cisConfiguration:

**Router**

**Headquarter Department**

**Headquarter Sales Department**

**Headquarter Marketing Department**

**Headquarter Administration Department**

**Headquarter IT, Security, Accounting, and Finance**

**Headquarter Data Center**

**Escondido Sales Office Department**

**Escondido Sales**

**Alpine Manufacturing and Production Department**

**Alpine Production Department**

**Alpine Manufacturing Department**

Steps Taken:

* SSH on all Routers and switches
* Vlan Assign with access port and trunk port
* Switch port security to finance department
* Subnetting and IP address
* OSPF on all routers and switches
* Static IP address to server room devices
* Inter vlan routing on switches plus ip dhcp helper address
* Wireless network configuration
* PAT + ACL
* Verify and Testing Configuration

**Step 1:**

1. Interface all the routers and Switches
2. Switch and Router Configuration:
   1. Hostname
   2. Console Password
   3. Enable Password
   4. Banner Message
   5. Disable IP Domain Lookup
   6. Password Encryption

**Router**

Router>enable

Router#

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface GigabitEthernet0/0

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)#exit

Router(config)#interface GigabitEthernet0/1

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

Router(config-if)#exit

Router(config)#interface GigabitEthernet0/2

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface GigabitEthernet0/2, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to up

Router(config-if)#exit

Router(config)#exit

Router#

%SYS-5-CONFIG\_I: Configured from console by console

Router#enable

Router#config t

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#hostname Company

Company(config)#banner motd #Anthonys Potato Chip Company #

Company(config)#no ip domain lookup

Company(config)#line console 0

Company(config-line)#password come

Company(config-line)#login

Company(config-line)#exit

Company(config)#enable password come

Company(config)#service password-encryption

Company(config)#do write

Building configuration...

[OK]

Company(config)#

**Headquarter Department**

Switch>enable

Switch#config t

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#hostname Headquater

Headquater(config)#banner motd #Admin Panel#

Headquater(config)#no ip domain lookup

Headquater(config)#line console 0

Headquater(config-line)#password head

Headquater(config-line)#login

Headquater(config-line)#exit

Headquater(config)#enable password head

Headquater(config)#service password-encryption

Headquater(config)#exit

Headquater#

%SYS-5-CONFIG\_I: Configured from console by console

Headquater#write

Building configuration...

[OK]

Headquater#

**Headquarter Sales Department**

Switch>enable

Switch#config t

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#hostname HS

HS(config)#banner motd #Headqaurter Sales#

HS(config)#no ip domain lookup

HS(config)#line console 0

HS(config-line)#password hs

HS(config-line)#login

HS(config-line)#exit

HS(config)#enable password hs

HS(config)#service password-encryption

HS(config)#exit

HS#write

Building configuration...

[OK]

HS#

%SYS-5-CONFIG\_I: Configured from console by console

**Headquarter Marketing Department**

Switch>enable

Switch#config t

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#hostname HM

HM(config)#banner motd #Headqaurter Marketing#

HM(config)#no ip domain lookup

HM(config)#line console 0

HM(config-line)#password hm

HM(config-line)#login

HM(config-line)#exit

HM(config)#enable password hm

HM(config)#service password-encryption

HM(config)#exit

HM#write

Building configuration...

[OK]

HM#

%SYS-5-CONFIG\_I: Configured from console by console

**Headquarter Administration Department**

Switch>enable

Switch#config t

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#hostname HA

HA(config)#banner motd #Headqaurter Administration #

HA(config)#no ip domain lookup

HA(config)#line console 0

HA(config-line)#password ha

HA(config-line)#login

HA(config-line)#exit

HA(config)#enable password ha

HA(config)#service password-encryption

HA(config)#exit

HA#write

Building configuration...

[OK]

HA#

%SYS-5-CONFIG\_I: Configured from console by console

**Headquarter IT, Security, Accounting, and Finance**

Switch>enable

Switch#config t

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#hostname HIS

HIS(config)#banner motd #Headqaurter IT Security #

HIS(config)#no ip domain lookup

HIS(config)#line console 0

HIS(config-line)#password his

HIS(config-line)#login

HIS(config-line)#exit

HIS(config)#enable password his

HIS(config)#service password-encryption

HIS(config)#exit

HIS#write

Building configuration...

[OK]

HIS#

%SYS-5-CONFIG\_I: Configured from console by console

**Headquarter Data Center**

Switch>enable

Switch#config t

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#hostname HDC

HDC(config)#banner motd #Headqaurter Data Center #

HDC(config)#no ip domain lookup

HDC(config)#line console 0

HDC(config-line)#password hdc

HDC(config-line)#login

HDC(config-line)#exit

HDC(config)#enable password hdc

HDC(config)#service password-encryption

HDC(config)#exit

HDC#write

Building configuration...

[OK]

HDC#

%SYS-5-CONFIG\_I: Configured from console by console

**Escondido Sales Office Department**

Switch>enable

Switch#config t

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#hostname ESO

ESO(config)#line console 0

ESO(config)#enable password eso

ESO(config-line)#login

ESO(config-line)#exit

ESO(config)#no ip domain lookup

ESO(config)#banner motd #Escondido Sales Office#

ESO(config)#service password-encryption

ESO(config)#exit

ESO#

%SYS-5-CONFIG\_I: Configured from console by console

ESO#write

Building configuration...

[OK]

ESO#

**Escondido Sales**

Switch>enable

Switch#config t

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#hostname ES

ES(config)#line console 0

ES(config-line)#enable password es

ES(config)#login

ES(config)#exit

ES#no ip domain lookup

ES#banner motd #Escondido Sales #

ES#service password-encryption

ES#exit

**Alpine Manufacturing and Production Department**

Switch>enable

Switch#config t

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#hostname AMP

AMP(config)#line console 0

AMP(config)#enable password amp

AMP(config-line)#login

AMP(config-line)#exit

AMP(config)#no ip domain lookup

AMP(config)#banner motd #Alpine Manufacturing and Production #

AMP(config)#service password-encryption

AMP(config)#exit

AMP#write

Building configuration...

[OK]

AMP#

%SYS-5-CONFIG\_I: Configured from console by console

AMP#

**Alpine Production Department**

Switch>enable

Switch#config t

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#hostname AP

AP(config)#banner motd #Alpine Production#

AP(config)#no ip domain lookup

AP(config)#line console 0

AP(config-line)#password ap

AP(config-line)#login

AP(config-line)#exit

AP(config)#enable password ap

AP(config)#service password-encryption

AP(config)#exit

AP#write

Building configuration...

[OK]

AP#

%SYS-5-CONFIG\_I: Configured from console by console

**Alpine Manufacturing Department**

Switch>enable

Switch#config t

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#hostname AM

AM(config)#banner motd #Alpine Manufacturing #

AM(config)#no ip domain lookup

AM(config)#line console 0

AM(config-line)#password am

AM(config-line)#login

AM(config-line)#exit

AM(config)#enable password am

AM(config)#service password-encryption

AM(config)#exit

AM#write

Building configuration...

[OK]

AM#

%SYS-5-CONFIG\_I: Configured from console by console

**Step 2:**

**Router**

Company#config t

Enter configuration commands, one per line. End with CNTL/Z.

Company(config)#ip domain name company.net

Company(config)#username company password com

Company(config)#crypto key generate rsa

The name for the keys will be: Company.company.net

Choose the size of the key modulus in the range of 360 to 4096 for your

General Purpose Keys. Choosing a key modulus greater than 512 may take

a few minutes.

How many bits in the modulus [512]: 1024

% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

Company(config)#line vty 0 15

\*Mar 1 0:4:27.196: %SSH-5-ENABLED: SSH 1.99 has been enabled

Company(config-line)#login local

Company(config-line)#transport input ssh

Company(config-line)#exit

Company(config)#do write

Building configuration...

[OK]

Company(config)#

**Headquarter Department**

Admin Panel

User Access Verification

Password:

Headquater>enable

Password:

Headquater#config t

Enter configuration commands, one per line. End with CNTL/Z.

Headquater(config)#ip domain name head.net

Headquater(config)#username head password he@d

Headquater(config)#crypto key generate rsa

The name for the keys will be: Headquater.head.net

Choose the size of the key modulus in the range of 360 to 4096 for your

General Purpose Keys. Choosing a key modulus greater than 512 may take

a few minutes.

How many bits in the modulus [512]: 1024

% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

Headquater(config)#line vty 0 15

\*Mar 2 1:48:50.720: %SSH-5-ENABLED: SSH 1.99 has been enabled

Headquater(config-line)#login local

Headquater(config-line)#transport input ssh

Headquater(config-line)#exit

Headquater(config)#exit

Headquater#

%SYS-5-CONFIG\_I: Configured from console by console

Headquater#write

Building configuration...

[OK]

**Headquarter Sales Department**

Headqaurter Sales

User Access Verification

Password:

HS>enable

Password:

HS#config t

Enter configuration commands, one per line. End with CNTL/Z.

HS(config)#ip domain name hs.net

HS(config)#username hs password hs

HS(config)#crypto key generate rsa

The name for the keys will be: HS.hs.net

Choose the size of the key modulus in the range of 360 to 4096 for your

General Purpose Keys. Choosing a key modulus greater than 512 may take

a few minutes.

How many bits in the modulus [512]: 1024

% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

HS(config)#line vty 0 15

\*Mar 2 2:23:12.418: %SSH-5-ENABLED: SSH 1.99 has been enabled

HS(config-line)#login local

HS(config-line)#transport input ssh

HS(config-line)#exit

HS(config)#exit

HS#write

Building configuration...

[OK]

HS#

%SYS-5-CONFIG\_I: Configured from console by console

**Headquarter Marketing Department**

Headqaurter Marketing

User Access Verification

Password:

HM>enable

Password:

HM#config t

Enter configuration commands, one per line. End with CNTL/Z.

HM(config)#ip domain name hm.net

HM(config)#username hm password hm

HM(config)#crypto key generate rsa

The name for the keys will be: HM.hm.net

Choose the size of the key modulus in the range of 360 to 4096 for your

General Purpose Keys. Choosing a key modulus greater than 512 may take

a few minutes.

How many bits in the modulus [512]: 1024

% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

HM(config)#line vty 0 15

\*Mar 2 2:26:6.189: %SSH-5-ENABLED: SSH 1.99 has been enabled

HM(config-line)#login local

HM(config-line)#transport input ssh

HM(config-line)#exit

HM(config)#exit

HM#write

Building configuration...

[OK]

HM#

%SYS-5-CONFIG\_I: Configured from console by console

HM#

**Headquarter Administration Department**

Headqaurter Administration

User Access Verification

Password:

HA>enable

Password:

HA#config t

Enter configuration commands, one per line. End with CNTL/Z.

HA(config)#ip domain name ha.net

HA(config)#username ha password ha

HA(config)#crypto key generate rsa

The name for the keys will be: HA.ha.net

Choose the size of the key modulus in the range of 360 to 4096 for your

General Purpose Keys. Choosing a key modulus greater than 512 may take

a few minutes.

How many bits in the modulus [512]: 1024

% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

HA(config)#line vty 0 15

\*Mar 2 2:27:13.857: %SSH-5-ENABLED: SSH 1.99 has been enabled

HA(config-line)#login local

HA(config-line)#transport input ssh

HA(config-line)#exit

HA(config)#exit

HA#write

Building configuration...

[OK]

HA#

%SYS-5-CONFIG\_I: Configured from console by console

**Headquarter IT, Security, Accounting, and Finance**

Headqaurter IT Security

User Access Verification

Password:

HIS>enable

Password:

HIS#config t

Enter configuration commands, one per line. End with CNTL/Z.

HIS(config)#ip domain name his.net

HIS(config)#username his password his

HIS(config)#crypto key generate rsa

The name for the keys will be: HIS.his.net

Choose the size of the key modulus in the range of 360 to 4096 for your

General Purpose Keys. Choosing a key modulus greater than 512 may take

a few minutes.

How many bits in the modulus [512]: 1024

% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

HIS(config)#line vty 0 15

\*Mar 2 2:28:41.524: %SSH-5-ENABLED: SSH 1.99 has been enabled

HIS(config-line)#login local

HIS(config-line)#transport input ssh

HIS(config-line)#exit

HIS(config)#exit

HIS#write

Building configuration...

[OK]

HIS#

%SYS-5-CONFIG\_I: Configured from console by console

HIS#

**Headquarter Data Center**

Headqaurter Data Center

User Access Verification

Password:

Password:

Password:

HDC>enable

Password:

HDC#config t

Enter configuration commands, one per line. End with CNTL/Z.

HDC(config)#ip domain name hdc.net

HDC(config)#username hdc password hdc

HDC(config)#crypto key generate rsa

The name for the keys will be: HDC.hdc.net

Choose the size of the key modulus in the range of 360 to 4096 for your

General Purpose Keys. Choosing a key modulus greater than 512 may take

a few minutes.

How many bits in the modulus [512]: 1024

% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

HDC(config)#line vty 0 15

\*Mar 2 2:37:7.166: %SSH-5-ENABLED: SSH 1.99 has been enabled

HDC(config-line)#login local

HDC(config-line)#transport input ssh

HDC(config-line)#exit

HDC(config)#exit

HDC#write

Building configuration...

[OK]

HDC#

%SYS-5-CONFIG\_I: Configured from console by console

HDC#

**Escondido Sales Office Department**

Escondido Sales Office

ESO>enable

Password:

ESO#config t

Enter configuration commands, one per line. End with CNTL/Z.

ESO(config)#ip domain name eso.net

ESO(config)#username eso password eso

ESO(config)#crypto key generate rsa

The name for the keys will be: ESO.eso.net

Choose the size of the key modulus in the range of 360 to 4096 for your

General Purpose Keys. Choosing a key modulus greater than 512 may take

a few minutes.

How many bits in the modulus [512]: 1024

% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

ESO(config)#line vty 0 15

\*Mar 1 1:56:54.441: %SSH-5-ENABLED: SSH 1.99 has been enabled

ESO(config-line)#login local

ESO(config-line)#transport input ssh

ESO(config-line)#exit

ESO(config)#exit

ESO#write

Building configuration...

[OK]

ESO#

%SYS-5-CONFIG\_I: Configured from console by console

ESO#

**Escondido Sales**

ES>enable

Password:

ES#config t

Enter configuration commands, one per line. End with CNTL/Z.

ES(config)#ip domain name es.net

ES(config)#username es password es

ES(config)#crypto key generate rsa

The name for the keys will be: ES.es.net

Choose the size of the key modulus in the range of 360 to 4096 for your

General Purpose Keys. Choosing a key modulus greater than 512 may take

a few minutes.

How many bits in the modulus [512]: 1024

% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

ES(config)#line vty 0 15

\*Mar 2 2:43:6.666: %SSH-5-ENABLED: SSH 1.99 has been enabled

ES(config-line)#login local

ES(config-line)#transport input ssh

ES(config-line)#exit

ES(config)#exit

ES#write

Building configuration...

[OK]

ES#

%SYS-5-CONFIG\_I: Configured from console by console

ES#

**Alpine Manufacturing and Production Department**

Alpine Manufacturing and Production

AMP>enable

Password:

AMP#config t

Enter configuration commands, one per line. End with CNTL/Z.

AMP(config)#ip domain name amp.net

AMP(config)#username amp password amp

AMP(config)#crypto key generate rsa

The name for the keys will be: AMP.amp.net

Choose the size of the key modulus in the range of 360 to 4096 for your

General Purpose Keys. Choosing a key modulus greater than 512 may take

a few minutes.

How many bits in the modulus [512]: 1024

% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

AMP(config)#line vty 0 15

\*Mar 1 2:0:47.153: %SSH-5-ENABLED: SSH 1.99 has been enabled

AMP(config-line)#login local

AMP(config-line)#transport input ssh

AMP(config-line)#exit

AMP(config)#exit

AMP#write

Building configuration...

[OK]

AMP#

%SYS-5-CONFIG\_I: Configured from console by console

AMP#

**Alpine Production Department**

Alpine Production

User Access Verification

Password:

AP>enable

Password:

AP#config t

Enter configuration commands, one per line. End with CNTL/Z.

AP(config)#ip domain name ap.net

AP(config)#username ap password ap

AP(config)#crypto key generate rsa

The name for the keys will be: AP.ap.net

Choose the size of the key modulus in the range of 360 to 4096 for your

General Purpose Keys. Choosing a key modulus greater than 512 may take

a few minutes.

How many bits in the modulus [512]: 1024

% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

AP(config)#line vty 0 15

\*Mar 2 2:47:38.34: %SSH-5-ENABLED: SSH 1.99 has been enabled

AP(config-line)#login local

AP(config-line)#transport input ssh

AP(config-line)#exit

AP(config)#exit

AP#write

Building configuration...

[OK]

AP#

%SYS-5-CONFIG\_I: Configured from console by console

AP#

**Alpine Manufacturing Department**

Alpine Manufacturing

User Access Verification

Password:

AM>enable

Password:

AM#config t

Enter configuration commands, one per line. End with CNTL/Z.

AM(config)#ip domain name am.net

AM(config)#username am password am

AM(config)#crypto key generate rsa

The name for the keys will be: AM.am.net

Choose the size of the key modulus in the range of 360 to 4096 for your

General Purpose Keys. Choosing a key modulus greater than 512 may take

a few minutes.

How many bits in the modulus [512]: 1024

% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

AM(config)#line vty 0 15

\*Mar 2 2:53:17.488: %SSH-5-ENABLED: SSH 1.99 has been enabled

AM(config-line)#login local

AM(config-line)#transport input ssh

AM(config-line)#exit

AM(config)#exit

AM#write

Building configuration...

[OK]

AM#

%SYS-5-CONFIG\_I: Configured from console by console

AM#

config t

ip domain name swera.net

username swera password swera

crypto key generate rsa

1024

line vty 0 15

login local

transport input ssh

exit

do write

**Step 3:**

**SSH on all Routers and switches**

AM#config t

Enter configuration commands, one per line. End with CNTL/Z.

AM(config)#ip ssh version 2

AM(config)#exit

AM#

%SYS-5-CONFIG\_I: Configured from console by console

AM#write

Building configuration...

[OK]

AM#

config t

ip ssh version 2

do write

**Step 4:**

**VLAN (trunks and access port) , Switch port security to finance department**

**VLAN 10: (Headqauter Sales):**

**For Fast Ethernet :**

HS#config t

Enter configuration commands, one per line. End with CNTL/Z.

HS(config)#interface range fa0/1

HS(config-if-range)#switchport mode trunk

HS(config-if-range)#

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

HS(config-if-range)#exit

HS(config)#vlan 10

HS(config-vlan)#name headsales

HS(config-vlan)#exit

HS(config)#interface range fa0/2-24

HS(config-if-range)#switchport access vlan 10

HS(config-if-range)#exit

HS(config)#exit

HS#

%SYS-5-CONFIG\_I: Configured from console by console

HS#write

Building configuration...

[OK]

HS#

**For Gigabit Ethernet :**

HS#config t

Enter configuration commands, one per line. End with CNTL/Z.

HS(config)#vlan 99

HS(config-vlan)#name Blackhole

HS(config-vlan)#exit

HS(config)#interface range gig0/1-2

HS(config-if-range)#switchport mode access

HS(config-if-range)#switchport access vlan 99

HS(config-if-range)#shutdown

%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to administratively down

%LINK-5-CHANGED: Interface GigabitEthernet0/2, changed state to administratively down

HS(config-if-range)#exit

HS(config)#exit

HS#

%SYS-5-CONFIG\_I: Configured from console by console

HS#write

Building configuration...

[OK]

**VLAN 20: (Headqauter Marketing):**

**For Fast Ethernet :**

Headqaurter Marketing

User Access Verification

Password:

HM>enable

Password:

HM#config t

Enter configuration commands, one per line. End with CNTL/Z.

HM(config)#interface range fa0/1

HM(config-if-range)#switchport mode trunk

HM(config-if-range)#exit

HM(config)#vlan 20

HM(config-vlan)#name headmarketing

HM(config-vlan)#exit

HM(config)#interface range fa0/2-24

HM(config-if-range)#switchport access vlan 20

HM(config-if-range)#exit

HM(config)#do write

Building configuration...

[OK]

**For Gigabit Ethernet :**

HM(config)#

HM(config)#vlan 99

HM(config-vlan)#name Blackhole

HM(config-vlan)#exit

HM(config)#interface range gig0/1-2

HM(config-if-range)#switchport mode access

HM(config-if-range)#switchport access vlan 99

HM(config-if-range)#shutdown

HM(config-if-range)#exit

HM(config)#do write

Building configuration...

[OK]

HM(config)#

HM(config)#

HM#

%SYS-5-CONFIG\_I: Configured from console by console

HM#

**VLAN 30: (Headqauter Administration):**

**For Fast Ethernet :**

Headqaurter Administration

User Access Verification

Password:

HA>enable

Password:

Password:

HA#config t

Enter configuration commands, one per line. End with CNTL/Z.

HA(config)#interface range fa0/1

HA(config-if-range)#switchport mode trunk

HA(config-if-range)#exit

HA(config)#vlan 30

HA(config-vlan)#name headadministration

HA(config-vlan)#exit

HA(config)#interface range fa0/2-24

HA(config-if-range)#switchport access vlan 30

HA(config-if-range)#exit

HA(config)#do write

Building configuration...

[OK]

HA(config)#

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

**For Gigabit Ethernet :**

HA(config)#vlan 99

HA(config-vlan)#name Blackhole

HA(config-vlan)#exit

HA(config)#interface range gig0/1-2

HA(config-if-range)#switchport mode access

HA(config-if-range)#switchport access vlan 99

HA(config-if-range)#shutdown

%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to administratively down

%LINK-5-CHANGED: Interface GigabitEthernet0/2, changed state to administratively down

HA(config-if-range)#exit

HA(config)#do write

Building configuration...

[OK]

HA(config)#

**VLAN 40: (Headquarter IT, Security, Accounting, and Finance):**

**For Fast Ethernet :**

Headqaurter IT Security

User Access Verification

Password:

HIS>enable

Password:

HIS#config t

Enter configuration commands, one per line. End with CNTL/Z.

HIS(config)#interface range fa0/1

HIS(config-if-range)#switchport mode trunk

HIS(config-if-range)#exit

HIS(config)#vlan 40

HIS(config-vlan)#name headsecurity

HIS(config-vlan)#exit

HIS(config)#interface range fa0/2-24

HIS(config-if-range)#switchport access vlan 40

HIS(config-if-range)#exit

HIS(config)#do write

Building configuration...

[OK]

HIS(config)#

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

**For Gigabit Ethernet :**

HIS(config)#vlan 99

HIS(config-vlan)#name Blackhole

HIS(config-vlan)#exit

HIS(config)#interface range gig0/1-2

HIS(config-if-range)#switchport mode access

HIS(config-if-range)#switchport access vlan 99

HIS(config-if-range)#shutdown

%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to administratively down

%LINK-5-CHANGED: Interface GigabitEthernet0/2, changed state to administratively down

HIS(config-if-range)#exit

HIS(config)#do write

Building configuration...

[OK]

HIS(config)#

HIS(config)#

HIS#

%SYS-5-CONFIG\_I: Configured from console by console

HIS#

**VLAN 50: (Headquarter Data Center):**

**For Fast Ethernet :**

Headqaurter Data Center

User Access Verification

Password:

HDC>enable

Password:

HDC#config t

Enter configuration commands, one per line. End with CNTL/Z.

HDC(config)#interface range fa0/1

HDC(config-if-range)#switchport mode trunk

HDC(config-if-range)#exit

HDC(config)#vlan 50

HDC(config-vlan)#name headcenter

HDC(config-vlan)#exit

HDC(config)#interface range fa0/2-24

HDC(config-if-range)#switchport access vlan 50

HDC(config-if-range)#exit

HDC(config)#do write

Building configuration...

[OK]

HDC(config)#

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

**For Gigabit Ethernet :**

HDC(config)#vlan 99

HDC(config-vlan)#name Blackhole

HDC(config-vlan)#exit

HDC(config)#interface range gig0/1-2

HDC(config-if-range)#switchport mode access

HDC(config-if-range)#switchport access vlan 99

HDC(config-if-range)#shutdown

%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to administratively down

%LINK-5-CHANGED: Interface GigabitEthernet0/2, changed state to administratively down

HDC(config-if-range)#exit

HDC(config)#do write

Building configuration...

[OK]

**VLAN 60: (Escondido Sales):**

**For Fast Ethernet :**

ES>

ES>enable

Password:

ES#config t

Enter configuration commands, one per line. End with CNTL/Z.

ES(config)#interface range fa0/1

ES(config-if-range)#switchport mode trunk

ES(config-if-range)#exit

ES(config)#vlan 60

ES(config-vlan)#name escondido

ES(config-vlan)#exit

ES(config)#interface range fa0/2-24

ES(config-if-range)#switchport access vlan 60

ES(config-if-range)#exit

ES(config)#do write

Building configuration...

[OK]

ES(config)#

**For Gigabit Ethernet :**

ES(config)#

ES(config)#vlan 99

ES(config-vlan)#name Blackhole

ES(config-vlan)#exit

ES(config)#interface range gig0/1-2

ES(config-if-range)#switchport mode access

ES(config-if-range)#switchport access vlan 99

ES(config-if-range)#shutdown

ES(config-if-range)#exit

ES(config)#do write

Building configuration...

[OK]

ES(config)#

**VLAN 70: (Alpine Manufacturing Department ):**

**For Fast Ethernet :**

Alpine Manufacturing

User Access Verification

Password:

AM>enable

Password:

AM#config t

Enter configuration commands, one per line. End with CNTL/Z.

AM(config)#interface range fa0/1

AM(config-if-range)#switchport mode trunk

AM(config-if-range)#exit

AM(config)#vlan 70

AM(config-vlan)#name alpinemanufacturing

AM(config-vlan)#exit

AM(config)#interface range fa0/2-24

AM(config-if-range)#switchport access vlan 70

AM(config-if-range)#exit

AM(config)#do write

Building configuration...

[OK]

AM(config)#

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

**For Gigabit Ethernet :**

AM(config)#vlan 99

AM(config-vlan)#name Blackhole

AM(config-vlan)#exit

AM(config)#interface range gig0/1-2

AM(config-if-range)#switchport mode access

AM(config-if-range)#switchport access vlan 99

AM(config-if-range)#shutdown

%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to administratively down

%LINK-5-CHANGED: Interface GigabitEthernet0/2, changed state to administratively down

AM(config-if-range)#exit

AM(config)#do write

Building configuration...

[OK]

AM(config)#

**VLAN 80: (Alpine Production Department ):**

**For Fast Ethernet :**

Alpine Production

User Access Verification

Password:

AP>enable

Password:

AP#config t

Enter configuration commands, one per line. End with CNTL/Z.

AP(config)#interface range fa0/1

AP(config-if-range)#switchport mode trunk

AP(config-if-range)#exit

AP(config)#vlan 80

AP(config-vlan)#name alpineproduction

AP(config-vlan)#exit

AP(config)#interface range fa0/2-24

AP(config-if-range)#switchport access vlan 80

AP(config-if-range)#exit

AP(config)#do write

Building configuration...

[OK]

AP(config)#

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

**For Gigabit Ethernet :**

AP(config)#vlan 99

AP(config-vlan)#name Blackhole

AP(config-vlan)#exit

AP(config)#interface range gig0/1-2

AP(config-if-range)#switchport mode access

AP(config-if-range)#switchport access vlan 99

AP(config-if-range)#shutdown

%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to administratively down

%LINK-5-CHANGED: Interface GigabitEthernet0/2, changed state to administratively down

AP(config-if-range)#exit

AP(config)#do write

Building configuration...

[OK]

AP(config)#

AP(config)#

**Switchboard Security:**

**Headquarter IT, Security, Accounting, and Finance:**

**Headquarter Department**

Admin Panel

User Access Verification

Password:

Headquater>enable

Password:

Password:

Headquater#config t

Enter configuration commands, one per line. End with CNTL/Z.

Headquater(config)#interface gig0/1

Headquater(config-if)#exit

Headquater(config)#interface range fa0/1-5

Headquater(config-if-range)#switchport mode trunk

Headquater(config-if-range)#exit

Headquater(config)#interface range fa0/1-5

Headquater(config-if-range)#switchport mode trunk

Headquater(config-if-range)#vlan 10

Headquater(config-vlan)#name headsales

Headquater(config-vlan)#vlan 20

Headquater(config-vlan)#name headmarketing

Headquater(config-vlan)#vlan 30

Headquater(config-vlan)#name headadministration

Headquater(config-vlan)#vlan 40

Headquater(config-vlan)#name headsecurity

Headquater(config-vlan)#vlan 50

Headquater(config-vlan)#name headcenter

Headquater(config-vlan)#exit

Headquater(config)#do write

Building configuration...

[OK]

Headquater(config)#

Headquater(config)#

Headquater#

%SYS-5-CONFIG\_I: Configured from console by console

Headquater#

**Escondido Sales Office Department**

Escondido Sales Office

ESO>enable

Password:

ESO#config t

Enter configuration commands, one per line. End with CNTL/Z.

ESO(config)#interface range fa0/1-5

ESO(config-if-range)#switchport mode trunk

ESO(config-if-range)#vlan 60

ESO(config-vlan)#name escondido

ESO(config-vlan)#exit

ESO(config)#do write

Building configuration...

[OK]

ESO(config)#

ESO(config)#

**Alpine Manufacturing and Production Department**

Alpine Manufacturing and Production

AMP>enable

Password:

AMP#config t

Enter configuration commands, one per line. End with CNTL/Z.

AMP(config)#interface range fa0/1-5

AMP(config-if-range)#switchport mode trunk

AMP(config-if-range)#vlan 70

AMP(config-vlan)#name alpinemanufacturing

AMP(config-vlan)#vlan 80

AMP(config-vlan)#name alpineproduction

AMP(config-vlan)#exit

AMP(config)#do write

Building configuration...

[OK]

AMP(config)#

AMP(config)#

**IP Addressing and Subnetting:**

Base Network: 172.16.0.0

No. of subnets = 3

No. of subnets = 2^n

2^n >= 3. **🡪**We need a no. greater than 03, so, n = 2

2^2 = 4.

Subnet-Mask of Class C = 255.255.0.0.

In Binary Form:

Subnet-Mask of Class B = 11111111.11111111. 00000000.00000000

After Borrowing 2 bits from host bites. New Subnet-Mask of Class C:

= 11111111.11111111.11000000.00000000

New Subnet-Mask of Class C = 255.255.192.0

**Block Size (increment) = 64.**

**1st Subnet:**

**Headquarter Sales 🡺 vlan 1**

Network I’d = 172.16.0.0 Add block size

Broadcast I’d = 172.16.63.255 Previous no. of the next network I’d

Host Range = 172.16.1.1 to 172.16.62.254 In between network and broadcast I’d

**2nd subnet:**

**Alpine Manufacturing and Production 🡺 vlan 2**

Network I’d = 172.16.64.0 Add block size

Broadcast I’d = 172.16.127.255 Previous no. of the next network I’d

Host Range = 172.16.65.1 to 172.16.126.254 In between network and broadcast I’d

**3rd Subnet:**

**Escondido Sales Office LAN 🡺 vlan 3**

Network I’d = 172.16.128.0 Add block size

Broadcast I’d = 172.16.191.255 Previous no. of the next network I’d

Host Range = 172.16.129.1 to 172.16.190.254 In between network and broadcast I’d

**ROUTER CONFIGURATION**

Company#

Company#config t

Enter configuration commands, one per line. End with CNTL/Z.

Company(config)#interface GigabitEthernet0/0

Company(config-if)#no shutdown

Company(config-if)#interface GigabitEthernet0/1

Company(config-if)#no shutdown

Company(config-if)#interface GigabitEthernet0/2

Company(config-if)#no shutdown

Company(config-if)#

Company(config-if)#exit

Company(config)#

**VLAN 1 configuration**

**Headquarter Sales 🡺 vlan 1**

Company(config)#

Company(config)#interface GigabitEthernet0/0

Company(config-if)#encapsulation dot1Q 1

^

% Invalid input detected at '^' marker.

Company(config-if)#ip address 172.16.1.1 255.255.192.0

Company(config-if)#exit

Company(config)#interface GigabitEthernet0/0.1

Company(config-subif)#encapsulation dot1Q 1

Company(config-subif)#ip address 172.16.1.1 255.255.192.0

% 172.16.0.0 overlaps with GigabitEthernet0/0

Company(config-subif)#exit

Company(config)#

%LINK-5-CHANGED: Interface GigabitEthernet0/0.1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.1, changed state to up

**VLAN 2 configuration**

**Escondido Sales Office LAN 🡺 vlan 2**

Company(config)#config t

%Invalid hex value

Company(config)#interface GigabitEthernet0/0.2

Company(config-subif)#encapsulation dot1Q 2

Company(config-subif)#ip address 172.16.65.1 255.255.192.0

Company(config-subif)#exit

Company(config)#

%LINK-5-CHANGED: Interface GigabitEthernet0/0.2, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.2, changed state to up

**VLAN 3 configuration**

**Alpine Manufacturing and Production 🡺 vlan 3**

Company(config)#interface GigabitEthernet0/0.3

Company(config-subif)#encapsulation dot1Q 3

Company(config-subif)#ip address 172.16.128.1 255.255.192.0

Company(config-subif)#exit

Company(config)#

%LINK-5-CHANGED: Interface GigabitEthernet0/0.3, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.3, changed state to up

Company(config)#

**Router as DHCP**

**Headquater:**

User Access Verification

Password:

Company>enable

Password:

Company#config t

Enter configuration commands, one per line. End with CNTL/Z.

Company(config)#ip dhcp pool VLAN1

Company(dhcp-config)#network 172.16.1.0 255.255.192.0

Company(dhcp-config)#default-router 172.16.1.1

Company(dhcp-config)#dns-server 8.8.8.8

Company(dhcp-config)#exit

Company(config)#exit

Company#

%SYS-5-CONFIG\_I: Configured from console by console

Company#show ip dhcp pool

1. **Headquarter Sales (VLAN 1):**

Company>enable

Password:

Company#config t

Enter configuration commands, one per line. End with CNTL/Z.

Company(config)#ip dhcp pool VLAN1

Company(dhcp-config)#network 172.16.0.0 255.255.192.0

Company(dhcp-config)#default-router 172.16.1.1

Company(dhcp-config)#dns-server 8.8.8.8

Company(dhcp-config)#exit

Company(config)#

Company(config)#

Company#

1. **Escondido Sales Office (VLAN 2):**

Company#config t

Enter configuration commands, one per line. End with CNTL/Z.

Company(config)#ip dhcp pool VLAN2

Company(dhcp-config)#network 172.16.64.0 255.255.192.0

Company(dhcp-config)#default-router 172.16.65.1

Company(dhcp-config)#dns-server 8.8.8.8

Company(dhcp-config)#exit

1. **Alpine Manufacturing and Production (VLAN 3):**

Company#config t

Enter configuration commands, one per line. End with CNTL/Z.

Company(config)#ip dhcp pool VLAN3

Company(dhcp-config)#network 172.16.128.0 255.255.192.0

Company(dhcp-config)#default-router 172.16.129.1

Company(dhcp-config)#dns-server 8.8.8.8

Company(dhcp-config)#exit

**Router Dynamic Routing:**

Company(config)#

Company(config)#router rip

Company(config-router)#version 2

Company(config-router)#network 172.16.0.0

Company(config-router)#network 172.16.64.0

Company(config-router)#network 172.16.128.0

Company(config-router)#exit

Company(config)#

Company(config)#

**Switch Configuration:**

**Vlan 1:**

Admin Panel

User Access Verification

Password:

Headquater>enable

Password:

Headquater#config t

Enter configuration commands, one per line. End with CNTL/Z.

Headquater(config)#interface vlan 1

Headquater(config-if)#ip address 172.16.1.254 255.255.192.0

Headquater(config-if)#exit

Headquater(config)#

Headquater(config)#

Headquater#

**Vlan 2:**

AMP>enable

Password:

AMP#config t

Enter configuration commands, one per line. End with CNTL/Z.

AMP(config)#interface vlan 2

AMP(config-if)#ip address 172.16.65.254 255.255.192.0

AMP(config-if)#exit

AMP(config)#

**Vlan 3:**

Escondido Sales Office

ESO>enable

Password:

ESO#config t

Enter configuration commands, one per line. End with CNTL/Z.

ESO(config)#interface vlan 3

ESO(config-if)#ip address 172.16.129.254 255.255.192.0

ESO(config-if)#exit

ESO(config)#

**Router:**

Company#show ip route

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP

D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area

N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2

E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP

i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area

\* - candidate default, U - per-user static route, o - ODR

P - periodic downloaded static route

Gateway of last resort is not set

172.16.0.0/16 is variably subnetted, 6 subnets, 2 masks

C 172.16.0.0/18 is directly connected, GigabitEthernet0/0

L 172.16.1.1/32 is directly connected, GigabitEthernet0/0

C 172.16.64.0/18 is directly connected, GigabitEthernet0/0.2

L 172.16.65.1/32 is directly connected, GigabitEthernet0/0.2

C 172.16.128.0/18 is directly connected, GigabitEthernet0/0.3

L 172.16.128.1/32 is directly connected, GigabitEthernet0/0.3

Company#

**Switch:**

**Vlan 1:**

Headquater#show interfaces vlan 1

Vlan1 is administratively down, line protocol is down

Hardware is CPU Interface, address is 0030.f273.61b7 (bia 0030.f273.61b7)

Internet address is 172.16.1.254/18

MTU 1500 bytes, BW 100000 Kbit, DLY 1000000 usec,

reliability 255/255, txload 1/255, rxload 1/255

Encapsulation ARPA, loopback not set

ARP type: ARPA, ARP Timeout 04:00:00

Last input 21:40:21, output never, output hang never

Last clearing of "show interface" counters never

Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0

Queueing strategy: fifo

Output queue: 0/40 (size/max)

5 minute input rate 0 bits/sec, 0 packets/sec

5 minute output rate 0 bits/sec, 0 packets/sec

1682 packets input, 530955 bytes, 0 no buffer

Received 0 broadcasts (0 IP multicast)

0 runts, 0 giants, 0 throttles

0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored

563859 packets output, 0 bytes, 0 underruns

0 output errors, 23 interface resets

0 output buffer failures, 0 output buffers swapped out

Headquater#

**Vlan 2:**

AMP#show interfaces vlan 2

Vlan2 is down, line protocol is down

Hardware is CPU Interface, address is 0090.0ce4.ea01 (bia 0090.0ce4.ea01)

Internet address is 172.16.65.254/18

MTU 1500 bytes, BW 100000 Kbit, DLY 1000000 usec,

reliability 255/255, txload 1/255, rxload 1/255

Encapsulation ARPA, loopback not set

ARP type: ARPA, ARP Timeout 04:00:00

Last input 21:40:21, output never, output hang never

Last clearing of "show interface" counters never

Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0

Queueing strategy: fifo

Output queue: 0/40 (size/max)

5 minute input rate 0 bits/sec, 0 packets/sec

5 minute output rate 0 bits/sec, 0 packets/sec

1682 packets input, 530955 bytes, 0 no buffer

Received 0 broadcasts (0 IP multicast)

0 runts, 0 giants, 0 throttles

0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored

563859 packets output, 0 bytes, 0 underruns

0 output errors, 23 interface resets

0 output buffer failures, 0 output buffers swapped out

AMP#

**Vlan 3:**

ESO#show interfaces vlan 3

Vlan3 is down, line protocol is down

Hardware is CPU Interface, address is 0001.c993.ca01 (bia 0001.c993.ca01)

Internet address is 172.16.129.254/18

MTU 1500 bytes, BW 100000 Kbit, DLY 1000000 usec,

reliability 255/255, txload 1/255, rxload 1/255

Encapsulation ARPA, loopback not set

ARP type: ARPA, ARP Timeout 04:00:00

Last input 21:40:21, output never, output hang never

Last clearing of "show interface" counters never

Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0

Queueing strategy: fifo

Output queue: 0/40 (size/max)

5 minute input rate 0 bits/sec, 0 packets/sec

5 minute output rate 0 bits/sec, 0 packets/sec

1682 packets input, 530955 bytes, 0 no buffer

Received 0 broadcasts (0 IP multicast)

0 runts, 0 giants, 0 throttles

0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored

563859 packets output, 0 bytes, 0 underruns

0 output errors, 23 interface resets

0 output buffer failures, 0 output buffers swapped out

ESO#

**On Headquarter switch for VLAN 1:**

Headquater#

Headquater#config t

Enter configuration commands, one per line. End with CNTL/Z.

Headquater(config)#interface vlan 1

Headquater(config-if)#no shutdown

Headquater(config-if)#

%LINK-5-CHANGED: Interface Vlan1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to up

**On AMP switch for VLAN 2:**

AMP#config t

Enter configuration commands, one per line. End with CNTL/Z.

AMP(config)#interface vlan 2

AMP(config-if)#no shutdown

AMP(config-if)#

**On ESO switch for VLAN 3:**

ESO#config t

Enter configuration commands, one per line. End with CNTL/Z.

ESO(config)#interface vlan 3

ESO(config-if)#no shutdown

ESO(config-if)#

**Configure DHCP on the Router:**

Company>enable

Password:

Company#config t

Enter configuration commands, one per line. End with CNTL/Z.

Company(config)#ip dhcp pool headquater

Company(dhcp-config)#network 172.16.1.0 255.255.192.0

Company(dhcp-config)#default-router 172.16.1.254

Company(dhcp-config)#dns-server 8.8.8.8

Company(dhcp-config)#exit

Company(config)#

Company(config)#

**Enable DHCP on VLAN Interfaces:**

Headquater#config t

Enter configuration commands, one per line. End with CNTL/Z.

Headquater(config)#interface vlan 1

Headquater(config-if)#ip helper-address 172.16.1.254

Headquater(config-if)#end

Headquater#

%SYS-5-CONFIG\_I: Configured from console by console

Headquater#

**For VLAN 2 (Alpine Manufacturing and Production - 172.16.64.0/18):**

Company#config t

Enter configuration commands, one per line. End with CNTL/Z.

Company(config)#ip dhcp pool amp

Company(dhcp-config)#network 172.16.64.0 255.255.192.0

Company(dhcp-config)#default-router 172.16.65.254

Company(dhcp-config)#dns-server 8.8.8.8

Company(dhcp-config)#exit

Company(config)#

**For VLAN 3 (Escondido Sales Office LAN - 172.16.128.0/18):**

Company(config)#ip dhcp pool eso

Company(dhcp-config)#network 172.16.128.0 255.255.192.0

Company(dhcp-config)#default-router 172.16.129.254

Company(dhcp-config)#dns-server 8.8.8.8

Company(dhcp-config)#exit

Company(config)#

**For VLAN 2:**

config t

interface amp

ip helper-address 172.16.65.254

end

**For VLAN 3:**

ESO(config)#

ESO(config)#interface vlan 3

ESO(config-if)#ip helper-address 172.16.129.254

ESO(config-if)#end

ESO#

%SYS-5-CONFIG\_I: Configured from console by console

ESO#

**Verify DHCP Configuration:**

Company#show ip dhcp binding

**ACL :**

**Headquater:**

Company#config t

Enter configuration commands, one per line. End with CNTL/Z.

Company(config)#access-list 101 permit tcp any any eq www

Company(config)#interface GigabitEthernet0/0

Company(config-if)#ip access-group 101 in

Company(config-if)#

Company(config-if)#

**AMP:**

Company(config-if)#

Company(config-if)#access-list 101 permit tcp any any eq www

Company(config)#interface GigabitEthernet0/1

Company(config-if)#ip access-group 101 in

Company(config-if)#

**ESO:**

Company(config-if)#

Company(config-if)#access-list 101 permit tcp any any eq www

Company(config)#interface GigabitEthernet0/1

Company(config-if)#ip access-group 101 in

Company(config-if)#

**Network Address Translation (NAT):**

Company(config-if)#exit

Company(config)#ip nat inside source list 1 interface GigabitEthernet0/0 overload

Company(config)#access-list 1 permit 172.16.0.0 0.0.255.255

Company(config)#interface GigabitEthernet0/0

Company(config-if)#ip nat outside

Company(config-if)#interface GigabitEthernet0/1

Company(config-if)#ip nat inside

Company(config-if)#

**Port Address Translation (PAT):**

Company(config)#ip nat inside source list 1 interface GigabitEthernet0/0 overload

Company(config)#access-list 1 permit 172.16.0.0 0.0.255.255

Company(config)#interface GigabitEthernet0/0

Company(config-if)#ip nat outside

Company(config-if)#interface GigabitEthernet0/1

Company(config-if)#ip nat inside

Company(config-if)#

Company(config)#config t

%Invalid hex value

Company(config)#interface GigabitEthernet0/0

Company(config-if)#ip address 172.16.1.1 255.255.192.0

Company(config-if)#ip helper-address 172.16.1.254

Company(config-if)#exit

Company(config)#

Company>enable

Password:

Company#config t

Enter configuration commands, one per line. End with CNTL/Z.

**VLAN10**

Headqaurter Sales

User Access Verification

Password:

HS>enable

Password:

HS#config t

Enter configuration commands, one per line. End with CNTL/Z.

HS(config)#ip dhcp pool VLAN10

HS(dhcp-config)#network 172.16.10.0 255.255.255.0

HS(dhcp-config)#default-router 172.16.10.1

HS(dhcp-config)#dns-server 8.8.8.8

HS(dhcp-config)#exit

HS(config)#

HS(config)#

**VLAN 20**

Headqaurter Marketing

User Access Verification

Password:

HM>enable

Password:

HM#config t

Enter configuration commands, one per line. End with CNTL/Z.

HM(config)#ip dhcp pool VLAN20

HM(dhcp-config)#network 172.16.20.0 255.255.255.0

HM(dhcp-config)#default-router 172.16.20.1

HM(dhcp-config)#dns-server 8.8.8.8

HM(dhcp-config)#exit

HM(config)#

HM(config)#

**VLAN 30**

Headqaurter Administration

User Access Verification

Password:

HA>enable

Password:

HA#config t

Enter configuration commands, one per line. End with CNTL/Z.

HA(config)#ip dhcp pool VLAN30

HA(dhcp-config)#network 172.16.30.0 255.255.255.0

HA(dhcp-config)#default-router 172.16.30.1

HA(dhcp-config)#dns-server 8.8.8.8

HA(dhcp-config)#exit

HA(config)#

**VLAN 40**

Headqaurter IT Security

User Access Verification

Password:

Password:

HIS>enable

Password:

HIS#config t

Enter configuration commands, one per line. End with CNTL/Z.

HIS(config)#ip dhcp pool VLAN40

HIS(dhcp-config)#network 172.16.40.0 255.255.255.0

HIS(dhcp-config)#default-router 172.16.40.1

HIS(dhcp-config)#dns-server 8.8.8.8

HIS(dhcp-config)#exit

HIS(config)#

**VLAN 50**

Headqaurter Data Center

User Access Verification

Password:

HDC>enable

Password:

HDC#config t

Enter configuration commands, one per line. End with CNTL/Z.

HDC(config)#ip dhcp pool VLAN50

HDC(dhcp-config)#network 172.16.50.0 255.255.255.0

HDC(dhcp-config)#default-router 172.16.50.1

HDC(dhcp-config)#dns-server 8.8.8.8

HDC(dhcp-config)#exit

HDC(config)#

**For VLAN 60 (Escondido Sales Office LAN - 172.16.128.0/18):**

ES>enable

Password:

ES#config t

Enter configuration commands, one per line. End with CNTL/Z.

ES(config)#ip dhcp pool eso

ES(dhcp-config)#network 172.16.128.0 255.255.192.0

ES(dhcp-config)#default-router 172.16.129.254

ES(dhcp-config)#dns-server 8.8.8.8

ES(dhcp-config)#exit

ES(config)#

**For VLAN 70 (Alpine Manufacturing - 172.16.64.0/18):**

Company#config t

Enter configuration commands, one per line. End with CNTL/Z.

Company(config)#ip dhcp pool amp

Company(dhcp-config)#network 172.16.64.0 255.255.192.0

Company(dhcp-config)#default-router 172.16.65.254

Company(dhcp-config)#dns-server 8.8.8.8

Company(dhcp-config)#exit

Company(config)#

**For VLAN 80 (Alpine Production - 172.16.64.0/18):**

Company#config t

Enter configuration commands, one per line. End with CNTL/Z.

Company(config)#ip dhcp pool amp

Company(dhcp-config)#network 172.16.64.0 255.255.192.0

Company(dhcp-config)#default-router 172.16.65.254

Company(dhcp-config)#dns-server 8.8.8.8

Company(dhcp-config)#exit

Company(config)#

Company>enable

Password:

Company#config t

Enter configuration commands, one per line. End with CNTL/Z.

**! VLAN 2**

Company(config)#ip dhcp pool VLAN2

Company(dhcp-config)#network 172.16.64.0 255.255.192.0

Company(dhcp-config)#default-router 172.16.65.1

Company(dhcp-config)#dns-server 8.8.8.8

Company(dhcp-config)#exit

Company(config)#

Company(config)#

! **VLAN 70 and VLAN 80 connected with VLAN 2**

Company(config)#ip dhcp pool VLAN70

Company(dhcp-config)#network 172.16.70.0 255.255.255.0

Company(dhcp-config)#default-router 172.16.70.1

Company(dhcp-config)#dns-server 8.8.8.8

Company(dhcp-config)#exit

Company(config)#

Company(config)#ip dhcp pool VLAN80

Company(dhcp-config)#network 172.16.80.0 255.255.255.0

Company(dhcp-config)#default-router 172.16.80.1

Company(dhcp-config)#dns-server 8.8.8.8

Company(dhcp-config)#exit

Company(config)#

! **VLAN 3**

Anthonys Potato Chip Company

User Access Verification

Password:

Company>enable

Password:

Company#config t

Enter configuration commands, one per line. End with CNTL/Z.

Company(config)#ip dhcp pool VLAN3

Company(dhcp-config)#network 172.16.128.0 255.255.192.0

Company(dhcp-config)#default-router 172.16.129.1

Company(dhcp-config)#dns-server 8.8.8.8

Company(dhcp-config)#exit

Company(config)#

Company(config)#

! **VLAN 60 connected with VLAN 3**

Company(config)#ip dhcp pool VLAN60

Company(dhcp-config)#network 172.16.60.0 255.255.255.0

Company(dhcp-config)#default-router 172.16.60.1

Company(dhcp-config)#dns-server 8.8.8.8

Company(dhcp-config)#exit

Company(config)#