

Configuration commands (Group 22)

R1:

```
Router>en
Router#sh controllers serial0/0/0

Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname R1
R1(config)#interface serial0/0/0
R1(config-if)#ip address 192.168.8.201 255.255.255.252
R1(config-if)#no shutdown

R1(config-if)#exit

R1(config)#interface serial0/1/0
R1(config-if)#ip address 192.168.8.193 255.255.255.252
R1(config-if)#no shutdown

R1(config-if)#exit

R1(config)#interface serial0/1/1
R1(config-if)#ip address 192.168.8.209 255.255.255.252
R1(config-if)#no shutdown

R1(config-if)#exit

R1(config)#interface fastethernet0/0
R1(config-if)#ip address 192.168.7.1 255.255.255.0
R1(config-if)#no shutdown

R1(config-if)#exit
```

R2:

```
Router>en
Router#config t

Router(config)#hostname R2

R2(config)#interface serial0/1/0
R2(config-if)#ip address 192.168.8.197 255.255.255.252
R2(config-if)#no shutdown

R2(config-if)#exit
```

```
R2(config)#interface serial0/1/1
R2(config-if)#ip address 192.168.8.194 255.255.255.252
R2(config-if)#no shutdown

R2(config-if)#exit

R2(config)#end

R2#copy run start

R2(config)#interface fa0/0
R2(config-if)#ip address 192.168.0.1 255.255.252.0
R2(config-if)#no shutdown
```

R3:

```
Router>en
Router#config t

Router(config)#hostname R3

R3(config)#interface serial0/1/0

R3(config-if)#ip address 192.168.8.198 255.255.255.252
R3(config-if)#no shutdown

R3(config-if)#exit

R3(config)#interface serial0/1/1
R3(config-if)#ip address 192.168.8.210 255.255.255.252
R3(config-if)#no shutdown

R3(config-if)#exit

R3(config)#interface fastethernet0/0

R3(config-if)#ip address 192.168.8.129 255.255.255.192
R3(config-if)#no shutdown

R3(config-if)#exit
R3(config)#end

R3#copy run start
```

R4:

```
Router>en
Router#config t
```

```
Router(config)#hostname R4
```

```
R4(config)#interface serial0/0/0
```

```
R4(config-if)#ip address 192.168.8.202 255.255.255.252
```

```
R4(config-if)#no shutdown
```

```
R4(config-if)#exit
```

```
R4(config-if)#interface serial0/1/0
```

```
R4(config-if)#ip address 192.168.8.213 255.255.255.252
```

```
R4(config-if)#no shutdown
```

```
R4(config-if)#exit
```

```
R4(config-if)#interface serial0/1/1
```

```
R4(config-if)#ip address 192.168.8.205 255.255.255.252
```

```
R4(config-if)#no shutdown
```

```
R4(config-if)#exit
```

```
R4(config)#interface fastethernet0/0
```

```
R4(config-if)#ip address 192.168.8.1 255.255.255.128
```

```
R4(config-if)#no shutdown
```

```
R4(config-if)#exit
```

```
R4(config)#end
```

```
R4#copy run start
```

R5:

```
Router>en
```

```
Router#config t
```

```
Router(config)#hostname R5
```

```
R5(config)#interface serial0/1/0
```

```
R5(config-if)#ip address 192.168.8.214 255.255.255.252
```

```
R5(config-if)#no shutdown
```

```
R5(config-if)#exit
```

```
R5(config)#end
```

```
R5#copy run start
```

```
R5>enable
```

```
R5#
```

```
R5#configure terminal
```

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

```
R5(config)#interface FastEthernet0/0
```

```
R5(config-if)#ip address 192.168.6.1 255.255.255.0
R5(config-if)#ip address 192.168.6.1 255.255.255.0
R5(config-if)#no shutdown
R5(config-if)#
```

R6:

```
Router>en
Router#config t
Router(config)#hostname R6
R6(config)#interface serial0/1/1
R6(config-if)#ip address 192.168.8.206 255.255.255.252
R6(config-if)#no shutdown

R6(config)#end

R6#copy run start
```

```
R6>enable
R6#
R6#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
R6(config)#interface FastEthernet0/0
R6(config-if)#ip address 192.168.4.1 255.255.255.0
R6(config-if)#ip address 192.168.4.1 255.255.254.0
R6(config-if)#no shutdown
R6(config-if)#
```

Routes configuration:

Static routing:

R1:

```
R1>enable
R1#configure terminal
R1(config)#ip route 192.168.8.128 255.255.255.192 192.168.8.210
R1(config)#ip route 192.168.0.0 255.255.252.0 192.168.8.210

R1(config)#ip route 192.168.8.0 255.255.255.128 192.168.8.202

R1(config)#ip route 192.168.8.0 255.255.255.128 192.168.8.202
R1(config)#ip route 192.168.4.0 255.255.254.0 192.168.8.202
```

PART OF DYNAMIC ROUTING

```
R1>en
```

```
R1#config t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#router rip
R1(config-router)#version 2
R1(config-router)#no auto-summary
R1(config-router)#network 192.168.8.200
R1(config-router)#redistribute static
R1(config-router)#end
R1#
%SYS-5-CONFIG_I: Configured from console by console
```

```
R1#copy run start
```

R2:

```
R2>enable
R2#configure terminal
R2(config)#ip route 192.168.8.128 255.255.255.192 192.168.8.198
R2(config)#ip route 192.168.7.0 255.255.255.0 192.168.8.198

R2(config)#ip route 192.168.6.0 255.255.255.0 192.168.8.198

R2(config)#ip route 192.168.8.0 255.255.255.128 192.168.8.198
```

```
R2(config)#ip route 192.168.4.0 255.255.254.0 192.168.8.198
```

R3:

```
R3>enable
R3#configure terminal
R3(config)#ip route 192.168.0.0 255.255.252.0 192.168.8.197

R3(config)#ip route 192.168.7.0 255.255.255.0 192.168.8.209

R3(config)#ip route 192.168.6.0 255.255.255.0 192.168.8.209
R3(config)#ip route 192.168.8.0 255.255.255.128 192.168.8.209
R3(config)#ip route 192.168.4.0 255.255.254.0 192.168.8.209
```

Dynamic routing:

R4:

```
R4>en
R4#config t
R4(config)#ip route 192.168.7.0 255.255.255.0 192.168.8.201
```

```
R4(config)#router rip
R4(config-router)#version 2
R4(config-router)#no auto-summary
R4(config-router)#network 192.168.8.200
R4(config-router)#network 192.168.8.212
R4(config-router)#network 192.168.8.204
R4(config-router)#network 192.168.8.0
R4(config-router)#end
```

```
R4#copy run start
```

R5:

```
R5>en
R5#config t
Enter configuration commands, one per line. End with CNTL/Z.
R5(config)#router rip
R5(config-router)#version 2
R5(config-router)#no auto-summary
R5(config-router)#network 192.168.6.0
R5(config-router)#network 192.168.8.212
R5(config-router)#end
R5#copy run start
```

R6:

```
R6>en
R6#config t
Enter configuration commands, one per line. End with CNTL/Z.
R6(config)#router rip
R6(config-router)#version 2
R6(config-router)#no auto-summary
R6(config-router)#network 192.168.8.204
R6(config-router)#network 192.168.4.0
R6(config-router)#redistribute static
R6(config-router)#end
R6#copy run start
```

Floating route:

#primary route

```
R2#en
R2#config t
R2(config)#ip route 0.0.0.0 0.0.0.0 s0/1/1
```

```
R2(config)#exit
```

#floating/backup route

```
R2#en
```

```
R2#config t
```

```
R2(config)#ip route 0.0.0.0 0.0.0.0 s0/1/0 5
```

```
R2(config)#exit
```

```
R2#show ip route
```

Codes: C - connected, S - static, I - IGRP, 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 0.0.0.0 to network 0.0.0.0

C 192.168.0.0/22 is directly connected, FastEthernet0/0

S 192.168.4.0/23 [1/0] via 192.168.8.198

S 192.168.6.0/24 [1/0] via 192.168.8.198

S 192.168.7.0/24 [1/0] via 192.168.8.198

192.168.8.0/24 is variably subnetted, 4 subnets, 3 masks

S 192.168.8.0/25 [1/0] via 192.168.8.198

S 192.168.8.128/26 [1/0] via 192.168.8.198

C 192.168.8.192/30 is directly connected, Serial0/1/1

C 192.168.8.196/30 is directly connected, Serial0/1/0

S* 0.0.0.0/0 is directly connected, Serial0/1/1

```
R2#show run
```

#shutdown primary route

```
R2#en
```

```
R2#config t
```

```
R2(config)#interface s0/1/1
```

```
R2(config-if)#shut
```

```
R2(config-if)#exit
```

```
R2(config)#exit
```

DHCP Configurations:

R1:

```
R1#config t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#interface fa0/0
R1(config-if)#ip helper-address 192.168.8.134
R1(config-if)#exit
R1(config)#exit
```

R2:

```
R2>en
R2#config t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#interface fa0/0
R2(config-if)#ip helper-address 192.168.8.134
R2(config-if)#exit
R2(config)#exit
```

R3:

```
R3>en
R3#config t
Enter configuration commands, one per line. End with CNTL/Z.
R3(config)#interface fa0/0
R3(config-if)#ip helper-address 192.168.8.134
R3(config-if)#exit
R3(config)#exit
```

R4:

```
R4>en
R4#config t
Enter configuration commands, one per line. End with CNTL/Z.
R4(config)#interface fa0/0
R4(config-if)#ip helper-address 192.168.8.134
R4(config-if)#exit
```


R4(config)#exit

R5:

R5>en

R6#config t

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

R5(config)#interface fa0/0

R5(config-if)#ip helper-address 192.168.8.134

R5(config-if)#exit

R5(config)#exit

R5:

R6>en

R6#config t

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

R6(config)#interface fa0/0

R6(config-if)#ip helper-address 192.168.8.134

R6(config-if)#exit

R6(config)#exit