

Static routes and redistribution

Static Routes

Router(config)# ip route <dest-network> <subnet mask> <next-hop-address>

Redistribution

Router(config)#ip default-network <network-address>

Router(config-router)#default-information originate

Router(config-router)#redistribute static

Routing Protocols

OSPF

Router(config)# router ospf <process-ID>

Router(config-router)# network <address> <wildcard-mask> area <area-ID>

Router(config-if)# ip ospf priority <number>

Router(config-if)# ip ospf cost <number>

Router(config-if)# ip ospf hello-interval <seconds>

Router(config-if)# ip ospf dead-interval <seconds>

Router(config-if)#ip ospf message-digest-key <key-id> md5 <encryption-type> <password>

Router(config-router)#area <area-ID> authentication <message-digest>

EIGRP

Router(config)# router eigrp <AS-number>

Router(config-router)# network <network-address>

Router(config-router)#no auto-summary

Access Control Lists (ACL)

Standard

Router(config)# access-list <1-99> permit/deny <source-address> <wildcard-mask>

Extended

Router(config)# access-list <100-199> <protocol> permit/deny <source-address> <wildcard-mask> <dest-address> <wildcard-mask> <port>

Router(config-if)#ip access-group <number> in/out

Switch configuration

Management VLAN and default gateway

Switch(config)#interface VLAN1

Switch(config-if) #ip address <address> <subnet mask>

Switch(config)#ip default-gateway <address>

Switch(config)#mac-address-table static <mac-address> > vlan <vlan name> interface fastEthernet <number>

Switch(config-if)# switchport mode access

Switch(config-if)# switchport port-security

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

Switch(config-if)# switchport port-security maximum <number>

Create VLANs

```
Switch#vlan database
Switch(vlan)#vlan <vlan-number> name <vlan-name>
Switch(vlan)#exit
```

Assigning ports to VLANs

```
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan <vlan-number>
```

VTP

```
Switch#vlan database
Switch(vlan)#vtp <server/client>
Switch(vlan)#vtp domain <domain-name>
Switch(vlan)#exit
```

Trunk

```
Switch(config-if)#switchport mode trunk
Switch(config-if)#switchport trunk encapsulation <type>
```

Routing between VLANs

```
Router(config)#interface FastEthernet <number>
Router(config-if)#no shutdown
Router(config)#interface FastEthernet 0/0.<sub-interface number>
Router(config-subif)#encapsulation <type> <vlan-number>
Router(config-subif)#ip address <address> <subnet mask>
```

IP addressing

Network Address Translation (NAT)

```
Router(config)# ip nat inside source static <local address> <global address>
Router(config)# ip nat pool <name> <start address> <end address> netmask <subnetmask>
Router(config)# ip nat inside source list <acl number> pool <name>
Router(config-if)# ip nat inside/outside
```

Port Address Translation (PAT)

```
Router(config)# ip nat inside source list <acl number> interface <interface> <number> overload
Router(config)# ip nat inside source list <acl number> pool <name> overload
```

DHCP

```
Router(config)#ip dhcp pool <name>
Router(dhcp-config)#network <address> <subnet mask>
Router(dhcp-config)#default-router <address>
Router(dhcp-config)#domain-name <name>
Router(dhcp-config)#dns-server <address>
Router(dhcp-config)#netbios-name-server <address>

Router(config)#ip dhcp excluded-address <address> <end address-range>

Router(config-if)#ip helper-address <address>
```

Point-to-Point Protocol (PPP)

```
Router(config-if)#encapsulation ppp
Router(config)#username <remote-router-name> password <password>
Router(config)#ppp authentication <type>
```

