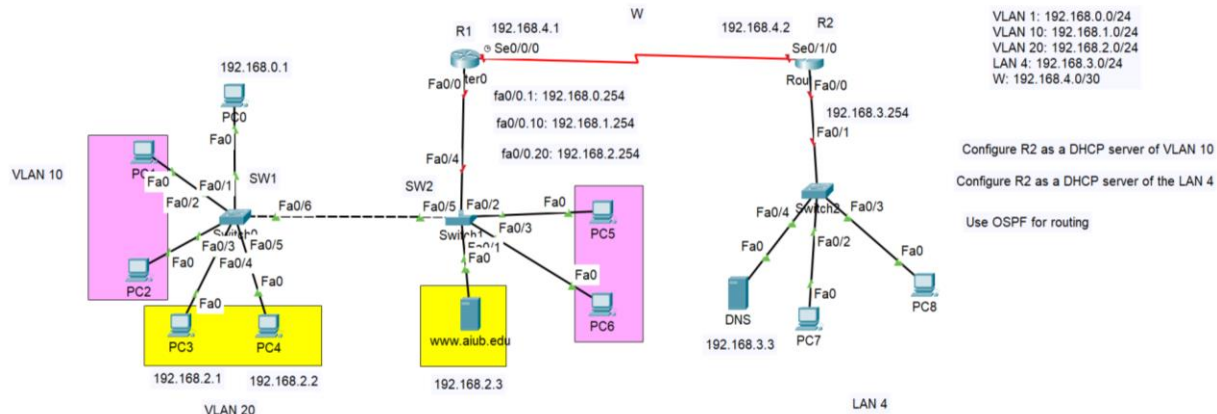


A Composite Problem (Final Term)



VLAN Configuration

SW1

```
Switch(config)#vlan 10
Switch(config-vlan)#name Computer
Switch(config-vlan)#vlan 20
Switch(config-vlan)#name Mouse
Switch(config-vlan)#
Switch(config-vlan)#
Switch(config-vlan)#interface range fa0/2-3
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 10
Switch(config-if-range)#
Switch(config-if-range)#interface range fa0/4-5
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 20
Switch(config-if-range)#
Switch(config-if-range)#interface fa0/6
Switch(config-if)#switchport mode trunk
```

SW2

```
Switch(config)#vlan 10
Switch(config-vlan)#name Computer
```

```
Switch(config-vlan)#vlan 20
Switch(config-vlan)#name Mouse
Switch(config-vlan)#
Switch(config-vlan)#
Switch(config-vlan)#int fa0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#
Switch(config)#interface range fa0/2-3
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 10
```

Check whether a pc can be accessed from another pc of the same vlan. However, accessing to a pc is not possible across vlan.

ROAS Configuration

SW2

```
Switch(config)#interface fa0/4
Switch(config-if)#switchport mode trunk
```

R1

```
R1(config)#interface fa0/0
R1(config-if)#no shutdown
```

```
R1(config-if)#interface fa0/0.1
```

```
R1(config-subif)#encapsulation dot1q 1
R1(config-subif)#ip address 192.168.0.254 255.255.255.0
R1(config-subif)#
R1(config-subif)#interface fa0/0.10
```

```
R1(config-subif)#encapsulation dot1q 10
R1(config-subif)#ip add 192.168.1.254 255.255.255.0
R1(config-subif)#
R1(config-subif)#int fa0/0.20
R1(config-subif)#
```

```
R1(config-subif)#encapsulation dot1q 20
R1(config-subif)#ip add 192.168.2.254 255.255.255.0
```

Interface Configuration of the routers

R1

```
R1(config)#interface s0/0/0
R1(config-if)#ip address 192.168.4.1 255.255.255.252
R1(config-if)#clock rate 64000
R1(config-if)#no shutdown
```

R2

```
R2(config)#interface s0/1/0
R2(config-if)#ip add 192.168.4.2 255.255.255.252
R2(config-if)#no shut
```

```
R2(config-if)#int fa0/0
R2(config-if)#ip add 192.168.3.254 255.255.255.0
R2(config-if)#no shut
```

OSPF Routing Configuration

R2

```
R2(config)#router ospf 10
R2(config-router)#network 192.168.3.0 0.0.0.255 area 0
R2(config-router)#network 192.168.4.0 0.0.0.3 area 0
```

R1

```
R1(config)#router ospf 12
R1(config-router)#network 192.168.4.0 0.0.0.3 area 0

R1(config-router)#network 192.168.0.0 0.0.0.255 area 0
R1(config-router)#network 192.168.1.0 0.0.0.255 area 0
R1(config-router)#network 192.168.2.0 0.0.0.255 area 0
```

DHCP for LAN 4

R2

```
R2(config)#ip dhcp pool LAN4
```

```
R2(dhcp-config)#network 192.168.3.0 255.255.255.0
R2(dhcp-config)#default-router 192.168.3.254
R2(dhcp-config)#dns-server 192.168.3.3
R2(dhcp-config)#ip dhcp excluded-address 192.168.3.3
```

DHCP for VLAN 10

R2

```
R2(config)#ip dhcp pool VLAN10
R2(dhcp-config)#network 192.168.1.0 255.255.255.0
R2(dhcp-config)#default-router 192.168.1.254
R2(dhcp-config)#dns-server 192.168.3.3
```

R1

```
R1(config)#interface fa0/0.10
R1(config-subif)#ip helper-address 192.168.4.2
```

DNS configuration:

First turn ON the server.

Write the domain name and IP address in the proper field, and then click Add.

The screenshot shows a web-based configuration interface for DNS. On the left, a sidebar lists various services: HTTP, DHCP, DHCPv6, TFTP, DNS (selected), SYSLOG, AAA, NTP, EMAIL, FTP, IoT, VM Management, and Radius EAP. The main panel is titled 'DNS' and has tabs for 'Physical', 'Config', 'Services', 'Desktop', 'Programming', and 'Attributes'. The 'Services' tab is active, showing the 'DNS Service' status as 'On' (radio button selected). Below this, the 'Resource Records' section is visible. It has a 'Name' field containing 'www.aiub.edu' and a 'Type' dropdown menu set to 'A Record'. The 'Address' field contains '192.168.2.3'. At the bottom, there is a table with columns 'No.', 'Name', 'Type', and 'Detail'. Above the table, there are buttons for 'Add', 'Save', and 'Remove'.

No.	Name	Type	Detail
-----	------	------	--------