---------- Forwarded message ---------  
From: **Natabo Dorcus Kwagala** <[ntabithak@gmail.com](mailto:ntabithak@gmail.com)>  
Date: Tue, Apr 15, 2025, 1:26 AM  
Subject:  
To: Natabo Dorcus Kwagala <[ntabithak@gmail.com](mailto:ntabithak@gmail.com)>

! ------------------------

! VLAN CREATION

! ------------------------

Switch> enable

Switch# configure terminal

Switch(config)# vlan 10

Switch(config-vlan)# name Sales

Switch(config-vlan)# exit

Switch(config)# vlan 20

Switch(config-vlan)# name HR

Switch(config-vlan)# exit

! ------------------------

! ASSIGN PORTS TO VLANS

! ------------------------

Switch(config)# interface fa0/1

Switch(config-if)# switchport mode access

Switch(config-if)# switchport access vlan 10

Switch(config-if)# exit

Switch(config)# interface fa0/2

Switch(config-if)# switchport mode access

Switch(config-if)# switchport access vlan 20

Switch(config-if)# exit

! ------------------------

! CONFIGURE TRUNK PORT

! ------------------------

Switch(config)# interface fa0/24

Switch(config-if)# switchport mode trunk

Switch(config-if)# exit

! ------------------------

! ROUTER - SUBINTERFACES FOR INTERVLAN ROUTING

! ------------------------

Router> enable

Router# configure terminal

Router(config)# interface fa0/0.10

Router(config-subif)# encapsulation dot1Q 10

Router(config-subif)# ip address 192.168.10.1 255.255.255.0

Router(config-subif)# exit

Router(config)# interface fa0/0.20

Router(config-subif)# encapsulation dot1Q 20

Router(config-subif)# ip address 192.168.20.1 255.255.255.0

Router(config-subif)# exit

Router(config)# interface fa0/0

Router(config-if)# no shutdown

Router(config-if)# exit

! ------------------------

! DHCP CONFIGURATION

! ------------------------

Router(config)# ip dhcp excluded-address 192.168.10.1 192.168.10.10

Router(config)# ip dhcp excluded-address 192.168.20.1 192.168.20.10

Router(config)# ip dhcp pool VLAN10

Router(dhcp-config)# network 192.168.10.0 255.255.255.0

Router(dhcp-config)# default-router 192.168.10.1

Router(dhcp-config)# dns-server 8.8.8.8

Router(dhcp-config)# exit

Router(config)# ip dhcp pool VLAN20

Router(dhcp-config)# network 192.168.20.0 255.255.255.0

Router(dhcp-config)# default-router 192.168.20.1

Router(dhcp-config)# dns-server 8.8.8.8

Router(dhcp-config)# exit

! ------------------------

! OSPF CONFIGURATION

! ------------------------

Router(config)# router ospf 1

Router(config-router)# network 192.168.10.0 0.0.0.255 area 0

Router(config-router)# network 192.168.20.0 0.0.0.255 area 0

Router(config-router)# exit

! ------------------------

! SSH CONFIGURATION

! ------------------------

Switch(config)# hostname SW1

SW1(config)# ip domain-name mynetwork.local

SW1(config)# crypto key generate rsa

1024

SW1(config)# username admin password cisco123

SW1(config)# line vty 0 4

SW1(config-line)# transport input ssh

SW1(config-line)# login local

SW1(config-line)# exit

SW1(config)# ip ssh version 2

! ------------------------

! STANDARD ACL

! ------------------------

Router(config)# access-list 10 deny 192.168.10.5

Router(config)# access-list 10 permit any

Router(config)# interface fa0/0

Router(config-if)# ip access-group 10 in

Router(config-if)# exit

! ------------------------

! PORT SECURITY

! ------------------------

Switch(config)# interface fa0/1

Switch(config-if)# switchport mode access

Switch(config-if)# switchport port-security

Switch(config-if)# switchport port-security maximum 1

Switch(config-if)# switchport port-security violation shutdown

Switch(config-if)# switchport port-security mac-address sticky

Switch(config-if)# exit

! ------------------------

! EXTENDED ACL

! ------------------------

Router(config)# access-list 100 permit tcp 192.168.10.0 0.0.0.255 any eq 80

Router(config)# access-list 100 deny ip any any

Router(config)# interface fa0/0

Router(config-if)# ip access-group 100 in

Router(config-if)# exit

! ------------------------

! NAT CONFIGURATION

! ------------------------

Router(config)# ip nat inside source static 192.168.10.10 203.0.113.10

Router(config)# access-list 1 permit 192.168.10.0 0.0.0.255

Router(config)# ip nat inside source list 1 interface fa0/1 overload

Router(config)# interface fa0/0

Router(config-if)# ip nat inside

Router(config-if)# exit

Router(config)# interface fa0/1

Router(config-if)# ip nat outside

Router(config-if)# exit

! ------------------------

! SITE-TO-SITE VPN SETUP

! ------------------------

Router(config)# crypto isakmp policy 10

Router(config-isakmp)# encryption aes

Router(config-isakmp)# hash sha

Router(config-isakmp)# authentication pre-share

Router(config-isakmp)# group 2

Router(config-isakmp)# lifetime 86400

Router(config-isakmp)# exit

Router(config)# crypto isakmp key cisco123 address 203.0.113.2

Router(config)# crypto ipsec transform-set TRANS1 esp-aes esp-sha-hmac

Router(config)# access-list 110 permit ip 192.168.10.0 0.0.0.255 192.168.20.0 0.0.0.255

Router(config)# crypto map VPN-MAP 10 ipsec-isakmp

Router(config-crypto-map)# set peer 203.0.113.2

Router(config-crypto-map)# set transform-set TRANS1

Router(config-crypto-map)# match address 110

Router(config-crypto-map)# exit

Router(config)# interface fa0/1

Router(config-if)# crypto map VPN-MAP

Router(config-if)# exit

**password encryption**

enable

configure terminal

! --------------------------

! Encrypt all passwords

! --------------------------

service password-encryption

! --------------------------

! Set the ENABLE secret password (encrypted by default)

! --------------------------

enable secret cisco123

! --------------------------

! Set CONSOLE password

! --------------------------

line console 0

password consolepass

login

exit

! --------------------------

! Set VTY (Telnet/SSH) password

! --------------------------

line vty 0 4

password vtypass

login

exit

! --------------------------

! (Optional) Set MOTD Banner

! --------------------------

banner motd # Unauthorized access is prohibited! #

! --------------------------

! Save configuration

! --------------------------

end

write memory