**Submitted By-**

**Shahriar Imtiaz Saikat**

**ID: 011 211 036**

**Section : F**

**Dynamic Routing:**

R2>enable

R2#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

10.0.0.0/8 is variably subnetted, 4 subnets, 2 masks

C 10.36.1.0/24 is directly connected, GigabitEthernet0/0

L 10.36.1.1/32 is directly connected, GigabitEthernet0/0

C 10.36.2.0/24 is directly connected, Serial0/0/0

L 10.36.2.1/32 is directly connected, Serial0/0/0

R2#conf t

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

R2(config)#router rip

R2(config-router)#network 10.36.1.0

R2(config-router)#network 10.36.2.0

R2(config-router)#exit

R1>enable

R1#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

10.0.0.0/8 is variably subnetted, 6 subnets, 2 masks

C 10.36.2.0/24 is directly connected, Serial0/1/0

L 10.36.2.2/32 is directly connected, Serial0/1/0

C 10.36.3.0/24 is directly connected, Serial0/0/0

L 10.36.3.2/32 is directly connected, Serial0/0/0

C 10.36.5.0/24 is directly connected, Serial0/1/1

L 10.36.5.1/32 is directly connected, Serial0/1/1

200.36.1.0/24 is variably subnetted, 2 subnets, 2 masks

C 200.36.1.0/24 is directly connected, Serial0/0/1

L 200.36.1.1/32 is directly connected, Serial0/0/1

R1#conf t

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

R1(config)#router rip

R1(config-router)#network 10.36.2.0

R1(config-router)#network 10.36.3.0

R1(config-router)#network 10.36.5.0

R1(config-router)#exit

R3>enable

R3#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

10.0.0.0/8 is variably subnetted, 8 subnets, 2 masks

C 10.36.3.0/24 is directly connected, Serial0/0/0

L 10.36.3.1/32 is directly connected, Serial0/0/0

C 10.36.4.0/24 is directly connected, Serial0/1/0

L 10.36.4.1/32 is directly connected, Serial0/1/0

C 10.36.8.0/24 is directly connected, GigabitEthernet0/0

L 10.36.8.1/32 is directly connected, GigabitEthernet0/0

C 10.36.9.0/24 is directly connected, GigabitEthernet0/1

L 10.36.9.1/32 is directly connected, GigabitEthernet0/1

R3#conf t

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

R3(config)#router rip

R3(config-router)#network 10.36.3.0

R3(config-router)#network 10.36.4.0

R3(config-router)#network 10.36.8.0

R3(config-router)#network 10.36.9.0

R3(config-router)#exit

R4>enable

R4#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

10.0.0.0/8 is variably subnetted, 10 subnets, 2 masks

C 10.36.4.0/24 is directly connected, Serial0/1/1

L 10.36.4.2/32 is directly connected, Serial0/1/1

C 10.36.5.0/24 is directly connected, Serial0/1/0

L 10.36.5.2/32 is directly connected, Serial0/1/0

C 10.36.6.0/24 is directly connected, Serial0/0/0

L 10.36.6.1/32 is directly connected, Serial0/0/0

C 10.36.10.0/24 is directly connected, GigabitEthernet0/0

L 10.36.10.1/32 is directly connected, GigabitEthernet0/0

C 10.36.11.0/24 is directly connected, GigabitEthernet0/1

L 10.36.11.1/32 is directly connected, GigabitEthernet0/1

R4#conf t

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

R4(config)#router rip

R4(config-router)#network 10.36.4.0

R4(config-router)#network 10.36.5.0

R4(config-router)#network 10.36.6.0

R4(config-router)#network 10.36.10.0

R4(config-router)#network 10.36.11.0

R4(config-router)#exit

R5>enable

R5#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

10.0.0.0/8 is variably subnetted, 4 subnets, 2 masks

C 10.36.6.0/24 is directly connected, Serial0/1/0

L 10.36.6.2/32 is directly connected, Serial0/1/0

C 10.36.7.0/24 is directly connected, GigabitEthernet0/0

L 10.36.7.1/32 is directly connected, GigabitEthernet0/0

R5#conf t

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

R5(config)#router rip

R5(config-router)#network 10.36.6.0

R5(config-router)#network 10.36.7.0

R5(config-router)#exit

**DHCP Setup:**

R3(config)#ip dhcp pool R3G0/0

R3(dhcp-config)#network 10.36.8.0 255.255.255.0

R3(dhcp-config)#default-router 10.36.8.1

R3(dhcp-config)#dns-server 8.8.8.8

R3(dhcp-config)#exit

R3(config)#ip dhcp pool R3G0/1

R3(dhcp-config)#ip dhcp excluded-address 10.36.9.2 10.36.9.5

R3(config)#ip dhcp pool R3G0/1

R3(dhcp-config)#network 10.36.9.0 255.255.255.0

R3(dhcp-config)#default-router 10.36.9.1

R3(dhcp-config)#dns-server 8.8.8.8

R3(dhcp-config)#exit

R4(config)#ip dhcp pool R4G0/0

R4(dhcp-config)#network 10.36.10.0 255.255.255.0

R4(dhcp-config)#default-router 10.36.10.1

R4(dhcp-config)#dns-server 8.8.8.8

R4(dhcp-config)#exit

R4(config)#ip dhcp pool R4G0/1

R4(dhcp-config)#network 10.36.11.0 255.255.255.0

R4(dhcp-config)#default-router 10.36.11.1

R4(dhcp-config)#dns-server 8.8.8.8

R4(dhcp-config)#exit

R5(config)#ip dhcp pool R5G0/0

R5(dhcp-config)#network 10.36.7.0 255.255.255.0

R5(dhcp-config)#default-router 10.36.7.1

R5(dhcp-config)#dns-server 8.8.8.8

R5(dhcp-config)#exit

**Static and Dynamic NAT:**

R1>enable

R1#conf t

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

R1(config)#ip route 0.0.0.0 0.0.0.0 200.36.1.2

R1(config)#router rip

R1(config-router)#default-information originate

R1(config-router)#exit

ISP>enable

ISP#conf t

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

ISP(config)#ip route 209.4.1.0 255.255.255.0 200.36.1.1

ISP(config)#exit

R1(config)#ip nat inside source static 10.36.1.2 209.4.1.1

R1(config)#ip nat inside source static 10.36.1.3 209.4.1.2

R1(config)#ip nat inside source static 10.36.1.4 209.4.1.3

R1(config)#ip nat inside source static 10.36.9.3 209.4.1.4

R1(config)#access-list 1 permit 10.36.1.0 0.0.0.255

R1(config)#access-list 1 permit 10.36.8.0 0.0.0.255

R1(config)#access-list 1 permit 10.36.9.0 0.0.0.255

R1(config)#access-list 1 permit 10.36.10.0 0.0.0.255

R1(config)#access-list 1 permit 10.36.11.0 0.0.0.255

R1(config)#access-list 1 permit 10.36.7.0 0.0.0.255

R1(config)#ip nat pool NAT-POOL 209.4.1.6 209.4.1.20 netmask 255.255.255.0

R1(config)#ip nat inside source list 1 pool NAT-POOL

R1(config)#interface Se0/0/1

R1(config-if)#ip nat outside

R1(config-if)#exit

R1(config)#interface Se0/1/1

R1(config-if)#ip nat inside

R1(config-if)#exit

R1(config)#interface Se0/1/0

R1(config-if)#ip nat inside

R1(config-if)#exit

R1(config)#interface Se0/0/0

R1(config-if)#ip nat inside

R1(config-if)#exit