

# IOS Routing Configuration -



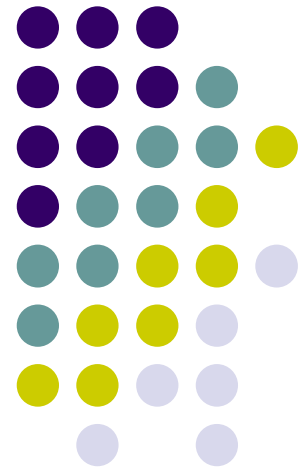
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Interfaces



OSPF



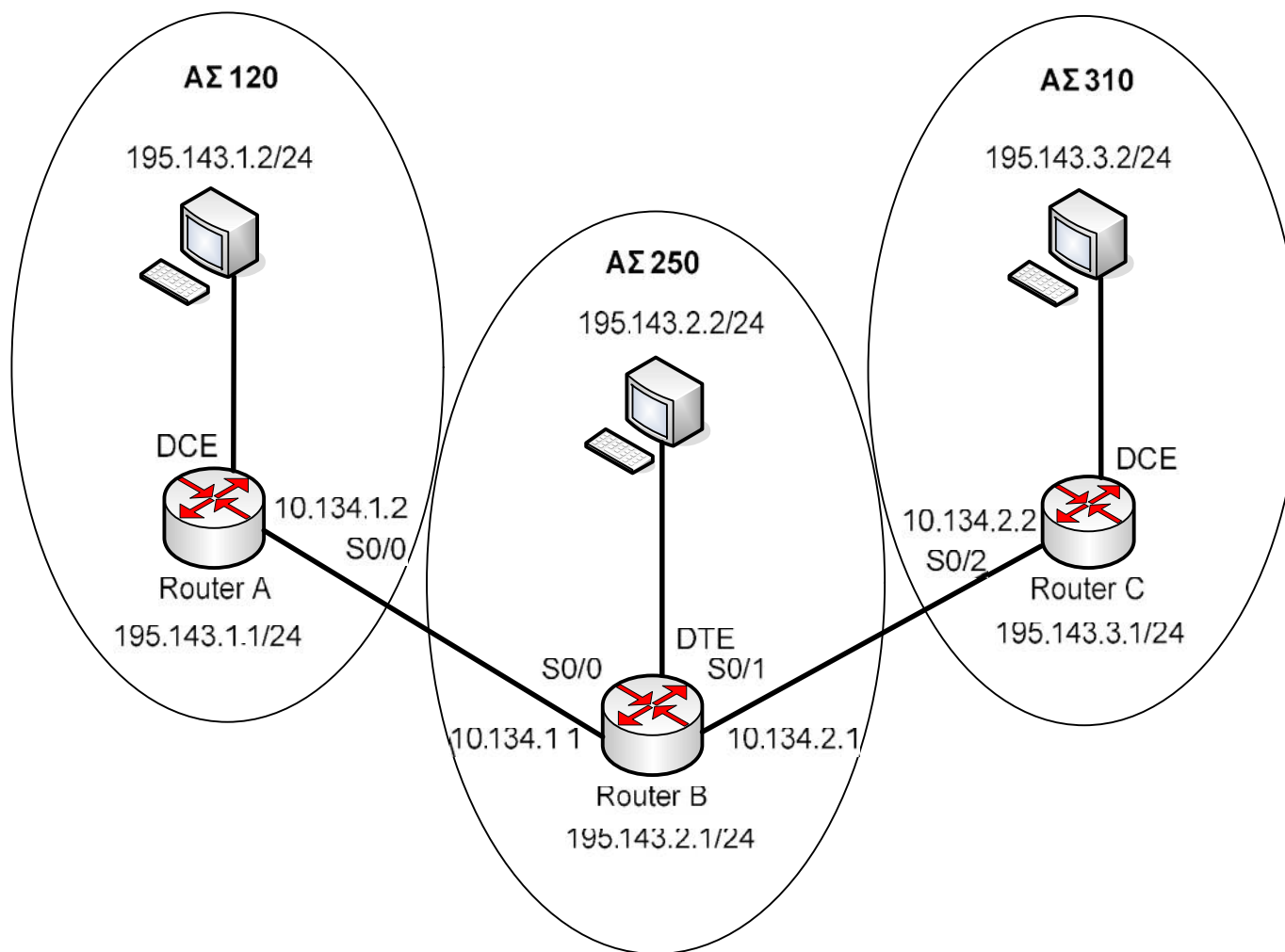
BGP



RIP



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# Interfaces (1)



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**A (RouterA):**

```
RouterA>enable
```

```
RouterA#configure terminal
```

```
RouterA(config)#interface fastethernet 0/0
```

```
RouterA(config-if)#ip address 195.143.1.1 255.255.255.0
```

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

```
RouterA(config)# interface serial 0/0
```

```
RouterA(config-if)#ip address 10.134.1.2 255.255.255.0
```

```
RouterA(config-if)#clock rate 64000
```

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

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## Interfaces (2)



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**C (RouterC):**

```
RouterC>enable
```

```
RouterC#configure terminal
```

```
RouterC(config)#interface fastethernet 0/0
```

```
RouterC(config-if)#ip address 195.143.3.1 255.255.255.0
```

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

```
RouterC(config)# interface serial 0/2
```

```
RouterC(config-if)#ip address 10.134.2.2 255.255.255.0
```

```
RouterC(config-if)#clock rate 64000
```

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

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## Interfaces (3)



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**B (RouterB):**

```
Router >enable
Router #configure terminal
Router (config)#interface fastethernet 0/0
Router (config-if)#ip address 195.143.2.1 255.255.255.0
Router (config-if)#no shutdown
```

```
RouterB(config)# interface serial 0/0
RouterB(config-if)#ip address 10.134.1.1 255.255.255.0
RouterB(config-if)#no shutdown
RouterB(config)# interface serial 0/1
RouterB(config-if)#ip address 10.134.2.1 255.255.255.0
RouterB(config-if)#no shutdown
```

# OSPF (1)



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**A (RouterA):**

```
Router (config)#show process
```

```
Router (config)#router ospf 150
```

```
Router (config-router)#network 195.143.1.0 0.0.0.255 area 0
```

```
Router (config-router)#network 10.134.1.0 0.0.0.255 area 0
```

# OSPF (2)



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**C (RouterC):**

```
RouterC(config)#show process
```

```
RouterC(config)#router ospf 190
```

```
RouterC(config-router)#network 195.143.3.0 0.0.0.255 area 0
```

```
RouterC(config-router)#network 10.134.2.0 0.0.0.255 area 0
```



# OSPF (3)



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**B (RouterB):**

```
RouterB(config)#show process
```

```
RouterB(config)#router ospf 170
```

```
RouterB(config-router)#network 195.143.2.0 0.0.0.255 area 0
```

```
RouterB(config-router)#network 10.134.1.0 0.0.0.255 area 0
```

```
RouterB(config-router)#network 10.134.2.0 0.0.0.255 area 0
```

# OSPF (1)

μ

A (RouterA):

```
RouterA#show ip route ospf
RouterA#show ip ospf database
RouterA#no router ospf 150
```



# OSPF (2)

μ (Router ):

```
RouterB#show ip route ospf  
RouterB#show ip ospf database  
RouterB#no router ospf 170
```



# OSPF (3) $\mu$

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**C (RouterC):**

```
RouterC#show ip route ospf  
RouterC#show ip ospf database  
RouterC#no router ospf 190
```



# BGP (1)



**μ            A (RouterA):**

```
RouterA(config)# router bgp 120
Router (config-router)#network 195.143.1.0 mask 255.255.255.0
Router (config-router)#network 10.134.1.0 mask 255.255.255.0
Router (config-router)#neighbor 10. 134.1.1 remote-as 250
```

# BGP (2)



μ

**C (RouterC):**

```
RouterC(config)# router bgp 310
```

```
RouterC(config-router)#network 195.143.3.0 mask 255.255.255.0
```

```
RouterC(config-router)#network 10.134.2.0 mask 255.255.255.0
```

```
RouterC(config-router)#neighbor 10.134.2.1 remote-as 250
```



# BGP (3)

**μ**            **B (RouterB):**

```
RouterB(config)# router bgp 250
RouterB(config-router)#network 195.143.2.0 mask 255.255.255.0
RouterB(config-router)#network 10.134.1.0 mask 255.255.255.0
RouterB(config-router)#network 10.134.2.0 mask 255.255.255.0
RouterB(config-router)#neighbor 10. 134.1.2 remote-as 120
RouterB(config-router)#neighbor 10. 134.2.2 remote-as 310
```

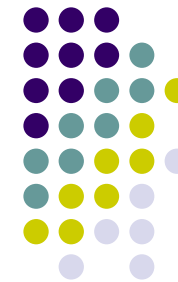
# BGP (1)

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A (RouterA):

```
RouterA#show ip route  
RouterA#show ip bgp neighbors  
RouterA#no router bgp 120
```





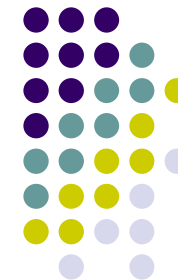
# BGP (2)

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**B (RouterB):**

```
RouterB#show ip route  
RouterB#show ip bgp neighbors  
RouterB#no router bgp 250
```



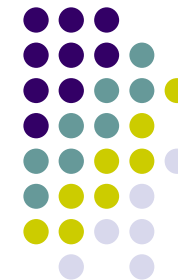
# BGP (3)

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C (RouterC):

```
RouterC#show ip route  
RouterC#show ip bgp neighbors  
RouterC#no router bgp 310
```



# RIP (1)



**μ**            **A (RouterA):**

```
RouterA(config)# router rip
```

```
Router (config-router)#network 195.143.1.0
```

```
Router (config-router)#network 10.134.1.0
```

# RIP (2)



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**C (RouterC):**

```
RouterC(config)# router rip
```

```
RouterC(config-router)#network 195.143.3.0
```

```
RouterC(config-router)#network 10.134.2.0
```

# RIP (3)



**μ            B (RouterB):**

```
RouterB(config)# router rip
RouterB(config-router)#network 195.143.2.0
RouterB(config-router)#network 10.134.1.0
RouterB(config-router)#network 10.134.2.0
```

# RIP (1)

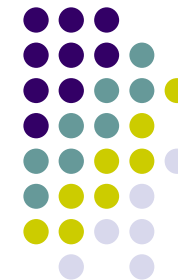
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A (RouterA):

```
RouterA#show ip route
```

```
RouterA#no router rip
```



# RIP (2)

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**B (RouterB):**

```
RouterB#show ip route
```

```
RouterB#no router rip
```



# RIP (3)

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C (RouterC):

```
RouterB#show ip route
```

```
RouterB#no router rip
```

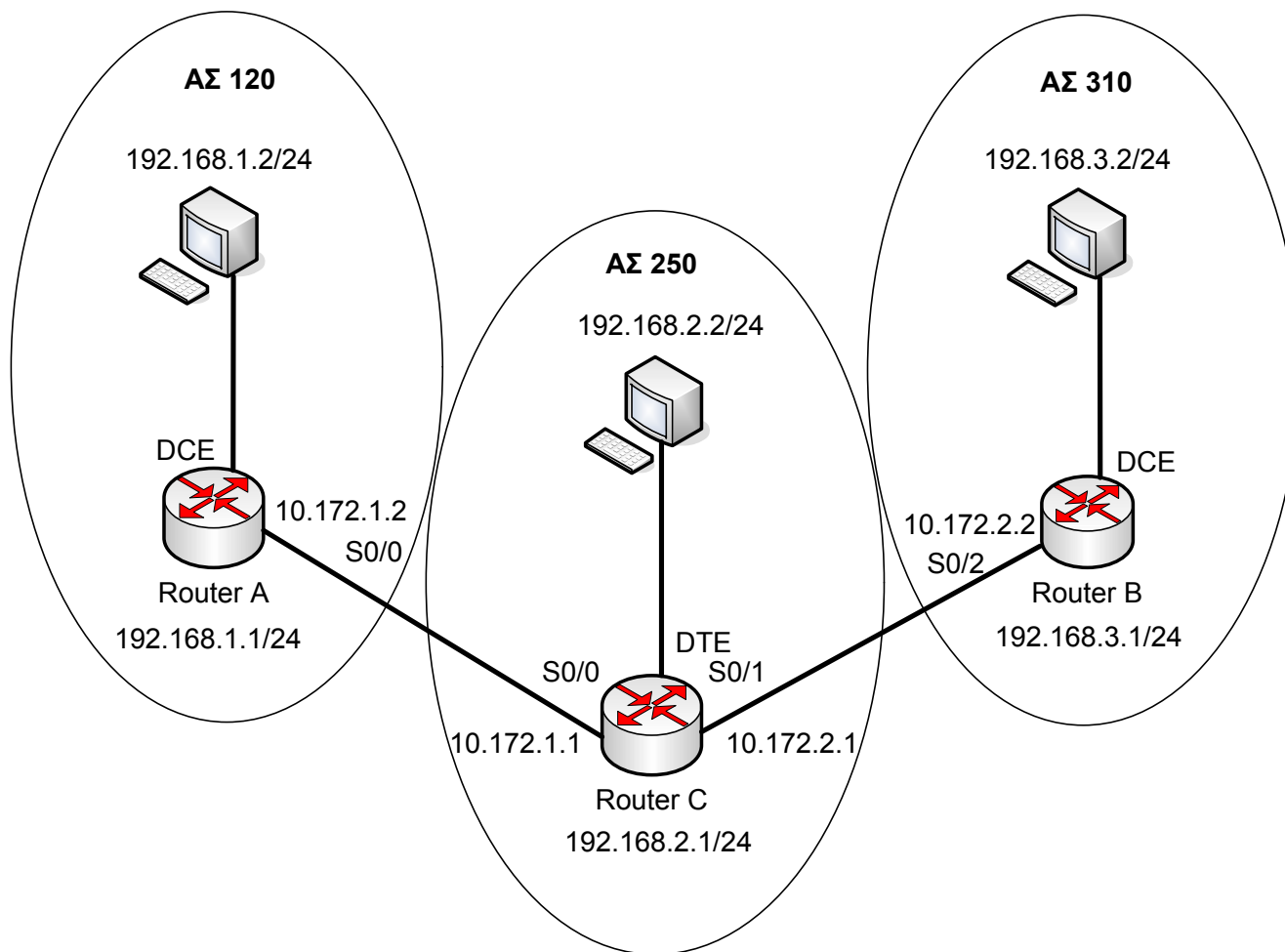






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# μ (1)

```
RouterA#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, su - IS-IS summary, 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
```

```
10.0.0.0/24 is subnetted, 2 subnets  
B 10.172.2.0 [20/0] via 10.172.1.1, 00:30:28  
C 10.172.1.0 is directly connected, Serial0/0  
C 192.168.1.0/24 is directly connected, FastEthernet0/0  
B 192.168.2.0/24 [20/0] via 10.172.1.1, 00:05:52  
B 192.168.3.0/24 [20/0] via 10.172.1.1, 00:06:20  
RouterA#
```



# μ (2)

```
RouterB#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, su - IS-IS summary, 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

 10.0.0.0/24 is subnetted, 2 subnets
C       10.172.2.0 is directly connected, Serial0/2
B       10.172.1.0 [20/0] via 10.172.2.1, 00:40:50
B       192.168.1.0/24 [20/0] via 10.172.2.1, 00:17:07
B       192.168.2.0/24 [20/0] via 10.172.2.1, 00:16:12
C       192.168.3.0/24 is directly connected, FastEthernet0/0
RouterB#
```



# μ (3)

```
RouterC#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, su - IS-IS summary, 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
```

```
10.0.0.0/24 is subnetted, 2 subnets  
C 10.172.2.0 is directly connected, Serial0/0  
C 10.172.1.0 is directly connected, Serial0/1  
B 192.168.1.0/24 [20/0] via 10.172.1.2, 00:24:32  
C 192.168.2.0/24 is directly connected, FastEthernet0/0  
B 192.168.3.0/24 [20/0] via 10.172.2.2, 00:24:28  
RouterC#_
```