

Scenario Labs

Welcome to the NetSim Scenario Labs. The goal of these labs is to introduce you to the limited number of commands needed to enable a technology, without addressing extra commands that could confuse you. The labs have been written in such a way that all the IP addresses and subnet masks stay the same for all interfaces throughout the labs. This will hopefully help you focus on the new commands that are part of each lab.

The labs are designed to be independent of one another. This means you do not have to complete Lab 1 before you move on to Lab 2, and so on. You can start with whichever lab you prefer. (The single exception is that you should complete Lab 23 immediately after completing Lab 22.)

The recommended method for using these labs is to load a lab from the Lab Navigator, complete the lab, grade yourself, and then load the next lab. This will require that you type some repetitive commands for the same devices throughout the labs. To help eliminate the need for repetitive typing, the Simulator has a built-in function that will load a saved device configuration for you.

The Configuration Wizard will save the configurations of one or all devices in one quick snapshot. Then, you can load the configurations back into the devices whenever you like. The following is a quick overview of how to use these features. If you would like more information, please review the User Guide or the Help file under the **Help** menu.

Configurations for all devices can be saved by selecting **Save Multi Devices Configs** from the **File** menu. The full set of device configurations can be restored by selecting **Load Multi Devices Configs** from the **File** menu. Configurations for a single device can be saved by first making that device active (to make a device active, select the desired device from the appropriate menu at the top of the screen, and then press the ENTER key). Next, select **Save Single Device Config** from the **File** menu. To restore the configuration, select the device, and then select **Load Single Device Config (overwrite)** from the **File** menu.

If you decide to use these features to reduce the need to type repetitive commands, you will need to save the configurations of all devices after you complete Lab 3. These configurations will be good for Labs 4–18. You will be reminded to save the configurations when you have completed Lab 3. Then, at the start of each lab, you will need to load the configurations into the Simulator. In Lab 19, the network topology changes, and you will no longer need to save repetitive commands.

If you have trouble configuring the devices in a lab, you can use the **Grade Lab** option in the Lab Navigator to see which commands are missing. If you experience difficulties with any of the labs, feel free to submit feedback through our **Tech Support** option in the **Help** menu.

Thank you, and enjoy the labs!

Lab 1: Setting up a Serial Interface

The goal of the first lab in this series is to set up a serial connection. Serial connection configurations require an additional command that is not required with Ethernet connection configurations. This command is the **clock rate** command, which establishes a common rate at which the sending and receiving routers will communicate with each other. Note that when a service provider circuit is used, you do not need to set the clock rate because the service provider provides the clocking.

Establish a simple serial-to-serial connection between the serial 0 interface on R1 and the serial 0 interface on R2. To accomplish this, first select **R1** from the **eRouters** menu, and assign it a host name of **router1**. Configure the serial 0 interface of router1 with a clock rate of 64000, and enable the interface. Select **R2** from the **eRouters** menu, and assign it a host name of **router2**. Enable the serial 0 interface on router2.

To verify that the connection is established, use the **show cdp neighbors** command on each router. This command will show the CDP information of each router's directly connected neighbors.

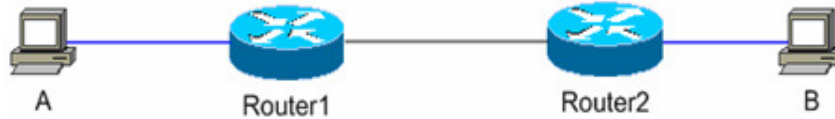
R1	R2
<pre>hostname router1 ! interface serial0 clock rate 64000 no shut</pre>	<pre>hostname router2 ! interface serial0 no shut</pre>

Lab 2: CDP

You have been asked to use CDP to build a map of your current network. To complete this lab, use the common CDP commands to understand what types of devices you are working with and how they are interconnected. You will need to connect to each device in the topology and enable each interface. After you have enabled all interfaces, use the **show cdp neighbors detail** command. The answer is shown in the graphic at the top of the next lab.

Draw the Network Diagram in the space below.

Lab 3: IP Addressing



You have been asked to build a lab network to test new configurations that will be rolled out to your production network. First, choose **R1** from the **eRouters** menu, and assign it a host name of **router1**. Then, configure its Ethernet interface with an IP address of 192.168.101.1 /24, and configure its serial interface with an IP address of 192.168.1.1 /24. A DCE cable is connected to router1. The serial link should have a speed of 64 Kbps. Next, choose **R2** from the **eRouters** menu, and assign it a host name of **router2**. Configure the Ethernet interface of router2 with an IP address of 192.168.100.1 /24, and configure the serial interface with an IP address of 192.168.1.2 /24.

Choose **Host A** from the **eStations** menu, and configure Host A with an IP address of 192.168.101.2 /24 and a default gateway of 192.168.101.1. Choose **Host B** from the **eStations** menu, and configure Host B with an IP address of 192.168.100.2 /24 and a default gateway of 192.168.100.1. Ensure that each device can ping those devices to which it is directly connected. When you are finished with the lab, select the **Save Multi Devices Configs** option from the **File** menu, and save this configuration for use in future labs.

R1	R2
<pre>hostname router1 ! interface ethernet0 ip address 192.168.101.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.1 255.255.255.0 clock rate 64000 no shut</pre>	<pre>hostname router2 ! interface ethernet0 ip address 192.168.100.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.2 255.255.255.0 no shut</pre>

Host A	Host B
<pre>ipconfig /ip 192.168.101.2 255.255.255.0 ipconfig /dg 192.168.101.1</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0 ipconfig /dg 192.168.100.1</pre>

Lab 4: Static Routes



You are building a lab network to test new configurations that will be rolled out to your production network. First,

choose **R1** from the **eRouters** menu, and assign it a host name of **router1**. Then, configure its Ethernet interface with an IP address of 192.168.101.1 /24, and configure its serial interface with an IP address of 192.168.1.1 /24. A DCE cable is connected to router1. The serial link should have a speed of 64 Kbps. Next, choose **R2** from the **eRouters** menu, and assign it a host name of **router2**. Configure the Ethernet interface of router2 with an IP address of 192.168.100.1 /24, and configure the serial interface with an IP address of 192.168.1.2 /24.

Choose **Host A** from the **eStations** menu, and configure Host A with an IP address of 192.168.101.2 /24 and a default gateway of 192.168.101.1. Choose **Host B** from the **eStations** menu, and configure it with an IP address of 192.168.100.2 /24 and a default gateway of 192.168.100.1.

Configure the routers with static routes so that all devices can ping any other device.

R1	R2
<pre>hostname router1 ! interface ethernet0 ip address 192.168.101.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.1 255.255.255.0 clock rate 64000 no shut ! ip route 192.168.100.0 255.255.255.0 192.168.1.2</pre>	<pre>hostname router2 ! interface ethernet0 ip address 192.168.100.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.2 255.255.255.0 no shut ! ip route 192.168.101.0 255.255.255.0 192.168.1.1</pre>

Host A	Host B
<pre>ipconfig /ip 192.168.101.2 255.255.255.0 ipconfig /dg 192.168.101.1</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0 ipconfig /dg 192.168.100.1</pre>

Lab 5: Default Routes



You must set up a small customer network. First, choose **R1** from the **eRouters** menu, and assign it a host name of **router1**. Then, configure its Ethernet interface with an IP address of 192.168.101.1 /24, and configure its serial interface with an IP address of 192.168.1.1 /24. A DCE cable is connected to router1. The serial link should have a speed of 64 Kbps. Next, choose **R2** from the **eRouters** menu, and assign it a host name of **router2**. Configure the Ethernet interface of router2 with an IP address of 192.168.100.1 /24, and configure the serial interface with an IP address of 192.168.1.2 /24.

Choose **Host A** from the **eStations** menu, and configure Host A with an IP address of 192.168.101.2 /24 and a

default gateway of 192.168.101.1. Choose **Host B** from the **eStations** menu, and configure Host B with an IP address of 192.168.100.2 /24 and a default gateway of 192.168.100.1.

Configure the routers with default routes so that all devices can ping any other device.

R1	R2
<pre>hostname router1 ! interface ethernet0 ip address 192.168.101.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.1 255.255.255.0 clock rate 64000 no shut ! ip route 0.0.0.0 0.0.0.0 192.168.1.2</pre>	<pre>hostname router2 ! interface ethernet0 ip address 192.168.100.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.2 255.255.255.0 no shut ! ip route 0.0.0.0 0.0.0.0 192.168.1.1</pre>
Host A	Host B
<pre>ipconfig /ip 192.168.101.2 255.255.255.0 ipconfig /dg 192.168.101.1</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0 ipconfig /dg 192.168.100.1</pre>

Lab 6: RIP Routes



You are building a lab network to test new configurations that will be rolled out to your production network. First, choose **R1** from the **eRouters** menu, and assign it a host name of **router1**. Then, configure its Ethernet interface with an IP address of 192.168.101.1 /24, and configure its serial interface with an IP address of 192.168.1.1 /24. A DCE cable is connected to router1. The serial link should have a speed of 64 Kbps. Next, choose **R2** from the **eRouters** menu, and assign it a host name of **router2**. Configure the Ethernet interface of router2 with an IP address of 192.168.100.1 /24, and configure the serial interface with an IP address of 192.168.1.2 /24.

Choose **Host A** from the **eStations** menu, and configure Host A with an IP address of 192.168.101.2 /24 and a default gateway of 192.168.101.1. Choose **Host B** from the **eStations** menu, and configure Host B with an IP address of 192.168.100.2 /24 and a default gateway of 192.168.100.1.

Configure the routers with RIP version 1 so that all devices can ping any other device.

NETSIM FOR CCNA LAB MANUAL

Scenario Labs

R1	R2
<pre>hostname router1 ! interface ethernet0 ip address 192.168.101.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.1 255.255.255.0 clock rate 64000 no shut ! router rip network 192.168.1.0 network 192.168.101.0</pre>	<pre>hostname router2 ! interface ethernet0 ip address 192.168.100.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.2 255.255.255.0 no shut ! router rip network 192.168.1.0 network 192.168.100.0</pre>
Host A	Host B
<pre>ipconfig /ip 192.168.101.2 255.255.255.0 ipconfig /dg 192.168.101.1</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0 ipconfig /dg 192.168.100.1</pre>

Lab 7: IGRP Routes



You want to test an IGRP configuration. First, choose **R1** from the **eRouters** menu, and assign it a host name of **router1**. Then, configure its Ethernet interface with an IP address of 192.168.101.1 /24, and configure its serial interface with an IP address of 192.168.1.1 /24. A DCE cable is connected to router1. The serial link should have a speed of 64 Kbps. Next, choose **R2** from the **eRouters** menu, and assign it a host name of **router2**. Configure the Ethernet interface of router2 with an IP address of 192.168.100.1 /24, and configure the serial interface with an IP address of 192.168.1.2 /24.

Choose **Host A** from the **eStations** menu, and configure Host A with an IP address of 192.168.101.2 /24 and a default gateway of 192.168.101.1. Choose **Host B** from the **eStations** menu, and configure Host B with an IP address of 192.168.100.2 /24 and a default gateway of 192.168.100.1.

Configure the routers with IGRP (autonomous system 100) so that all devices can ping any other device.

R1	R2
<pre>hostname router1 ! interface ethernet0 ip address 192.168.101.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.1 255.255.255.0 clock rate 64000 no shut ! router igrp 100 network 192.168.1.0 network 192.168.101.0</pre>	<pre>hostname router2 ! interface ethernet0 ip address 192.168.100.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.2 255.255.255.0 no shut ! router igrp 100 network 192.168.1.0 network 192.168.100.0</pre>
Host A	Host B
<pre>ipconfig /ip 192.168.101.2 255.255.255.0 ipconfig /dg 192.168.101.1</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0 ipconfig /dg 192.168.100.1</pre>

Lab 8: Using Loopback Interfaces



You are preparing for the CCNA exam, and you want to add more routes to the distributed RIP routing table. First, choose **R1** from the **eRouters** menu, and assign it a host name of **router1**. Then, configure its Ethernet interface with an IP address of 192.168.101.1 /24, and configure its serial interface with an IP address of 192.168.1.1 /24. A DCE cable is connected to router1. The serial link should have a speed of 64 Kbps. Next, choose **R2** from the **eRouters** menu, and assign it a host name of **router2**. Configure the Ethernet interface of router2 with an IP address of 192.168.100.1 /24, and configure the serial interface with an IP address of 192.168.1.2 /24.

Choose **Host A** from the **eStations** menu, and configure Host A with an IP address of 192.168.101.2 /24 and a default gateway of 192.168.101.1. Choose **Host B** from the **eStations** menu, and configure Host B with an IP address of 192.168.100.2 /24 and a default gateway of 192.168.100.1.

Configure the routers with RIP so that all devices can ping any other device. After you have added RIP, create an additional interface, Loopback 0, on router1 with the IP address 10.1.1.1 /24, and include a **network** statement for RIP. Observe the changes in the routing table on router2.

NETSIM FOR CCNA LAB MANUAL

Scenario Labs

R1	R2
<pre>hostname router1 ! interface ethernet0 ip address 192.168.101.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.1 255.255.255.0 clock rate 64000 no shut ! interface loopback0 ip address 10.1.1.1 255.255.255.0 no shut ! router rip network 192.168.1.0 network 192.168.101.0 network 10.0.0.0</pre>	<pre>hostname router2 ! interface ethernet0 ip address 192.168.100.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.2 255.255.255.0 no shut ! router rip network 192.168.1.0 network 192.168.100.0</pre>
Host A	Host B
<pre>ipconfig /ip 192.168.101.2 255.255.255.0 ipconfig /dg 192.168.101.1</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0 ipconfig /dg 192.168.100.1</pre>

Lab 9: RIP-2 Routes



You are preparing for the CCNA exam, and you want to test RIP version 2. First, choose **R1** from the **eRouters** menu, and assign it a host name of **router1**. Then, configure its Ethernet interface with an IP address of 192.168.101.1 /24, and configure its serial interface with an IP address of 192.168.1.1 /24. A DCE cable is connected to router1. The serial link should have a speed of 64 Kbps. Next, choose **R2** from the **eRouters** menu, and assign it a host name of **router2**. Configure the Ethernet interface of router2 with an IP address of 192.168.100.1 /24, and configure the serial interface with an IP address of 192.168.1.2 /24.

Choose **Host A** from the **eStations** menu, and configure Host A with an IP address of 192.168.101.2 /24 and a default gateway of 192.168.101.1. Choose **Host B** from the **eStations** menu, and configure Host B with an IP address of 192.168.100.2 /24 and a default gateway of 192.168.100.1.

Configure the routers with RIP version 2 (RIP-2) so that all devices can ping any other device.

R1	R2
<pre>hostname router1 ! interface ethernet0 ip address 192.168.101.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.1 255.255.255.0 clock rate 64000 no shut ! router rip version 2 network 192.168.1.0 network 192.168.101.0</pre>	<pre>hostname router2 ! interface ethernet0 ip address 192.168.100.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.2 255.255.255.0 no shut ! router rip version 2 network 192.168.1.0 network 192.168.100.0</pre>
Host A	Host B
<pre>ipconfig /ip 192.168.101.2 255.255.255.0 ipconfig /dg 192.168.101.1</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0 ipconfig /dg 192.168.100.1</pre>

Lab 10: CHAP and RIP



You are setting up a small network. First, choose **R1** from the **eRouters** menu, and assign it a host name of **router1**. Then, configure its Ethernet interface with an IP address of 192.168.101.1 /24, and configure its serial interface with an IP address of 192.168.1.1 /24. A DCE cable is connected to router1. The serial link should have a speed of 64 Kbps. Next, choose **R2** from the **eRouters** menu, and assign it a host name of **router2**. Configure the Ethernet interface of router2 with an IP address of 192.168.100.1 /24, and configure the serial interface with an IP address of 192.168.1.2 /24.

Choose **Host A** from the **eStations** menu, and configure Host A with an IP address of 192.168.101.2 /24 and a default gateway of 192.168.101.1. Choose **Host B** from the **eStations** menu, and configure Host B with an IP address of 192.168.100.2 /24 and a default gateway of 192.168.100.1.

Use PPP with CHAP over the serial link. Configure the routers with RIP so that all devices can ping any other device. Use **cisco** as a password.

R1	R2
<pre>hostname router1 ! username router2 password cisco ! interface ethernet0 ip address 192.168.101.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.1 255.255.255.0 clock rate 64000 encapsulation ppp ppp authentication chap no shut ! router rip network 192.168.1.0 network 192.168.101.0</pre>	<pre>hostname router2 ! username router1 password cisco ! interface ethernet0 ip address 192.168.100.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.2 255.255.255.0 encapsulation ppp ppp authentication chap no shut ! router rip network 192.168.1.0 network 192.168.100.0</pre>
Host A	Host B
<pre>ipconfig /ip 192.168.101.2 255.255.255.0 ipconfig /dg 192.168.101.1</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0 ipconfig /dg 192.168.100.1</pre>

Lab 11: Standard Access Lists with RIP



You are building a lab network to test your skill at writing access lists. First, choose **R1** from the **eRouters** menu, and assign it a host name of router1. Then, configure its Ethernet interface with an IP address of 192.168.101.1 /24, and configure its serial interface with an IP address of 192.168.1.1 /24. A DCE cable is connected to router1. The serial link should have a speed of 64 Kbps. Next, choose **R2** from the **eRouters** menu, and assign it a host name of router2. Configure the Ethernet interface of router2 with an IP address of 192.168.100.1 /24, and configure the serial interface with an IP address of 192.168.1.2 /24.

Choose **Host A** from the **eStations** menu, and configure Host A with an IP address of 192.168.101.2 /24 and a default gateway of 192.168.101.1. Choose **Host B** from the **eStations** menu, and configure Host B with an IP address of 192.168.100.2 /24 and a default gateway of 192.168.100.1.

Configure the routers with RIP version 1 so that all devices can ping any other device. Then, create an access list that will filter all traffic sourced from Host B inbound on the Ethernet 0 interface of router2.

R1	R2
<pre>hostname router1 ! interface ethernet0 ip address 192.168.101.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.1 255.255.255.0 clock rate 64000 no shut ! router rip network 192.168.1.0 network 192.168.101.0</pre>	<pre>hostname router2 ! interface ethernet0 ip address 192.168.100.1 255.255.255.0 ip access-group 10 in no shut ! interface serial0 ip address 192.168.1.2 255.255.255.0 no shut ! router rip network 192.168.1.0 network 192.168.100.0 ! access-list 10 deny 192.168.100.2 0.0.0.0 access-list 10 permit any</pre>
Host A	Host B
<pre>ipconfig /ip 192.168.101.2 255.255.255.0 ipconfig /dg 192.168.101.1</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0 ipconfig /dg 192.168.100.1</pre>

Lab 12: Extended Access Lists with RIP



You are building a lab network to test your skill at writing access lists. First, choose **R1** from the **eRouters** menu, and assign it a host name of **router1**. Then, configure its Ethernet interface with an IP address of 192.168.101.1 /24, and configure its serial interface with an IP address of 192.168.1.1 /24. A DCE cable is connected to router1. The serial link should have a speed of 64 Kbps. Next, choose **R2** from the **eRouters** menu, and assign it a host name of **router2**. Configure the Ethernet interface of router2 with an IP address of 192.168.100.1 /24, and configure the serial interface with an IP address of 192.168.1.2 /24.

Choose **Host A** from the **eStations** menu, and configure Host A with an IP address of 192.168.101.2 /24 and a default gateway of 192.168.101.1. Choose **Host B** from the **eStations** menu, and configure Host B with an IP address of 192.168.100.2 /24 and a default gateway of 192.168.100.1.

Configure the routers with RIP version 1 so that all devices can ping any other device. Then, create an access list that will filter all ping requests inbound on the Ethernet 0 interface of router1.

R1	R2
<pre>hostname router1 ! interface ethernet0 ip address 192.168.101.1 255.255.255.0 ip access-group 100 in no shut ! interface serial0 ip address 192.168.1.1 255.255.255.0 clock rate 64000 no shut ! router rip network 192.168.1.0 network 192.168.101.0 ! access-list 100 deny icmp any any echo access-list 100 permit ip any any</pre>	<pre>hostname router2 ! interface ethernet0 ip address 192.168.100.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.2 255.255.255.0 no shut ! router rip network 192.168.1.0 network 192.168.100.0</pre>

Host A	Host B
<pre>ipconfig /ip 192.168.101.2 255.255.255.0 ipconfig /dg 192.168.101.1</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0 ipconfig /dg 192.168.100.1</pre>

Lab 13: EIGRP Routes



You want to test an EIGRP configuration. First, choose **R1** from the **eRouters** menu, and assign it a host name of **router1**. Then, configure its Ethernet interface with an IP address of 192.168.101.1 /24, and configure its serial interface with an IP address of 192.168.1.1 /24. A DCE cable is connected to router1. The serial link should have a speed of 64 Kbps. Next, choose **R2** from the **eRouters** menu, and assign it a host name of **router2**. Configure the Ethernet interface of router2 with an IP address of 192.168.100.1 /24, and configure the serial interface with an IP address of 192.168.1.2 /24.

Choose **Host A** from the **eStations** menu, and configure Host A with an IP address of 192.168.101.2 /24 and a default gateway of 192.168.101.1. Choose **Host B** from the **eStations** menu, and configure Host B with an IP address of 192.168.100.2 /24 and a default gateway of 192.168.100.1.

Configure the routers with EIGRP (autonomous system 10) so that all devices can ping any other device.

R1	R2
<pre>hostname router1 ! interface ethernet0 ip address 192.168.101.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.1 255.255.255.0 clock rate 64000 no shut ! router eigrp 10 network 192.168.1.0 network 192.168.101.0</pre>	<pre>hostname router2 ! interface ethernet0 ip address 192.168.100.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.2 255.255.255.0 no shut ! router eigrp 10 network 192.168.1.0 network 192.168.100.0</pre>

Host A	Host B
<pre>ipconfig /ip 192.168.101.2 255.255.255.0 ipconfig /dg 192.168.101.1</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0 ipconfig /dg 192.168.100.1</pre>

Lab 14: OSPF Routes



You want to test an OSPF configuration. First, choose **R1** from the **eRouters** menu, and assign it a host name of **router1**. Then, configure its Ethernet interface with an IP address of 192.168.101.1 /24, and configure its serial interface with an IP address of 192.168.1.1 /24. A DCE cable is connected to router1. The serial link should have a speed of 64 Kbps. Next, choose **R2** from the **eRouters** menu, and assign it a host name of **router2**. Configure the Ethernet interface of router2 with an IP address of 192.168.100.1 /24, and configure the serial interface with an IP address of 192.168.1.2 /24.

Choose **Host A** from the **eStations** menu, and configure Host A with an IP address of 192.168.101.2 /24 and a default gateway of 192.168.101.1. Choose **Host B** from the **eStations** menu, and configure Host B with an IP address of 192.168.100.2 /24 and a default gateway of 192.168.100.1.

Configure the routers with OSPF so that all devices can ping any other device. All interfaces should be in area 0.

NETSIM FOR CCNA LAB MANUAL

Scenario Labs

R1	R2
<pre>hostname router1 ! interface ethernet0 ip address 192.168.101.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.1 255.255.255.0 clock rate 64000 no shut ! router ospf 1 network 192.168.1.0 0.0.0.255 area 0 network 192.168.101.0 0.0.0.255 area 0</pre>	<pre>hostname router2 ! interface ethernet0 ip address 192.168.100.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.2 255.255.255.0 no shut ! router ospf 1 network 192.168.1.0 0.0.0.255 area 0 network 192.168.100.0 0.0.0.255 area 0</pre>

Host A	Host B
<pre>ipconfig /ip 192.168.101.2 255.255.255.0 ipconfig /dg 192.168.101.1</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0 ipconfig /dg 192.168.100.1</pre>

Lab 15: Static NAT



You want to test a NAT configuration. First, choose **R1** from the **eRouters** menu, and assign it a host name of **router1**. Then, configure its Ethernet interface with an IP address of 192.168.101.1 /24, and configure its serial interface with an IP address of 192.168.1.1 /24. A DCE cable is connected to router1. The serial link should have a speed of 64 Kbps. Next, choose **R2** from the **eRouters** menu, and assign it a host name of **router2**. Configure the Ethernet interface of router2 with an IP address of 192.168.100.1 /24, and configure the serial interface with an IP address of 192.168.1.2 /24.

Choose **Host A** from the **eStations** menu, and configure Host A with an IP address of 192.168.101.2 /24 and a default gateway of 192.168.101.1. Choose **Host B** from the **eStations** menu, and configure Host B with an IP address of 192.168.100.2 /24 and a default gateway of 192.168.100.1.

Configure the routers with RIP; do not advertise the network off the Ethernet 0 interface of router1. Set up static NAT so that Host A appears as the IP address 192.168.1.100.

R1	R2
<pre>hostname router1 ! interface ethernet0 ip nat inside ip address 192.168.101.1 255.255.255.0 no shut ! interface serial0 ip nat outside ip address 192.168.1.1 255.255.255.0 clock rate 64000 no shut ! ip nat inside source static 192.168.101.2 192.168.1.100 ! router rip network 192.168.1.0 network 192.168.101.0</pre>	<pre>hostname router2 ! interface ethernet0 ip address 192.168.100.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.2 255.255.255.0 no shut ! router rip network 192.168.1.0 network 192.168.100.0</pre>

Host A	Host B
<pre>ipconfig /ip 192.168.101.2 255.255.255.0 ipconfig /dg 192.168.101.1</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0 ipconfig /dg 192.168.100.1</pre>

Lab 16: Many-to-One NAT



You want to test a many-to-one NAT configuration. First, choose **R1** from the **eRouters** menu, and assign it a host name of **router1**. Then, configure its Ethernet interface with an IP address of 192.168.101.1 /24, and configure its serial interface with an IP address of 192.168.1.1 /24. A DCE cable is connected to router1. The serial link should have a speed of 64 Kbps. Next, choose **R2** from the **eRouters** menu, and assign it a host name of **router2**. Configure the Ethernet interface of router2 with an IP address of 192.168.100.1 /24, and configure the serial interface with an IP address of 192.168.1.2 /24.

Choose **Host A** from the **eStations** menu, and configure Host A with an IP address of 192.168.101.2 /24 and a default gateway of 192.168.101.1. Choose **Host B** from the **eStations** menu, and configure Host B with an IP address of 192.168.100.2 /24 and a default gateway of 192.168.100.1.

Configure the routers with RIP; do not advertise the network off the Ethernet 0 interface of router1. Configure NAT so that all hosts off router1's Ethernet 0 interface appear to have the IP address of router1's serial interface. Make sure that multiple hosts can access the outside world simultaneously.

R1	R2
<pre>hostname router1 ! interface ethernet0 ip nat inside ip address 192.168.101.1 255.255.255.0 no shut ! interface serial0 ip nat outside ip address 192.168.1.1 255.255.255.0 clock rate 64000 no shut ! access-list 12 permit 192.168.101.0 0.0.0.255 ip nat inside source list 12 interface serial 0 overload ! router rip network 192.168.1.0 network 192.168.101.0</pre>	<pre>hostname router2 ! interface ethernet0 ip address 192.168.100.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.2 255.255.255.0 no shut ! router rip network 192.168.1.0 network 192.168.100.0</pre>
Host A	Host B
<pre>ipconfig /ip 192.168.101.2 255.255.255.0 ipconfig /dg 192.168.101.1</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0 ipconfig /dg 192.168.100.1</pre>

Lab 17: NAT Pool



You want to test a NAT pool configuration. First, choose **R1** from the **eRouters** menu, and assign it a host name of **router1**. Then, configure its Ethernet interface with an IP address of 192.168.101.1 /24, and configure its serial interface with an IP address of 192.168.1.1 /24. A DCE cable is connected to router1. The serial link should have a speed of 64 Kbps. Next, choose **R2** from the **eRouters** menu, and assign it a host name of **router2**. Configure the Ethernet interface of router2 with an IP address of 192.168.100.1 /24, and configure the serial interface with an IP address of 192.168.1.2 /24.

Choose **Host A** from the **eStations** menu, and configure Host A with an IP address of 192.168.101.2 /24 and a default gateway of 192.168.101.1. Choose **Host B** from the **eStations** menu, and configure Host B with an IP address of 192.168.100.2 /24 and a default gateway of 192.168.100.1.

Add a loopback interface to router1 with an IP address of 192.168.200.1 /24. Configure the routers with RIP; do not advertise the network off the Ethernet 0 interface of router1. Set up NAT so that all hosts off router1's

Ethernet 0 interface can be translated to a pool of the first 100 available IP addresses of the subnet off router1's Loopback 0 interface.

R1	R2
<pre>hostname router1 ! interface ethernet0 ip nat inside ip address 192.168.101.1 255.255.255.0 no shut ! interface serial0 ip nat outside ip address 192.168.1.1 255.255.255.0 clock rate 64000 no shut ! interface loopback 0 ip address 192.168.200.1 255.255.255.0 ! ip nat pool goodpool 192.168.200.2 192.168.200.101 netmask 255.255.255.0 access-list 10 permit 192.168.101.0 0.0.0.255 ip nat inside source list 10 pool goodpool ! router rip network 192.168.1.0 network 192.168.101.0 network 192.168.200.0</pre>	<pre>hostname router2 ! interface ethernet0 ip address 192.168.100.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.2 255.255.255.0 no shut ! router rip network 192.168.1.0 network 192.168.100.0</pre>

Host A	Host B
<pre>ipconfig /ip 192.168.101.2 255.255.255.0 ipconfig /dg 192.168.101.1</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0 ipconfig /dg 192.168.100.1</pre>

Lab 18: Telnet



You are building a lab network to test new configurations that will be rolled out to your production network. First, choose **R1** from the **eRouters** menu, and assign it a host name of **router1**. Then, configure its Ethernet interface with an IP address of 192.168.101.1 /24, and configure its serial interface with an IP address of 192.168.1.1 /24. A DCE cable is connected to router1. The serial link should have a speed of 64 Kbps. Next, choose **R2** from the **eRouters** menu, and assign it a host name of **router2**. Configure the Ethernet interface of router2 with an IP address of 192.168.100.1 /24, and configure the serial interface with an IP address of 192.168.1.2 /24.

Choose **Host A** from the **eStations** menu, and configure Host A with an IP address of 192.168.101.2 /24 and a

NETSIM FOR CCNA LAB MANUAL

Scenario Labs

default gateway of 192.168.101.1. Choose **Host B** from the **eStations** menu, and configure Host B with an IP address of 192.168.100.2 /24 and a default gateway of 192.168.100.1.

Configure the routers with RIP version 1 so that all devices can ping any other device. Set up the routers so that they can be managed via Telnet; use a password of **cisco**.

R1	R2
<pre>hostname router1 ! interface ethernet0 ip address 192.168.101.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.1 255.255.255.0 clock rate 64000 no shut ! router rip network 192.168.1.0 network 192.168.101.0 ! line vty 0 4 login password cisco</pre>	<pre>hostname router2 ! interface ethernet0 ip address 192.168.100.1 255.255.255.0 no shut ! interface serial0 ip address 192.168.1.2 255.255.255.0 no shut ! router rip network 192.168.1.0 network 192.168.100.0 ! line vty 0 4 login password cisco</pre>
Host A	Host B
<pre>ipconfig /ip 192.168.101.2 255.255.255.0 ipconfig /dg 192.168.101.1</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0 ipconfig /dg 192.168.100.1</pre>

Lab 19: 2950 IP Addresses



You are building a lab network to test switching configuration. Choose **SW1** from the **eSwitches** menu, and assign it a host name of **switch1**. Use the default VLAN for management, and configure switch1 with an IP address of 192.168.100.101 /24. Choose **SW2** from the **eSwitches** menu, and assign it a host name of **switch2**. Use the default VLAN for management, and configure switch2 with an IP address of 192.168.100.102 /24.

Choose **Host A** from the **eStations** menu, and configure it with an IP address of 192.168.100.1 /24. Choose **Host B** from the **eStations** menu, and configure it with an IP address of 192.168.100.2 /24.

SW1	SW2
<pre>hostname switch1 ! interface vlan 1 ip address 192.168.100.101 255.255.255.0 no shut</pre>	<pre>hostname switch2 ! interface vlan 1 ip address 192.168.100.102 255.255.255.0 no shut</pre>

Host A	Host B
<pre>ipconfig /ip 192.168.100.1 255.255.255.0</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0</pre>

Lab 20: 2950 Trunk



You are building a lab network to test switching configuration. Choose **SW1** from the **eSwitches** menu, and assign it a host name of **switch1**. Then, choose **SW2** from the **eSwitches** menu, and assign it a host name of **switch2**. Configure the switches' Fast Ethernet 0/11 and Fast Ethernet 0/12 interfaces to always be trunks. Each switch should send DTP frames.

Choose **Host A** from the **eStations** menu, and configure it with an IP address of 192.168.100.1 /24. Choose **Host B** from the **eStations** menu, and configure it with an IP address of 192.168.100.2 /24.

SW1	SW2
<pre>hostname switch1 ! interface fastethernet 0/11 switchport mode trunk ! interface fastethernet 0/12 switchport mode trunk</pre>	<pre>hostname switch2 ! interface fastethernet 0/11 switchport mode trunk ! interface fastethernet 0/12 switchport mode trunk</pre>

Host A	Host B
<pre>ipconfig /ip 192.168.100.1 255.255.255.0</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0</pre>

Lab 21: 2950 Trunk (Dynamic)



You are building a lab network to test switching configuration. Choose **SW1** from the **eSwitches** menu, and assign it a host name of **switch1**. Then, choose **SW2** from the **eSwitches** menu, and assign it a host name of **switch2**. Configure the switches' Fast Ethernet 0/11 and Fast Ethernet 0/12 interfaces to always attempt to be trunks. Each switch should send DTP frames.

Choose **Host A** from the **eStations** menu, and configure it with an IP address of 192.168.100.1 /24. Choose **Host B** from the **eStations** menu, and configure it with an IP address of 192.168.100.2 /24.

SW1	SW2
<pre> hostname switch1 ! interface fastethernet 0/11 switchport mode dynamic desirable ! interface fastethernet 0/12 switchport mode dynamic desirable </pre>	<pre> hostname switch2 ! interface fastethernet 0/11 switchport mode dynamic desirable ! interface fastethernet 0/12 switchport mode dynamic desirable </pre>
Host A	Host B
<pre> ipconfig /ip 192.168.100.1 255.255.255.0 </pre>	<pre> ipconfig /ip 192.168.100.2 255.255.255.0 </pre>

Lab 22: 2950 VLANs



You are building a lab network to test switching configuration. Choose **SW1** from the **eSwitches** menu, and assign it a host name of **switch1**. On switch1, create VLAN 10 and VLAN 100, and add ports 2, 3, and 4 to VLAN 10. **Hint:** VLAN database mode is where you can add VLANs (i.e., **switch1#vlan database**).

Choose **SW2** from the **eSwitches** menu, and assign it a host name of **switch2**. Choose **Host A** from the **eStations** menu, and configure it with an IP address of 192.168.100.1 /24. Choose **Host B** from the **eStations** menu, and configure it with an IP address of 192.168.100.2 /24. **Note:** When you are finished with this lab, please continue with Lab 23 before you load another lab.

SW1	SW2
<pre>hostname switch1 ! interface fastethernet 0/2 switchport access vlan 10 ! interface fastethernet 0/3 switchport access vlan 10 ! interface fastethernet 0/4 switchport access vlan 10 ! vlan 10 vlan 100</pre>	<pre>hostname switch2</pre>

Host A	Host B
<pre>ipconfig /ip 192.168.100.1 255.255.255.0</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0</pre>

Lab 23: 2950 Deleting VLANs



You are building a lab network to test switching configuration. Choose **SW1** from the **eSwitches** menu, assign it a host name of **switch1**, and configure it with an IP address of 192.168.100.101 /24. Choose **SW2** from the **eSwitches** menu, assign it a host name of **switch2**, and configure it with an IP address of 192.168.100.102 /24. Remove all VLAN configurations from the previous lab.

Choose **Host A** from the **eStations** menu, and configure it with an IP address of 192.168.100.1 /24. Choose **Host B** from the **eStations** menu, and configure it with an IP address of 192.168.100.2 /24.

SW1	SW2
<pre>hostname switch1 ! interface fastethernet 0/2 ! interface fastethernet 0/3 ! interface fastethernet 0/4</pre>	<pre>hostname switch2</pre>

Host A	Host B
<pre>ipconfig /ip 192.168.100.1 255.255.255.0</pre>	<pre>ipconfig /ip 192.168.100.2 255.255.255.0</pre>

Lab 24: 2950 VTP



You are building a lab network to test switching configuration. Choose **SW1** from the **eSwitches** menu, and assign it a host name of **switch1**. Choose **SW2** from the **eSwitches** menu, and assign it a host name of **switch2**. Configure the switches' Fast Ethernet 0/11 and Fast Ethernet 0/12 interfaces to always be trunks. Set the VTP domain to **cisco**. Create VLAN 10 and VLAN 100 on switch2, and confirm that they are seen on switch1. **Hint:** Do not forget about the VLAN database mode (**switch1#vlan database**).

SW1	SW2
<pre> hostname switch1 ! interface fastethernet 0/11 switchport mode trunk ! interface fastethernet 0/12 switchport mode trunk ! vtp server vtp domain cisco </pre>	<pre> hostname switch2 ! interface fastethernet 0/11 switchport mode trunk ! interface fastethernet 0/12 switchport mode trunk ! vtp server vtp domain cisco ! vlan 10 vlan 100 </pre>

Lab 25: 2950 VTP with Client



You are building a lab network to test switching configuration. Choose **SW1** from the **eSwitches** menu, assign it a host name of **switch1**, and configure it with an IP address of 192.168.100.101 /24. Choose **SW2** from the **eSwitches** menu, assign it a host name of **switch2**, and configure it with an IP address of 192.168.100.102 /24. Configure the switches' Fast Ethernet 0/11 and Fast Ethernet 0/12 interfaces to always be trunks. Set the VTP domain to **cisco**. Make sure that VLANs cannot be created on switch2. Create VLAN 10 and VLAN 100 on switch1, and confirm that they are seen on switch2. Switch2 will function as a client this time.

SW1	SW2
<pre>hostname switch1 ! interface fastethernet 0/11 switchport mode trunk ! interface fastethernet 0/12 switchport mode trunk ! vtp server vtp domain cisco ! vlan 10 vlan 100</pre>	<pre>hostname switch2 ! interface fastethernet 0/11 switchport mode trunk ! interface fastethernet 0/12 switchport mode trunk ! vtp client vtp domain cisco</pre>

Lab 26: 2950 Telnet



You are building a lab network to test switching configuration. Choose **SW1** from the **eSwitches** menu, and assign it a host name of **switch1**. Use the default VLAN for management, and assign switch1 an IP address of 192.168.100.101 /24. Choose **SW2** from the **eSwitches** menu, and assign it a host name of **switch2**. Use the default VLAN for management, and assign switch2 an IP address of 192.168.100.102 /24. Make sure that each switch can be managed with a Telnet password of **cisco**.

SW1	SW2
<pre>hostname switch1 ! interface vlan 1 ip address 192.168.100.101 255.255.255.0 no shut ! line vty 0 15 login password cisco</pre>	<pre>hostname switch2 ! interface vlan 1 ip address 192.168.100.102 255.255.255.0 no shut ! line vty 0 15 login password cisco</pre>

