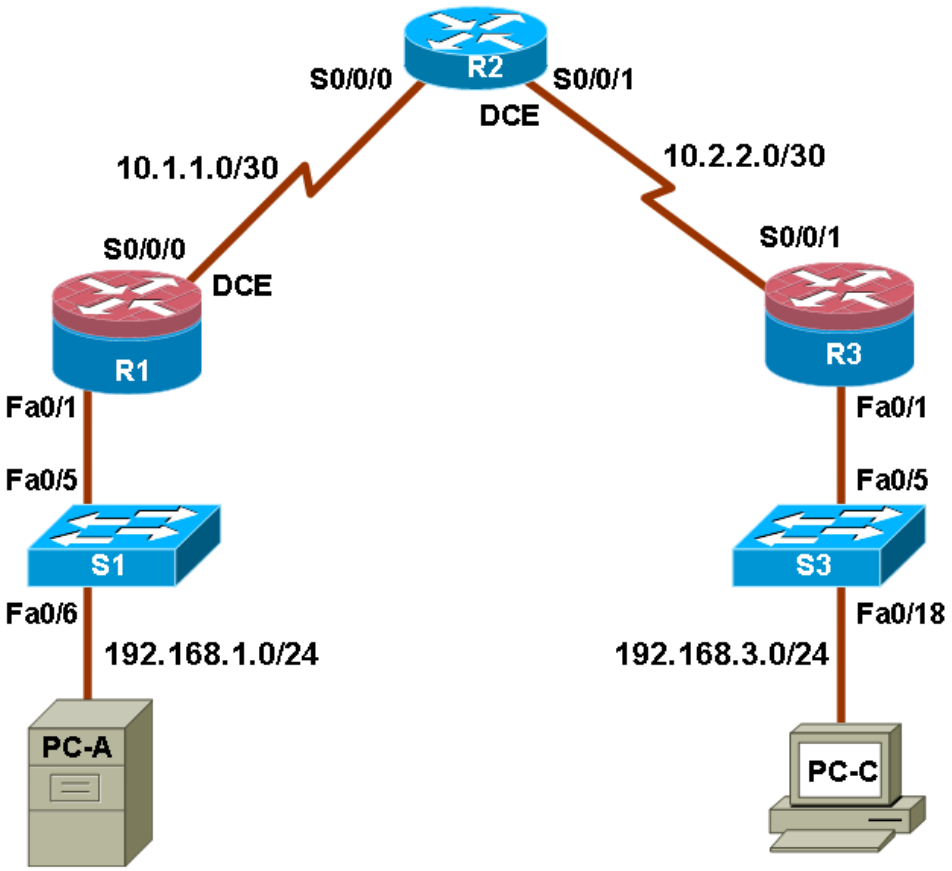
Configuring Devices for Use with Cisco Configuration Professional (CCP) 2.5

Topology



IP Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway	Switch Port
R1	Fa0/1	192.168.1.1	255.255.255.0	N/A	S1 Fa0/5
	S0/0/0 (DCE)	10.1.1.1	255.255.255.252	N/A	N/A
R2	S0/0/0	10.1.1.2	255.255.255.252	N/A	N/A
	S0/0/1 (DCE)	10.2.2.2	255.255.255.252	N/A	N/A
R3	Fa0/1	192.168.3.1	255.255.255.0	N/A	S3 Fa0/5
	S0/0/1	10.2.2.1	255.255.255.252	N/A	N/A
PC-A	NIC	192.168.1.3	255.255.255.0	192.168.1.1	S1 Fa0/6
PC-C	NIC	192.168.3.3	255.255.255.0	192.168.3.1	S3 Fa0/18

Objectives

Part 1: Basic Network Device Configuration

- Cable the network as shown in the topology.
- Configure basic IP addressing for routers and PCs.
- Configure routing.
- Verify connectivity between hosts and routers.

Part 2: Configure CCP Access for Routers

- Enable HTTP/HTTPS server.
- Create a user account with privilege level 15.
- Configure SSH and Telnet access for local login.

Part 3: Basic CCP Configuration

- Install CCP.
- Manage communities.
- Discover router devices.

Background/Scenario

Cisco Configuration Professional (CCP) is a Windows-based device management tool for Integrated Service Routers. CCP simplifies router configurations through easy-to-use wizards. The objective of this lab is to verify that the routers and PC are configured properly for use with CCP.

Note: Ensure that the routers and the switches have been erased and have no startup configurations.

Required Resources

- 3 routers (Cisco 1841 with Cisco IOS software, release 12.4(20)T1 or comparable)
- 2 switches (Cisco 2960 or comparable)
- PC-A: Windows XP, Vista, or Windows 7
- PC-C: Windows XP, Vista, or Windows 7 with CCP 2.5, Java version 1.6.0_11 up to 1.6.0_21, Internet Explorer 6.0 or above and Flash Player Version 10.0.12.36 and later
- Serial and Ethernet cables as shown in the topology
- Rollover cables to configure the routers via the console port

Note: If the PC is running Windows 7, it may be necessary to right-click on the Cisco CP icon or menu item, and choose **Run as administrator**.

In order to run CCP, it may be necessary to temporarily disable antivirus programs and O/S firewalls. Make sure that all pop-up blockers are turned off in the browser.

Part 1: Basic Router Configuration

In Part 1 of this lab, set up the network topology and configure basic settings such as interface IP addresses and routing.

Step 1: Cable the network.

Attach the devices that are shown in the topology diagram, and cable as necessary.

Step 2: Configure basic settings for each router.

a. Configure host names as shown in the topology.

b. Configure interface IP addresses as shown in the IP Addressing Table.

c. Configure a clock rate for routers with a DCE serial cable attached to their serial interface. Router R1 is shown here as an example.

```
R1(config)# interface S0/0/0
R1(config-if)# clock rate 64000
```

d. To prevent the router from attempting to translate incorrectly entered commands as though they were host names, disable DNS lookup. Router R1 is shown here as an example.

```
R1(config)# no ip domain-lookup
```

Step 3: Configure Routing Protocol on R1, R2, and R3.

Static and dynamic routing protocols are used in different chapter labs. Please refer to the chapter instructions to determine which routing protocol is used in a chapter lab.

Step 4: Configure static default routes on R1, R2, and R3.

a. Configure a static default route from R1 to R2 and from R3 to R2.

```
R1(config)# ip route 0.0.0.0 0.0.0.0 10.1.1.2
R3(config)# ip route 0.0.0.0 0.0.0.0 10.2.2.2
```

b. Configure static routes from R2 to the R1 LAN.

```
R2(config)# ip route 192.168.1.0 255.255.255.0 10.1.1.1
```

c. Configure static routes from R2 to the R3 LAN.

```
R2(config)# ip route 192.168.3.0 255.255.255.0 10.2.2.1
```

Step 5: Configure the EIGRP routing protocol on R1, R2, and R3.

a. On R1, use the following commands.

```
R1(config)# router eigrp 101
R1(config-router)# network 192.168.1.0 0.0.0.255
R1(config-router)# network 10.1.1.0 0.0.0.3
R1(config-router)# no auto-summary
```

b. On R2, use the following commands.

```
R2(config)# router eigrp 101
R2(config-router)# network 10.1.1.0 0.0.0.3
R2(config-router)# network 10.2.2.0 0.0.0.3
```

```
R2(config-router)# no auto-summary
```

c. On R3, use the following commands.

```
R3(config)# router eigrp 101
R3(config-router)# network 192.168.3.0 0.0.0.255
R3(config-router)# network 10.2.2.0 0.0.0.3
R3(config-router)# no auto-summary
```

Step 6: Configure PC host IP settings.

Configure a static IP address, subnet mask, and default gateway for PC-A and PC-C as shown in the IP Addressing Table.

Step 7: Verify connectivity between PC and Routers.

a. Ping from R1 to R3.

Were the ping results successful? _____

If the pings are not successful, troubleshoot the basic device configurations before continuing.

b. Ping from PC-A on the R1 LAN to PC-C on the R3 LAN.

Were the ping results successful? _____

If the pings are not successful, troubleshoot the basic device configurations before continuing.

Note: If you can ping from PC-A to PC-C you have demonstrated that routing is configured and functioning correctly. If you cannot ping but the device interfaces are up and IP addresses are correct, use the **show run** and **show ip route** commands to help identify routing protocol related problems.

Part 2: Router Access for CCP

In Part 2 of this lab, you setup a router for use with CCP by enabling HTTP/HTTPS server, creating a privileged user account, and configuring a SSH and Telnet access.

Step 1: Connect to your router through Telnet or SSH or the console.

Enter the global configuration mode using the command:

```
Router> enable
Router# configure terminal
```

Step 2: Enable the router HTTP or HTTPS server.

Use the following Cisco IOS Software commands.

```
Router(config)# ip http server
Router(config)# ip http secure-server
Router(config)# ip http authentication local
```

Note: HTTPS is enabled only for cryptography-enabled Cisco IOS Software images.

Step 3: Create a user with privilege level 15.

```
Router(config)# username admin privilege 15 password cisco12345
```

Step 4: Configure SSH and Telnet for local login.

```
Router(config)# line vty 0 4
Router(config-line)# login local
Router(config-line)# transport input telnet
Router(config-line)# transport input telnet ssh
Router(config-line)# exit
```

Part 3: CCP Installation and Initial Setup

Step 1: Install CCP

Note: This section can be skipped if CCP is already installed on your PC.

a. Download CCP 2.5 from Cisco's website:

http://www.cisco.com/cisco/software/release.html?mdfid=281795035&softwareid=282159854&release=2.5&rellifecycle=&relind=AVAILABLE&reltype=all

b. Choose the file **cisco-config-pro-k9-pkg-2_5-en.zip**.

Note: Be sure to select the correct CCP file and not CCP Express. If there is a more current release of CCP, you may choose to download it. However, the labs in this course are based on CCP 2.5.

c. Agree to the terms and conditions and download and save the file to the desired location.

d. Open the zip file and run the CCP executable.

e. Follow the on-screen instructions to install CCP 2.5 on your PC.

Note: If Cisco CP is installed on a PC that uses the Microsoft Windows Vista operating system or the Microsoft Windows 7 operating system, Cisco CP may fail to launch.

Possible solutions:

1. Compatibility settings:
    a. Right click on the Cisco CP icon or menu item and select **Properties**.
    b. While in the **Properties** dialog box, select the **Compatibility** tab. In this tab, select the checkbox for **Run this program in compatibility mode for**. Then in the drop down menu below, choose **Windows XP (Service Pack 3)** for example, if it is appropriate for your system.
    c. Click **OK**.
2. **Run as Administrator** settings:
    a. Right click on the Cisco CCP icon or menu item and select **Properties**.
    b. While in the **Properties** dialog box, select the **Compatibility** tab. In this tab, select the checkbox for **Run this program as administrator** in Privilege Level section.
    c. Click **OK**.
3. Run as Administrator for each launch:

a. Right click on the Cisco CP icon or menu item and select **Run as Administrator**.

b. For more information, please refer to the Cisco CP Quick Start Guide or search for "run as administrator" for your operating system on the internet.

Note: It may be necessary to temporarily disable antivirus programs and O/S firewalls in order to run CCP.

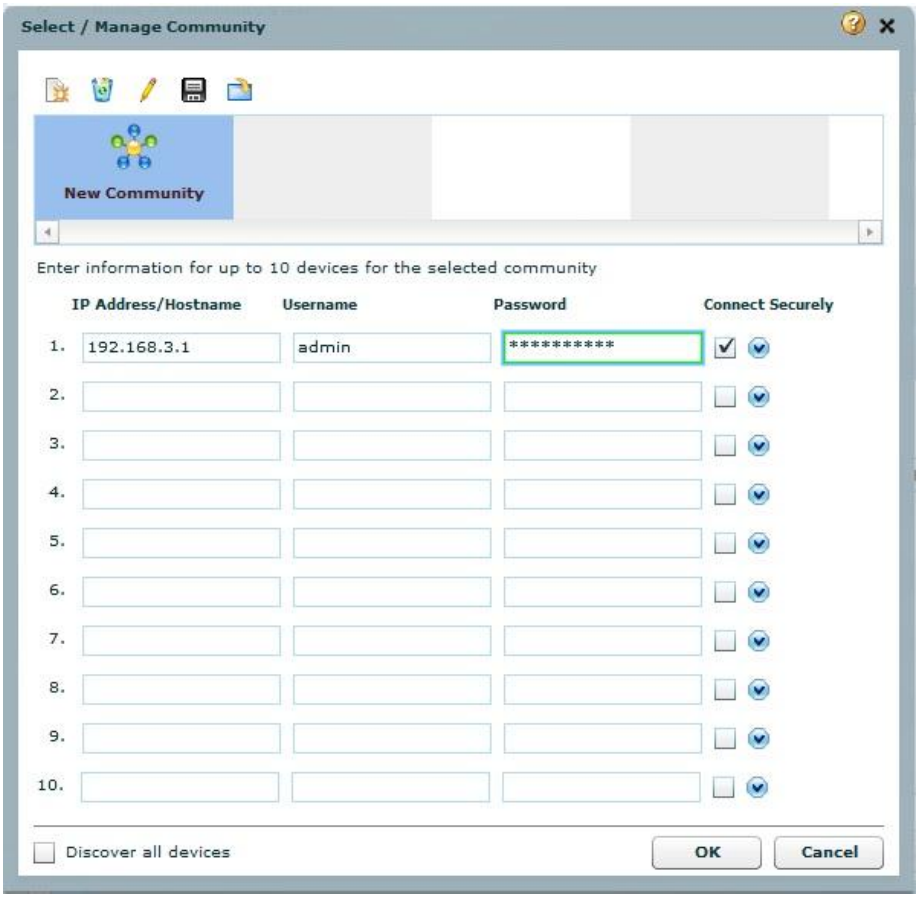
Step 2: Create / Manage Communities

CCP 2.5 can discover up to 10 devices in a community. If desired, the information for both R1 and R3 can be included in one community if the PC has network connectivity to the routers. Only R3 is discovered on PC-C in this section as an example.

a. On PC-C, start CCP: **Start > Cisco Configuration Professional**.

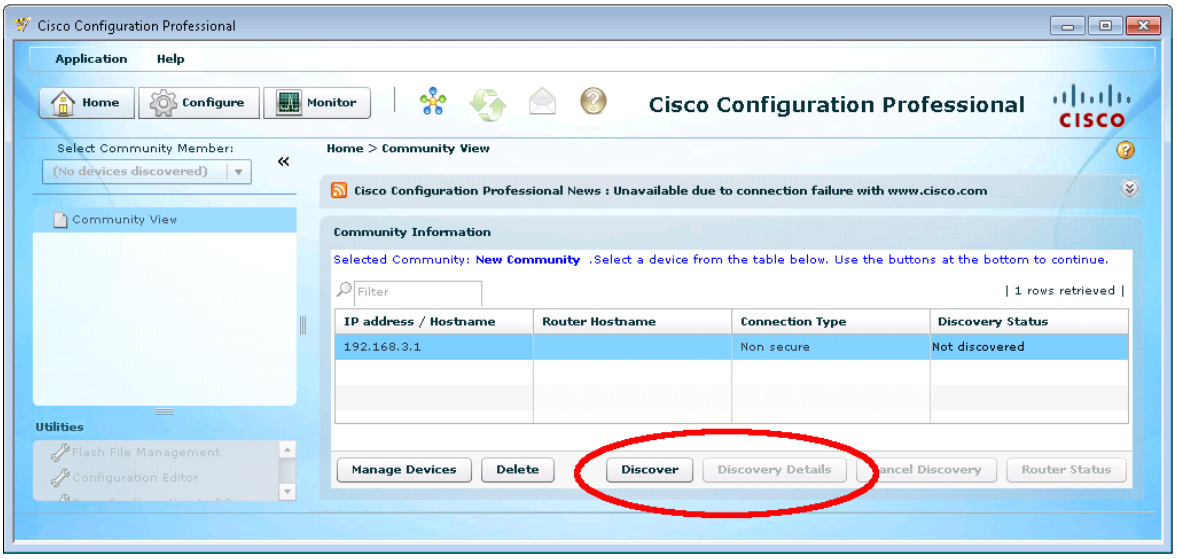
b. In the Select / Manage Community window, input into the appropriate fields the R3 IP address 192.168.3.1, the **Username** admin, and the **Password** cisco12345.

c. Click **OK** to continue.

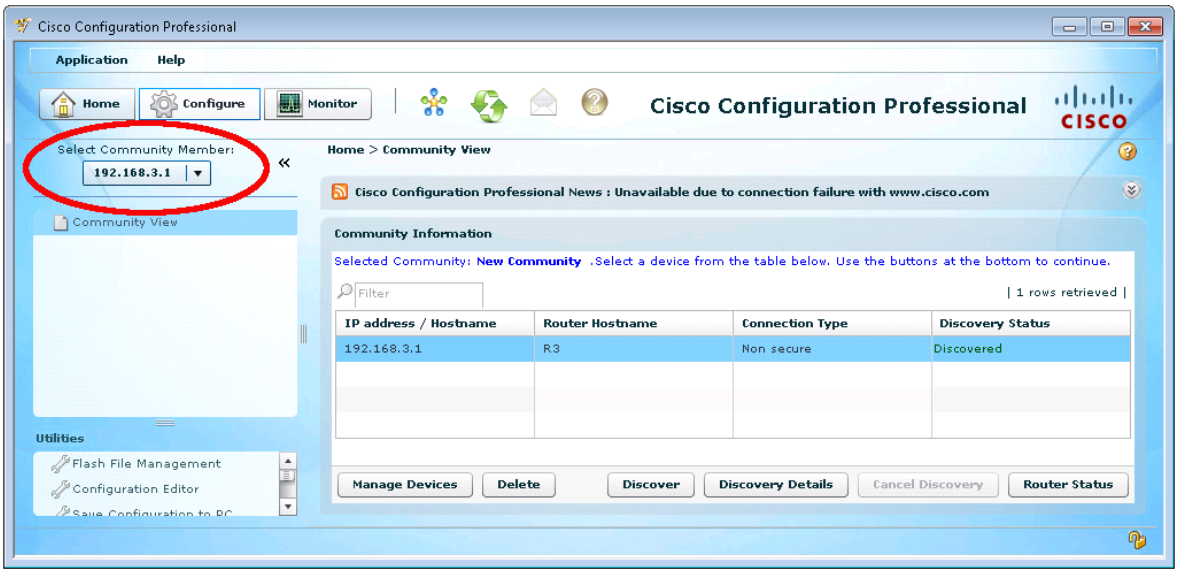


Step 3: Discovery Router Devices

a. Click **Discover** on the Dashboard to discover and connect to R3. If discovery fails, click the **Discovery Details** button to determine the problem so that you can resolve the issue.



b. Once the router has been discovered by CCP, you are ready to configure your Select Community Member. In this example, the Select Community Member is 192.168.3.1.



Router Interface Summary Table

Router Interface Summary				
Router Model	Ethernet Interface #1	Ethernet Interface #2	Serial Interface #1	Serial Interface #2
1800	Fast Ethernet 0/0 (Fa0/0)	Fast Ethernet 0/1 (Fa0/1)	Serial 0/0/0 (S0/0/0)	Serial 0/0/1 (S0/0/1)
1900	Gigabit Ethernet 0/0 (Fa0/0)	Gigabit Ethernet 0/1 (Fa0/1)	Serial 0/0/0 (S0/0/0)	Serial 0/0/1 (S0/0/1)
2800	Fast Ethernet 0/0 (Fa0/0)	Fast Ethernet 0/1 (Fa0/1)	Serial 0/0/0 (S0/0/0)	Serial 0/0/1 (S0/0/1)
2900	Gigabit Ethernet 0/0 (Fa0/0)	Gigabit Ethernet 0/1 (Fa0/1)	Serial 0/0/0 (S0/0/0)	Serial 0/0/1 (S0/0/1)

Note: To find out how the router is configured, look at the interfaces to identify the type of router and how many interfaces the router has. There is no way to effectively list all the combinations of configurations for each router class. This table includes identifiers for the possible combinations of Ethernet and Serial interfaces in the device. The table does not include any other type of interface, even though a specific router may contain one. An example of this might be an ISDN BRI interface. The string in parenthesis is the legal abbreviation that can be used in Cisco IOS commands to represent the interface.