



COE 371L

Computer Networks I

Fall 2019

Lab #8

Section #2

Title: Dynamic Routing

Name : Amir Mohideen, Zayed Mohamed

ID: 74559, 75771

Lab – Configuring IPv4 Static/Default Routes and RIPv2

1. Set Up the Topology and Initialize Devices
2. Configure Basic Device Settings and Verify Connectivity
3. Configure RIPv2
   1. Remove all static route entries from the routing table.

Use the **no** command to remove all static routes created on both R1 and R3.

Look at the routing table contents and verify that there are no static routes left.

* 1. Configure RIPv2 routing on R1 and R3 by adding all connected networks.

In Part 5, you will configure RIPv2 routing on all routers in the network and then verify that the routing tables are updated correctly. We will also disable sending routing updates on LAN interfaces.

* + 1. Configure RIPv2 on R1 as the routing protocol and advertise the appropriate connected networks.

R1# **config t**

R1(config)# **router rip**

R1(config-router)# **version 2**

R1(config-router)# **passive-interface g0/1**

R1(config-router)# **network 172.30.0.0**

R1(config-router)# **network 10.0.0.0**

The **passive-interface** command stops routing updates out the specified interface. This process prevents unnecessary routing traffic on the LAN. However, the network that the specified interface belongs to is still advertised in routing updates that are sent out across other interfaces.

* + 1. **[Report]** Configure RIPv2 on R3 and use the **network** statement to add the appropriate connected networks and prevent routing updates on the LAN interface. 3/3

R3(config)#router rip

R3(config-router)#version 2

R3(config-router)#passive-interface gigabitEthernet 0/1

R3(config-router)#network 192.168.1.1

R3(config-router)#network 10.1.1.2

R3(config-router)#network 209.165.200.255

R3(config-router)#network 198.133.219.1

* + 1. Test end-to-end connectivity between PC-A and PC-C. Should be successful.

It’s successful.

* 1. [Report] Add router R4 to network as show in the below topology and implement all required configurations on R3, R4 and PC-D.

In Step 3, you will connect a new router R4, switch ALS4 and PC-D. Configure RIPv2 routing on all routers in the network and then verify that the routing tables are updated correctly. We will also disable sending routing updates on LAN interfaces.

* + 1. Connect the new devices as in the topology below.
    2. Configure Serial 0/0/1 on R3. 0.5/1

R3(config)#int s 0/0/1

R3(config-if)#ip add 34.1.1.2 255.255.255.252

clock rate 128000

no shutdown

* + 1. Configure Gig0/1, Serial 0/3/0, and loopback0 on R4. 1/1

R4(config)#int GigabitEthernet 0/1

R4(config-if)#ip ad 192.168.4.1 255.255.255.0

R4(config-if)#no shutdown

R4(config)#int s 0/3/0

R4(config-if)#ip ad 34.1.1.1 255.255.255.252

R4(config-if)#clock rate 128000

R4(config-if)#no shutdown

* + 1. Configure RIPv2 on both R3 and R4 to advertise all the new networks. 2/2

R3(config)#router rip

R3(config-router)#version 2

R3(config-router)#passive-interface g0/1

R3(config-router)#network 34.1.1.2

R3(config-router)#network 10.1.1.12

R3(config-router)#network 192.168.1.1

R4(config)#router rip

R4(config-router)#version 2

R4(config-router)#passive-interface g0/1

R4(config-router)#network 34.1.1.1

R4(config-router)#network 192.168.4.1

View the routing table on all three routers. – missing screenshots 1.5/3

* + 1. Configure the IP address settings on PC-D.

**All the following pings must be successful, if not troubleshoot.**

From host PC-D, is it possible to ping the 209.165.200.225? yes

* + 1. From host PC-D, is it possible to ping the 192.168.0.10? yes
    2. From host PC-D, is it possible to ping the 192.168.1.10? yes