**Quality of Service**

**Diagram

Description automatically generated**

Create a VLSM network using Class C Network address **192.168.0.0**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Router** | **Interface** | | **IP Address** | | | **Subnet Mask** |
| **R1** | **0/0** | | **192.168.0.1** | | | 255.255.255.252 |
| **0/1** | | **192.168.0.9** | | | 255.255.255.252 |
| **R2** | **0/0** | | **192.168.0.5** | | | 255.255.255.252 |
| **0/1** | | **192.168.0.10** | | | 255.255.255.252 |
| **Computer #** | | **IP Address** | | **Subnet Mask** | **Gateway** | |
| **PC1** | | **192.168.0.2** | | 255.255.255.252 | **192.168.0.1** | |
| **PC2** | | **192.168.0.6** | | 255.255.255.252 | **192.168.0.5** | |

1. **Configure ethernet interfaces on the routers.**

Configure the interfaces on the R1, R2, and R3 routers with the IP addresses from the table under the Topology Diagram.

* Verify IP addressing and interfaces.
* Use the show ip interface brief command to verify that the IP addressing is correct and that the interfaces are active.
* When you have finished, be sure to save the running configuration to the NVRAM of the router. (copy run start)

**2.) Configure the IP address, slash notation, and gateway for PC1, PC2.**

**3.) Configure ospf on the routers.**

**R1(config)#router ospf 1**

**R1(config-router)#network 192.168.0.0 0.0.0.3 area 0**

**R1(config-router)#network 192.168.0.8 0.0.0.3 area 0**

**R1(config-router)# exit**

**R1# copy run start**

**Configure Ospf on the R2 router**

**R2(config)#router ospf 1**

**R2(config-router)# network 192.168.0.4 0.0.0.3 area 0**

**R2(config-router)# network 192.168.0.8 0.0.0.3 area 0**

**R2(config-router)#exit**

**R2#copy run start**

**4.) Verify RIP Routing**

* Use the **show ip route** command to verify that each router has all of the networks in the topology entered in the routing table.

**R1#show ip route**

**R2#show ip route**

* Use the **show ip protocols** command to view information about the routing processes.

**R1#show ip protocols**

**R2#show ip protocols**

**5.) Create an access-list.**

**R1(config)#access-list 1 permit 192.168.0.2**

**R1(config)#end**

**6.) Create a class-map.**

**R1(config)#class-map pc1**

**R1(config-cmap)# match access-group 1**

**R1(config-cmap)#end**

**7.) Create a policy-map.**

**R1(config)#policy-map critical**

**R1(config-pmap)#class pc1**

**R1(config-pmap-c)#set ip precedence critical**

**R1(config-pmap-c)#end**

**8.) Create a service-policy for inbound traffic on interface R1 fa0/0.**

**R1(config)#int fa 0/0**

**R1(config-if)#service-policy input critical**

**R1(config-if)#end**

***Completion Criteria***:

1. From PC1 ping PC2
2. Use **R1(config)#**show service-policy int fa 0/0
3. From PC1 ping PC2 again
4. The marked packets should update after every ping