Course Name: Networks & Communications

Course Code: CSE 205

Practice Assignments 4.1

Student's Full Name:

Student ID:

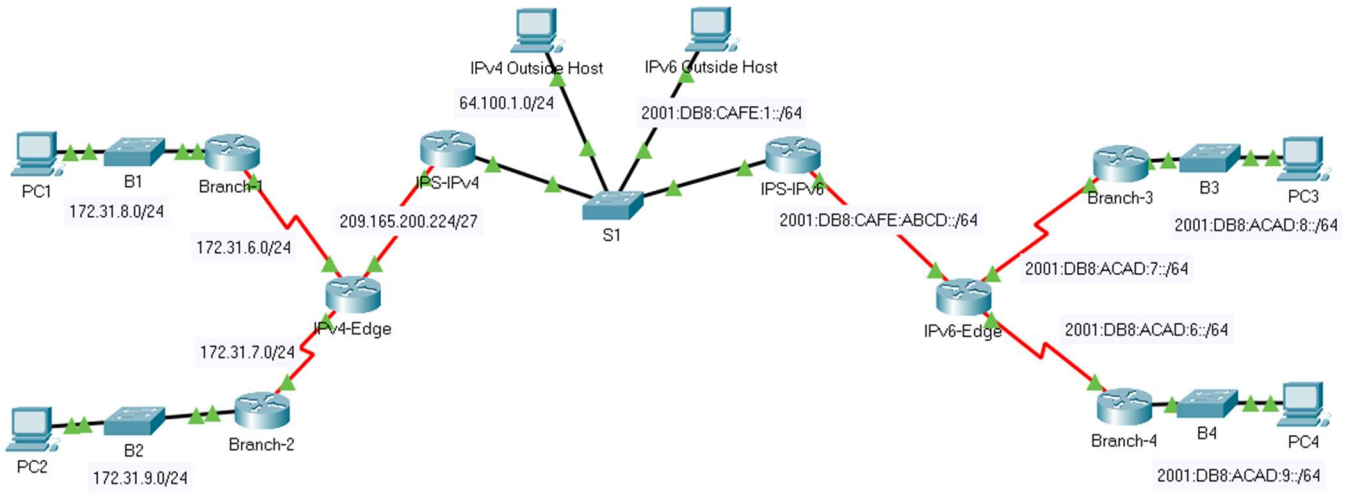
***Instruction*:**

** Students are allowed to write their answers in a word file (Answer sheet) provided by instructor. After finishing the assignment, students must convert the word file (Answer sheet) into a PDF file. The PDF file should have name in the following format "Mã số SV_Họ và tên SV_LabX.Y.pdf". Finally, students upload the file in Moodle.*

** PDF file should have screenshot of network design, screenshot or written code of each network and device configuration (like router, switch, etc.) and screenshot of the output of every instruction.*

EIGRP with IPv4 and IPv6 Routing

Topology



Addressing Table

Device	Interface	IPv4 Address	Subnet Mask
		IPv6 Address/Prefix	
IPv4-Edge	S0/0/0	172.31.6.1	255.255.255.0
	S0/0/1	172.31.7.1	255.255.255.0
	S0/1/0	209.165.200.226	255.255.255.224
Branch-1	G0/0	172.31.8.1	255.255.255.0
	S0/0/0	172.31.6.2	255.255.255.0
Branch-2	G0/0	172.31.9.1	255.255.255.0
	S0/0/1	172.31.7.2	255.255.255.0
IPS-IPv4	S0/1/0	209.165.200.225	255.255.255.224
	G0/0	64.100.1.1	255.255.255.0
IPv6-Edge	S0/0/0	2001:DB8:ACAD:7::1/64	
	S0/0/1	2001:DB8:ACAD:6::1/64	
	S0/1/0	2001:DB8:CAFE:ABCD::2/64	
Branch-3	G0/0	2001:DB8:ACAD:8::1/64	
	S0/0/0	2001:DB8:ACAD:7::2/64	
Branch-4	G0/0	2001:DB8:ACAD:9::1/64	
	S0/0/1	2001:DB8:ACAD:6:::2/64	
IPS-IPv6	S0/1/0	2001:DB8:CAFE:ABCD::1/64	
	G0/0	2001:DB8:CAFE:1::1/64	

Part 1: Create network diagram

Part 2: Configure IPv4 and IPv6 address

Part 3: Configure EIGRP for IPv4 Routing

Step 1: Enable EIGRP for IPv4 routing on each router (IPv4-Edge, Branch-1, Branch-2).

Step 2: Assign a router ID to each router:

Using AS is 1.

IPv4-Edge: 1.1.1.1

Branch-1: 2.2.2.2

Branch-2: 3.3.3.3

Part 4: Propagate a Default Route in EIGRP for IPv4

Step 1: Verify EIGRP configuration on each IPv4 enabled router.

Display the routing table of each IPv4 enabled router and verify that all IPv4 routes are visible.

Step 2: Configure an IPv4 default route.

Configure a directly connected IPv4 default route on **IPv4-Edge**.

Step 3: Propagate the default route in EIGRP.

Configure the EIGRP routing process to propagate the default route.

Step 4: Verify IPv4 default route is propagating.

Display the routing tables for **Branch-1** and **Branch-2** to verify the default route is now installed.

Part 5: Configure Default Route at IPS-v4 router Go out interface Serial to IPv4-Edge router

Part 6: Verify EIGRP for IPv4 Routing

PC1, PC2 should now be able to ping each other. If not, troubleshoot your EIGRP configurations.

Part 7: Configure EIGRP for IPv6 Routing

Step 1: Enable IPv6 routing on each router.

Step 2: Enable EIGRP for IPv6 routing on each router (IPv6-Edge, Branch-3, Branch-4).

Step 3: Assign a router ID to each router:

IPv6-Edge: 4.4.4.4

Branch-3: 5.5.5.5

Branch-4: 6.6.6.6

Step 4: Using AS 2, configure EIGRP for IPv6 on each interface.

Part 8: Propagate a Default Route in EIGRP for IPv6

Step 1: Verify EIGRP configuration on each IPv6 enabled router.

Display the routing table of each IPv6 enabled router and verify that all IPv6 routes are visible.

Step 2: Configure an IPv6 default route.

Configure a directly connected IPv6 default route on **IPv6-Edge**.

Step 3: Propagate the default route in EIGRP.

Configure the EIGRP routing process to propagate the default route.

Step 4: Verify IPv6 default route is propagating.

Display the routing tables for **Branch-3** and **Branch-4** to verify the default route is now installed.

Part 9: Configure Default Route at IPS-v6 router Go out interface Serial to IPv6-Edge router

Part 10: Verify Connectivity to Outside Hosts

- **PC1** and **PC2** should now be able to ping **IPv4 Outside Host**.
- **PC3** and **PC4** should now be able to ping **IPv6 Outside Host**.