

IP Assigned to the components and CLI commands used for this network

1. Network Addressing Table

Component	VLAN	IP Address	Subnet Mask	Default Gateway
Engineering PCs	10	172.16.10.x	255.255.255.128	172.16.10.1
Sales PCs	20	172.16.10.x	255.255.255.192	172.16.10.129
Guest PCs	30	172.16.10.x	255.255.255.224	172.16.10.193
HR Admin PCs	40	172.16.10.x	255.255.255.224	172.16.10.225
Server	50	172.16.11.2	255.255.255.240	172.16.11.1
Switch (Mgmt)	50	172.16.11.14	255.255.255.240	172.16.11.1
Core Router (WAN)	—	172.16.11.253	255.255.255.252	172.16.11.254
Edge Router (WAN)	—	172.16.11.254	255.255.255.252	172.16.11.253

2. Switch Configuration Commands

VLAN Creation and Port Assignment:

vlan 10 (Repeat for 20, 30, 40, 50)

interface FastEthernet 0/1

switchport mode access

switchport access vlan 10

Trunking (Link to Router):

interface GigabitEthernet 0/1

switchport mode trunk

Management IP Setup:

interface vlan 50

ip address 172.16.11.14 255.255.255.240

no shutdown

exit

ip default-gateway 172.16.11.1

3. Core Router Configuration Commands

Sub-Interface Setup (Router-on-a-Stick):

```
interface GigabitEthernet 0/0/0
```

```
no shutdown
```

```
exit
```

```
interface GigabitEthernet 0/0/0.10
```

```
encapsulation dot1q 10
```

```
ip address 172.16.10.1 255.255.255.128
```

```
interface GigabitEthernet 0/0/0.40
```

```
encapsulation dot1q 40
```

```
ip address 172.16.10.225 255.255.255.224
```

WAN Link and Static Route:

```
interface GigabitEthernet 0/0/1
```

```
ip address 172.16.11.253 255.255.255.252
```

```
no shutdown
```

```
exit
```

```
ip route 0.0.0.0 0.0.0.0 172.16.11.254
```

4. Edge Router Configuration Commands

Interface and Return Route:

```
interface GigabitEthernet 0/0/0
```

```
ip address 172.16.11.254 255.255.255.252
```

```
no shutdown
```

```
exit
```

```
ip route 172.16.0.0 255.255.0.0 172.16.11.253
```

Saving Work (On all devices):

```
write memory
```