! Define the hostname

hostname Nexus-Switch

! Enable feature for VLANs

feature vlan

! Enable feature for interface configuration

feature interface-vlan

! Enable feature for IP routing

feature ospf

! Enable feature for IPsec

feature ipsec

! Create VLANs

vlan 10

 name Marketing

 exit

vlan 20

 name Sales

 exit

vlan 30

 name Engineering

 exit

! Configure interface VLANs for Layer 3 connectivity

interface Vlan10

 ip address 192.168.0.1/23

 no shutdown

 exit

interface Vlan20

 ip address 192.168.0.2/23

 no shutdown

 exit

interface Vlan30

 ip address 192.168.0.3/23

 no shutdown

 exit

! Assign VLANs to interfaces (example for Ethernet interfaces)

interface Ethernet1/1

 switchport mode access

 switchport access vlan 10

 no shutdown

 exit

interface Ethernet1/2

 switchport mode access

 switchport access vlan 20

 no shutdown

 exit

interface Ethernet1/3

 switchport mode access

 switchport access vlan 30

 no shutdown

 exit

! Configure a trunk port for inter-VLAN communication

interface Ethernet1/4

 switchport mode trunk

 switchport trunk allowed vlan 10,20,30

 no shutdown

 exit

! Configure routing (if needed)

ip routing

! Configure OSPF for dynamic routing

router ospf 1

 network 192.168.0.0/23 area 0

 exit

! Configure a site-to-site VPN (using IPsec)

! Assuming that the VPN peer IP is 203.0.113.1

! Configure the crypto map

crypto map VPN-MAP 10 ipsec-isakmp

 set peer 203.0.113.1

 set transform-set VPN-SET

 match address VPN-ACL

 exit

! Define the transform set

crypto ipsec transform-set VPN-SET esp-aes esp-sha-hmac

! Create an access list for VPN traffic

ip access-list extended VPN-ACL

 permit ip 192.168.0.0 0.0.1.255 203.0.113.0 0.0.0.255

 exit

! Apply the crypto map to the interface connected to the internet

interface Ethernet1/5

 ip address x.x.x.x y.y.y.y ! replace with your public IP and subnet

 crypto map VPN-MAP

 no shutdown

 exit

! End of configuration