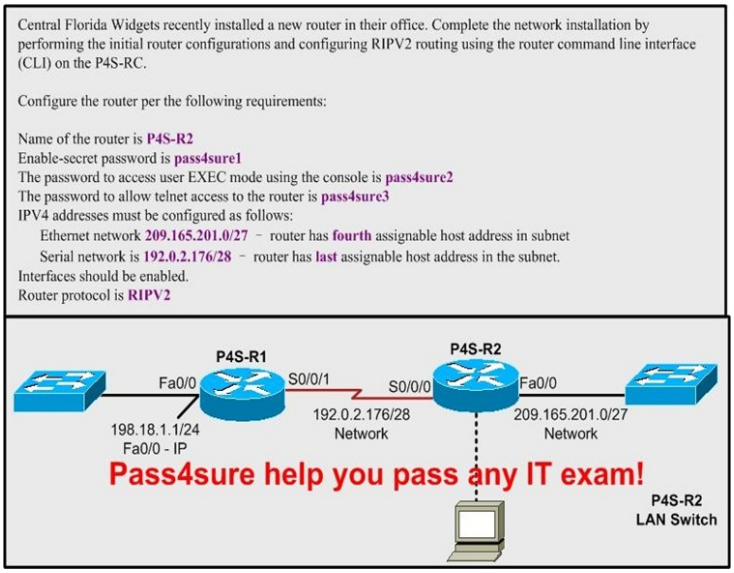
CCNA(640-802) Lab – RIPv2(New)

RIPv2 was first described in RFC 1388 and RFC 1723 (1994); the current RFC is 2453, written in November 1998. Although current environments use advanced routing protocols such as OSPF and EIGRP, there still are networks using RIP. The need to use VLSMs and other requirements prompted the definition of RIPv2. RIPv2 improves upon RIPv1 with the ability to use VLSM, with support for route authentication, and with multicasting of route updates. RIPv2 supports CIDR. It still sends updates every 30 seconds and retains the 15-hop limit; it also uses triggered updates. RIPv2 still uses UDP port 520; the RIP process is responsible for checking the version number. It retains the loop-prevention strategies of poison reverse and counting to infinity. On Cisco routers, RIPv2 has the same administrative distance as RIPv1, which is 120. Finally, RIPv2 uses the IP address 224.0.0.9 when multicasting route updates to other RIP routers. As in RIPv1, RIPv2 will, by default, summarize IP networks at network boundaries. You can disable autosummarization if required. You can use RIPv2 in small networks where VLSM is required. It also works at the edge of larger networks.



  Step1: Click on the console host, you will get a pop-up screen CLI of Router. Router> Configure the new router as per the requirements provided in Lab question Requirement 1: Name of the router is **P4S-R2** Step2: To change the hostname of the router to **P4S-R2** follow the below steps Router> Router>enable Router# configure terminal Router (config)# hostname P4S-R2 P4S-R2(config)# Requirement 2: Enable-secret password is **pass4sure1** Step3: To set the enable secret password to **pass4sure1** use the following command P4S-R2(config)#enable secret pass4sure1 Requirement 3: The password to access user EXEC mode using the console is **pass4sure2** Step 4: We need to configure the line console 0 with the password **pass4sure2** Also remember to type **login** command after setting up the password on **line con 0** which allows router to accept logins via console. P4S-R2(config)# line con 0 P4S-R2(config-line)#password pass4sure2 P4S-R2(config-line)#login P4S-R2(config-line)# exit P4S-R2(config)# Requirement 4: The password to allow telnet access to the router is **pass4sure3** Step 5: To allow telnet access we need to configure the vty lines 0 4 with the password **pass4sure3** Also remember to type **login** command after setting up the password on line vty 0 4 which allows router to accept logins via telnet. P4S-R2(config)# line vty 0 4 P4S-R2(config-line)#password pass4sure3 P4S-R2(config-line)#login P4S-R2(config-line)# exit P4S-R2(config)# Requirement 5: (5.1) Ethernet network 209.165.201.0 /27 ? Router has the **fourth** assignable host address in subnet. (5.2) Serial Network is 192.0.2.176 /28 - Router has the **last** assignable host address in subnet. Step 6: Ethernet network 209.165.201.0 /27 ? Router has the **fourth**]assignable host address in subnet. Ethernet Interface on router P4S-R2 is **Fast Ethernet 0/0** as per the exhibit First we need to identify the subnet mask Network: 209.165.201.0 /27 Subnet mask: /27: 27 bits = 8 + 8 + 8 + 3 =8(bits).8(bits).8(bits) .11100000 (3bits) =255.255.255.11100000 =11100000 = 128+64+32+0+0+0+0+0 = 224 Subnet mask: 255.255.255.224 Different subnet networks and there valid first and last assignable host address range for above subnet mask are Subnet Networks :::::: Valid Host address range :::::: Broadcast address 209.165.201.0 :::::: 209.165.201.1 - 209.165.201.30 ::::: 209.165.201.31 209.165.201.32 :::::: 209.165.201.33 - 209.165.201.62 ::::: 209.165.201.63 209.165.201.64 :::::: 209.165.201.65 - 209.165.201.94 :::::: 209.165.201.95 209.165.201.96 :::::: 209.165.201.97 - 209.165.201.126 :::::: 209.165.201.127 209.165.201.128 :::::: 209.165.201.129 - 209.165.201.158 :::::: 209.165.201.159 209.165.201.160 :::::: 209.165.201.161 - 209.165.201.190 :::::: 209.165.201.191 209.165.201.192 :::::: 209.165.201.193 -

209.165.201.222 :::::: 209.165.201.223 209.165.201.224 :::::: 209.165.201.225 - 209.165.201.254 :::::: 209.165.201.255 Use above table information for network 209.165.201.0 /27 to identify **First** assignable host address: **209.165.201.1 Last** assignable host address: **209.165.201.30 Fourth** assignable host address: **209.165.201.4** This IP address (209.165.201.4) which we need to configure on Fast Ethernet 0/0 of the router using the subnet mask 255.255.255.224 P4S-R2(config)#interface fa 0/0 P4S-R2(config-if)#ip address 209.165.201.4 255.255.255.224 Requirement 6: To enable interfaces Use **no shutdown** command to enable interfaces P4S-R2(config-if)#no shutdown P4S-R2(config-if)#exit Step 7: Serial Network is 192.0.2.176 /28 - Router has the **last** assignable host address in subnet. Serial Interface on P4S-R2 is **Serial 0/0/0** as per the exhibit First we need to identify the subnet mask Network: 192.0.2.176 /28 Subnet mask: /28: 28bits = 8bits+8bits+8bits+4bits =8(bits).8(bits).8(bits) .11110000 (4bits) =255.255.255.11100000 =11100000 = 128+64+32+16+0+0+0+0 = 240 Subnet mask: **255.255.255.240** Different subnet networks and there valid first and last assignable host address range for above subnet mask are Subnet Networks ::::: Valid Host address :::::::::: Broadcast address 192.0.2.0 :::::: 192.0.2.1 - 192.0.2.14 ::::::: 192.0.2.15 192.0.2.16 ::::::: 192.0.2.17 - 192.0.2.30 ::::::: 192.0.2.31 192.0.2.32 :::::::: 192.0.2.33 - 192.0.2.46 :::::: 192.0.2.47 192.0.2.48 :::::: 192.0.2.49 - 192.0.2.62 ::::::: 192.0.2.64 192.0.2.64 ::::::: 192.0.2.65 - 192.0.2.78 ::::::: 192.0.2.79 192.0.2.80 :::::::: 192.0.2.81 - 192.0.2.94 :::::: 192.0.2.95 192.0.2.96 :::::: 192.0.2.97 - 192.0.2.110 ::::::: 192.0.2.111 192.0.2.112 ::::::: 192.0.2.113 - 192.0.2.126 ::::::: 192.0.2.127 192.0.2.128 :::::::: 192.0.2.129 - 192.0.2.142 :::::: 192.0.2.143 192.0.2.144 :::::: 192.0.2.145 - 192.0.2.158 ::::::: 192.0.2.159 192.0.2.160 ::::::: 192.0.2.161 - 192.0.2.174 ::::::: 192.0.2.175 192.0.2.176 :::::::: 192.0.2.177 - 192.0.2.190 :::::: 192.0.2.191 and so on ?. Use above table information for network 192.0.2.176 /28 to identify **First** assignable host address: **192.0.2.177 Last** assignable host address: **192.0.2.190** We need to configure Last assignable host address (192.0.2.190) on serial 0/0/0 using the subnet mask 255.255.255.240 P4S-R2(config)#interface serial 0/0/0 P4S-R2(config-if)#ip address 192.0.2.190 255.255.255.240 Requirement 6: To enable interfaces Use **no shutdown** command to enable interfaces P4S-R2(config-if)#no shutdown P4S-R2(config-if)#exit Requirement 7: Router protocol is RIPv2 Step 8: Need to enable RIPv2 on router and advertise its directly connected networks P4S-R2(config)#router rip To enable RIP v2 routing protocol on router use the command version 2 P4S-R2(config-router)#version 2 **Optional:** no auto-summary (Since LAB networks do not have discontinuous networks) RIP v2 is classless, and advertises routes including subnet masks, but it summarizes routes by default. So the first things we need to do when configuring RIP v2 is turn off auto-summarization with the router command **no auto-summary** if you must perform routing between disconnected subnets. P4S-R2 (config-router) # no auto-summary Advertise the serial 0/0/0 and fast Ethernet 0/0 networks into RIP v2 using **network** command P4S-R2(config-router)#network 192.0.2.176 P4S-R2(config-router)#network 209.165.201.0 P4S-R2(config-router)#end Step 9: Important please do not forget to save your running-config to startup-config P4S-R2# copy run start **That is all, hope to helpful for you. Best Luck for ur CCNA 640-802 Exam.** If you need the complete pass4sure test questions for 640-802 Exam, you can visit Latest Pass4sure 640-802.(Pass4sure 640-802 Questions with explaintion) maye it helpful for ur exam