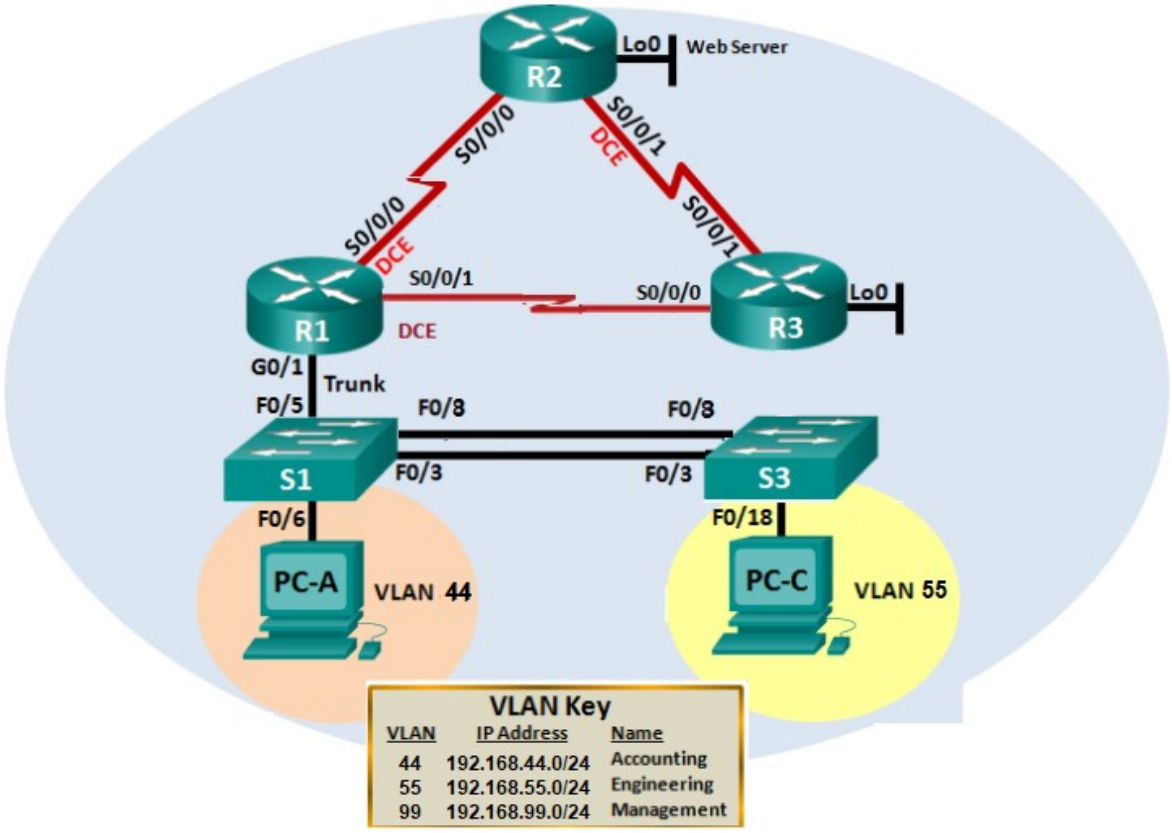
Mock Coursework
(Duration: 75 minutes)

Assessment Objective:

Use Packet Tracer to create a network, configure all devices and verify the connectivity between different devices. A combination of **VLANs**, **Trunking**, **Etherchannel**, **EIGRP** and **static routing** configurations will be required so that hosts on networks that are not directly connected will be able to communicate with each other. EIGRP must be configured so that all IP traffic takes the shortest path to the destination address. Finally, submit your Packet Tracer file using the link provided on GCULearn.



Switch Port Assignment Specifications

Switch	Ports	Assignment	Network
S1	F0/5	802.1Q Trunk	N/A
	F0/6	VLAN 44 – Accounting	N/A
	F0/3, F0/8	802.1Q Trunk	N/A
S3	F0/18	VLAN 55 - Engineering	N/A
	F0/3, F0/8	802.1Q Trunk	N/A

Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	**S0/0/0**	**172.16.21.1**	**255.255.255.252**	**NA**
	S0/0/1	**172.16.10.1**	**255.255.255.252**	**NA**
	G0/1.44	**192.168.44.254**	**255.255.255.0**	**NA**
	G0/1.55	**192.168.55.254**	**255.255.255.0**	**NA**
	G0/1.99	**192.168.99.254**	**255.255.255.0**	**NA**
R2	**S0/0/0**	**172.16.21.2**	**255.255.255.252**	**NA**
	S0/0/1	**172.16.32.1**	**255.255.255.252**	**NA**
	Lo 0	**10.100.100.100**	**255.255.255.0**	**NA**
R3	**S0/0/0**	**172.16.10.2**	**255.255.255.252**	**NA**
	S0/0/1	**172.16.32.2**	**255.255.255.252**	**NA**
	Lo 0	**10.10.20.20**	**255.255.255.0**	**NA**
S1	**VLAN 99**	**192.168.99.1**	**255.255.255.0**	**192.168.99.254**
S3	**VLAN 99**	**192.168.99.3**	**255.255.255.0**	**192.168.99.254**
PC-A	**NIC**	**192.168.44.1**	**255.255.255.0**	**192.168.44.254**
PC-C	**NIC**	**192.168.55.1**	**255.255.255.0**	**192.168.55.254**

- **Task 1:** Create the network topology presented in the diagram above using the appropriate devices and cables. Configure the indicated names for all PCs, routers and switches. **[3]**
- **Task 2:** Configure the interfaces on routers R1, R2, and R3 including loopback interfaces. **[11]**
- **Task 3:** Configure the Ethernet interfaces of PC-A and PC-C with the IP addresses from the Addressing Table. **[2]**
- **Task 4:** Configure EIGRP Routing protocol on all routers. **[3]**
- **Task 5:** Include all connected networks to all routers in the EIGRP advertisements (Apart from the network connected to Lo 0 on Router R2). **[10]**
- **Task 6:** Remove EIGRP traffic from the interface G0/1 on R1. **[1]**
- **Task 7:** Configure a default static route on Router R2 to send all packets with destination addresses that are not in the routing table to the Loopback 0, representing the link between R2 and an ISP. **[3]**
- **Task 8:** Include the default static route in EIGRP updates on R2. **[1]**
- **Task 9:** Create all VLANs specified in the "Switch Port Assignment Specifications" table on both S1 and S3. Assign them their names. **[3]**
- **Task 10:** Assign IP addresses to VLAN 99 on S1 and S3 according to the Addressing Table. Also, configure a default gateway for each switch according to the Addressing Table. **[4]**
- **Task 11:** Configure the interface F0/6 on Switch S1 and also interface F0/18 on Switch S3 as access ports and assign them to associated VLANs. **[2]**
- **Task 12:** Create an Etherchannel link by configuring the links between S1 and S3 (interfaces F0/3 and F0/8 on each) as Po1. Configure the Po1 on S1 and S3 as trunk ports using LACP. **[8]**
- **Task 13:** Implement inter-VLAN routing, configure 3 subinterfaces for VLANs 44, 55 and 99 on R1 according to their addresses included in the Addressing Table. **[9]**
- **Task 14**: Verify full connectivity: **[40]**
    - Ping S3 from PC-A
    - Ping PC-C from PC-A
    - Ping S0/0/0 on R2 from PC-A
    - Ping Lo0 on R2 from PC-A
    - Ping S1 from PC-C
    - Ping S0/0/1 on R3 from PC-C
    - Ping Lo0 on R3 from PC-C
    - Ping Lo0 on R2 from PC-C
- **Task 15:** Your Packet Tracer file should be named following the pattern "**Full Name + Date.pkt**" (e.g. JohnSmith07-12-2022.pkt) and submitted using the link provided on GCULearn.