Factory Reset

R# sh run	**Check**: hostname, interface, ip, duplex
R# write erase	[confirm]
R# reload	Continue with configuration dialog?: **no**
Check results:	`# sh run` and `# show start`

Configuration

R# config t

R(config)# hostname [name]

R(config)# interface GigabitEthernet**[0/0]**

R(config-if)# ip address [IP] [mask]

R(config-if)# duplex auto

R(config-if)# speed auto

R(config-if)# no shutdown

R(config-if)#line con 0

R(config-line)# exec-timeout 30 0

R(config-line)#end

R# copy run start

R# sh ip route

R# show run | section interface

Disable interface FastEthernet 0/0

R(config)# interface fastEthernet 0/0

R(config-if)# shutdown

Configure IP addresses on Router

R#config t

R(config)# int f0/0

R(config-if)# ip address [IP] [mask]

R(config-if)# no shut

Verify routes have been added

R# show ip route

Verify the traffic path from PC to PC:

`C:\>ping [IP]` and `C:\>tr acert [IP]`

Switch ports are not shutdown by default.

Static Routes

R# config t

R(config)# ip route [Destination IP subnet] [Destination IP subnet mask] [next-hop IP]

Verify connectivity by ping

Verify the traffic path from PC to PC:

`C:\>ping [IP]` and `C:\>tr acert [IP]`

Remove static routes

R# config t

R(config)# no ip route [Dest IP subnet] [Dest IP subnet mask] [next-hop IP]

Summary Routes

R# config t

R(config)# ip route [IP subnet] [mask subnet] [next hop IP]

R(config)# end

R# sh ip route

Verify connectivity by ping

Default Route and Load Balancing

R# config t

R(config)# int f0/0

R(config-if)# ip add [IP] [mask]

R(config-if)# no shut

Ensure that each router has a route out to the internet

R(config)# ip route 0.0.0.0 0.0.0.0 [next hop IP]

Routing Protocol

Basic RIPv1 configuration + Enable RIPv2

R(config)# router rip

R(config-router)# version 2	*Enable RIPv2*
R(config-router)# no auto-summary	
R(config-router)# network [ip subnet]	
R# show ip route	*Check that RIP routes have been added*
R#sh ip rip database	*View the RIP database*

Inject the default static route

Routing Protocol (cont)

R(config)# router rip

R(config-router)# default-information originate

Debug the routing protocol updates

R# debug ip rip

R# undebug all — *Turn off all debugging*

Basic EIGRP configuration

R(config)# router eigrp 100 — // R(config-router)# network [IP subnet]

R(config-router)# no auto-summary

R(config-router)# network [IP] [mask]

R(config)# no router eigrp 100 — *remove/ disable EIGRP*

R# sh ip eigrp neighbors

Loopback configuration

R(config)#interface loopback0

Adjacencies and Passive Interfaces

R# show ip eigrp neighbors — *Verify that R"x" has established EIGRP adjacencies with R"y"*

R(config-if)# router eigrp 100 — *Configure the loopback interface and the link as passive interfaces*

R(config-router)# passive-interface loopback0

R(config-router)# passive-interface fastethernet1/1

Basic OSPF configuration

R(config)# router ospf 1

R(config-router)# network [IP subnet] [wildcard mask] area 0 — *Ex: network 10.0.0.0 0.255.255.255 area 0*

OSPF Verification

R# sh run | section ospf — *show run | section ospf*

R# sh ip protocols — *show ip protocols*

R# show ip ospf interface brief — *show ip ospf interface brief*

R# show ip ospf neighbor — *show ip ospf neighbor*

Basic OSPF configuration (cont)

R# show ip ospf database — *show ip ospf database*

R# show ip route — *show ip route*

Remove/ Disable OSPF

R(config)# no router ospf 1

OSPF Router ID

R# sh ip int brief — *Check Loopback or No Loopback*

R# show ip protocols

R(config-router)# router ospf 1 — *Manually Configured*

R#(config-router)# router-id 2.2.2.2

R# clear ip ospf process

R# show ip protocols

Passive Interface Configuration

R1(config-router)# router ospf 1

R1#(config-router)# passive-interface [loopback 0] — *ex2: R#(config-router)# passive-interface f2/0*

R1(config-router)# router ospf 1

R1#(config-router)# passive-interface default — *set passive interface as the default*

R1#(config-router)# no passive-interface [f0/0]

Default Route Injection

R4(config)#ip route 0.0.0.0 0.0.0.0 203.0.113.2

R4(config)#router ospf 1

R4(config-router)#default-information originate

---> R1#sh ip route — *Default Route Injection Verification*

OSPD Areas

R(config)# router ospf 1

R(config-router)# network [IP subnet] [wildcard mask] area 0