



CHAPTER 3

First-Time Configuration

Before you configure your router for the first time, you should understand boot images, interface numbering, and the actions to take before you turn on your router. This chapter also describes how to use the **setup** command facility to configure your Cisco MWR 1941-DC-A mobile wireless edge router.

This chapter includes the following sections:

- [Understanding Boot Images, page 3-1](#)
- [Understanding the Cisco MWR 1941-DC-A Router Interface Numbering, page 3-1](#)
- [Setup Command Facility, page 3-3](#)
- [Configuring Global Parameters, page 3-3](#)
- [Completing the Configuration, page 3-6](#)

Understanding Boot Images

The first file on the compact flash device in slot0 *must* be the Cisco IOS software image that you want to use. Otherwise, the Cisco MWR 1941-DC-A router cannot boot.

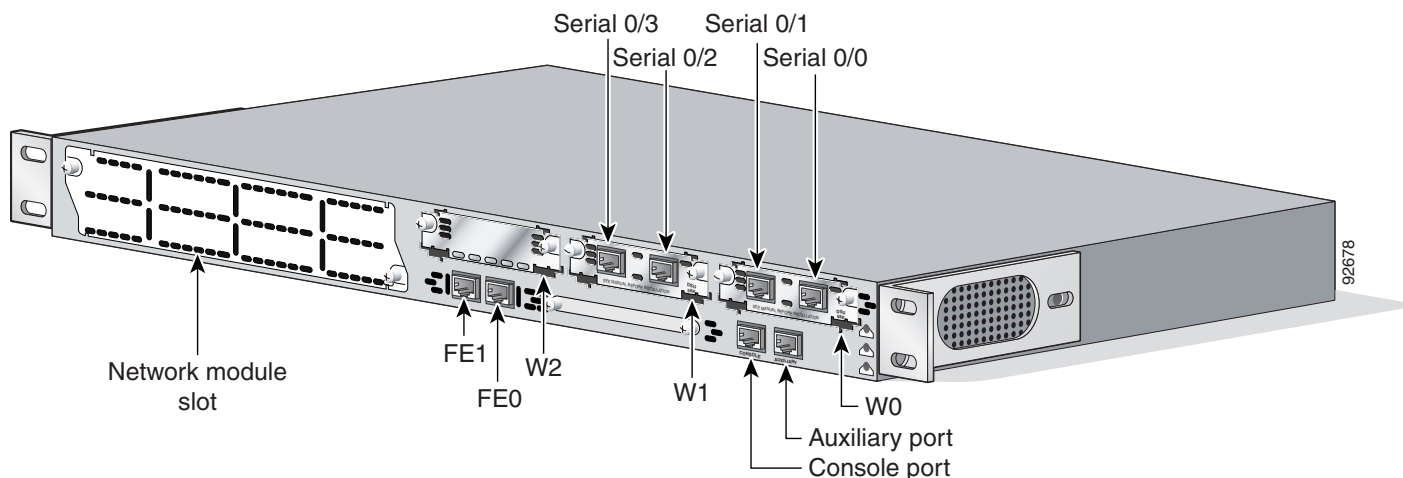
Understanding the Cisco MWR 1941-DC-A Router Interface Numbering

Each network interface on a Cisco MWR 1941-DC-A router is identified by a slot number and a port number.

[Figure 3-1 on page 3-2](#) shows an example of interface numbering on a Cisco MWR 1941-DC-A router:

- A Cisco 2-port T1/E1-RAN interface card in two of the three Cisco 2-port T1/E1-RAN slots (labeled W0, W1, and W2)
- Two built-in Fast Ethernet interfaces (labeled FE0 and FE1)

Figure 3-1 Cisco MWR 1941-DC-A Router Port Numbers



Slot and Port Numbering

The Cisco MWR 1941-DC-A router chassis contains the following LAN and WAN interface types:

- Two built-in Fast Ethernet LAN interfaces (labeled FE0 and FE1)
- Three slots for installing Cisco 2-port T1/E1-RAN interface cards (labeled W0, W1, and W2)
- One slot for installing an NM-2W network module (supports up to two additional Cisco 2-port T1/E1-RAN interface cards)

The logical slot numbers are as follows:

- 0 for all built-in interfaces
- 0 for all built-in Cisco 2-port T1/E1-RAN interface card slots
- 1 for the network module slot

The numbering format is:

<Interface type> <Slot number> / <Interface number>

For example:

Serial 0/1

Interface (port) numbers begin at logical 0 for each interface type; ports are numbered from right to left.

- The two built-in Ethernet 10/100 logical interfaces are Fast Ethernet 0/0 and Fast Ethernet 0/1.
- The logical slot number for all Cisco 2-port T1/E1-RAN interfaces in the built-in Cisco 2-port T1/E1-RAN interface card slot is always 0. (The W0, W1, and W2 slot designations are for physical slot identification only.) Interfaces in the Cisco 2-port T1/E1-RAN interface cards are numbered from right to left, starting with logical 0/0 for each interface type, regardless of the physical slot in which the Cisco 2-port T1/E1-RAN interface cards are installed.

For example, if you have a Cisco 2-port T1/E1-RAN interface card in two of the 2-port T1/E1-RAN interface card slots (physical slots W0 and W1), then the logical interfaces are:

- Serial 0/0 and Serial 0/1 in physical slot W0
- Serial 0/2 and Serial 0/3 in physical slot W1

However, if you install a Cisco 2-port T1/E1-RAN interface card in physical slot W1 (leaving slot W0 empty), the logical interfaces in slot W1 are Serial 0/0 and Serial 0/1. If you later add a Cisco 2-port T1/E1-RAN interface card to slot W0, the interface numbering will shift. The configuration that you created for logical interfaces Serial 0/0 and Serial 0/1 will now be applied to the Cisco 2-port T1/E1-RAN interface card in slot W0, and you will need to create a new configuration for the interfaces that you previously configured on W1 (which will now be Serial 0/2 and Serial 0/3).

- The slot number of the Cisco 2-port T1/E1-RAN interfaces installed in slot 1 using an NM-2W network module is always logical 1, and the interfaces are always numbered from the right to left.

Setup Command Facility

The **setup** command facility prompts you for information that is required to start a router functioning quickly. The facility steps you through a basic configuration, including LAN interfaces.

If you prefer to configure the router manually or to configure a module or interface that is not included in the **setup** command facility, go to [“Chapter 2, “Cisco IOS Software Basics”](#) to familiarize yourself with the command-line interface (CLI). Then, go to [Chapter 4, “Configuring the Cisco MWR 1941-DC-A Router in a RAN-O Solution Using the CLI.”](#)

Before Starting Your Router

Before you power on your router and begin using the **setup** command facility, follow these steps:

-
- | | |
|---------------|---|
| Step 1 | Set up the hardware and connect the console and network cables as described in the “Connecting Cables” section of the <i>Cisco MWR 1941-DC-A Router Hardware Installation Guide</i> . |
| Step 2 | Configure your PC terminal emulation program for 9600 baud, 8 data bits, no parity, and 1 stop bit. |
-

Using the Setup Command Facility

The **setup** command facility appears in your PC terminal emulation program window.

To create a basic configuration for your router, do the following:

- Complete the steps in the [“Configuring Global Parameters”](#) section on page 3-3
- Complete the steps in the [“Completing the Configuration”](#) section on page 3-6



Note If you make a mistake while using the setup command facility, you can exit the facility and run it again. Press **Ctrl-C**, and type **setup** at the enable mode prompt (1900#).

Configuring Global Parameters

Use the following procedure to configure global parameters.

Step 1 Power on the router. Messages appear in the terminal emulation program window.



Caution *Do not press any keys on the keyboard until the messages stop.* Any keys that you press during this time are interpreted as the first command entered after the messages stop, which might cause the router to power off and start over. Wait a few minutes. The messages stop automatically.

The messages look similar to the following:



Note The messages vary, depending on the Cisco IOS software image and interface modules in your router. This section is for reference only, and output might not match the messages on your console.

```
rommon 1 >boot
program load complete, entry point:0x80008000, size:0xc200

Initializing ATA monitor library.....
program load complete, entry point:0x80008000, size:0xc200

Initializing ATA monitor library.....
program load complete, entry point:0x80008000, size:0xc35eec
Self decompressing the image:
#####
#####
#####
#####
#####
#####
##### [OK]

Smart Init is enabled
smart init is sizing iomem
  ID MEMORY_REQTYPE
0035C  0X005F3C00 MWR1941 Mainboard
        0X0010AE00 public buffer pools
        0X00211000public particle pools
TOTAL: 0X0090FA00

If any of the above Memory requirements are "UNKNOWN", you may be using an
unsupported configuration or there is a software problem and system operation
may be compromised.
Rounded IOEM up to: 10Mb.
Using 7 percent iomem. [10Mb/128Mb]

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Rights clause at FAR sec. 52.227-19 and subparagraph
(c) (1) (ii) of the Rights in Technical Data and Computer
Software clause at DFARS sec. 252.227-7013.
```

cisco Systems, Inc.
 170 West Tasman Drive
 San Jose, California 95134-1706

Cisco IOS Software, 1900 Software (MWR1900-I-M),

```
Experimental Version 12.4(20050412:070057),
Copyright (c) 1986-2005 by cisco Systems, Inc.
Compiled Tue 12-Apr-05 03:44 by ppearce
Image text-base:0x60008F60, data-base:0x6106A000
```

```
Port Statistics for unclassified packets is not turned on.
cisco mwr1941 (R7000) processor (revision 4.0) with 120832K/20480K bytes of
memory.
```

```
Processor board ID JMX0722L4PA
R7000 CPU at 240Mhz, Implementation 39, Rev 3.3, 256KB L2 Cache
PXF processor tmc 'system:pxf/ucode0' has been reset.
2 FastEthernet interface(s)
6 Channelized (E1 or T1)/PRI ports
DRAM configuration is 64 bits wide with parity disabled.
55K bytes of non-volatile configuration memory.
31744K bytes of ATA Slot0 CompactFlash (Read/Write)
```

```
--- System Configuration Dialog ---
Would you like to enter the initial configuration dialog? [yes/no]: yes
```

```
At any point you may enter a question mark '?' for help.
Use ctrl-c to abort configuration dialog at any prompt.
Default settings are in square brackets '[]'.
```

Step 2 To begin the initial configuration dialog, enter **yes** when the following message appears:

```
Basic management setup configures only enough connectivity
for management of the system, extended setup will ask you
to configure each interface on the system
```

```
Would you like to enter basic management setup? [yes/no]: yes
Configuring global parameters:
```

Step 3 Enter a hostname for the router (this example uses 1941-1).

```
Configuring global parameters:
```

```
Enter host name [Router]: 1941-1
```

Step 4 Enter an enable secret password. This password is encrypted (more secure) and cannot be seen when viewing the configuration.

```
The enable secret is a password used to protect access to
privileged EXEC and configuration modes. This password, after
entered, becomes encrypted in the configuration.
```

```
Enter enable secret: ciscoenable
```



Note When you enter the enable secret password, the password is visible while you type the it. After you enter the password, it becomes encrypted in the configuration.

Step 5 Enter an enable password that is different from the enable secret password. This password is *not* encrypted (less secure) and can be seen when viewing the configuration.

```
The enable password is used when you do not specify an
enable secret password, with some older software versions, and
some boot images.
```

```
Enter enable password: ciscoenable
```

Step 6 To prevent unauthenticated access to the router through ports other than the console port, enter the virtual terminal password.

```
The virtual terminal password is used to protect
```

access to the router over a network interface.
 Enter virtual terminal password: **ciscoterminal**

Step 7 Respond to the following prompts as appropriate for your network:

Configure SNMP Network Management? [yes]:
 Community string [public]: **public**

Step 8 The summary of interfaces appears. This list varies, depending on the network modules installed in your router.

```
Current interface summary

Any interface listed with OK? value "NO" does not have a valid configuration

Interface          IP-Address      OK? Method Status      Protocol
FastEthernet0/0 unassigned      NO  unset up up
FastEthernet0/1 unassigned      NO  unset up up
```

Step 9 Specify the interface to be used to connect to the network management system.

Enter interface name used to connect to the management network from the above interface summary: **FastEthernet0/0**

Step 10 Configure the specified interface as prompted.

```
Configuring interface FastEthernet0/0:
Use the 100 Base-TX (RJ-45) connector? [yes]: yes
Operate in full-duplex mode? [no]: yes
Configure IP on this interface? [yes]:yes
IP address for this interface: 178.18.44.233
Subnet mask for this interface [255.255.0.0] : 255.255.255.128
Class B network ia 178.18.0.0, 25 subnet bits; mask is /25
```

Completing the Configuration

When you have provided all of the information prompted for by the setup command facility, the configuration appears. Messages similar to the following appear:

The following configuration command script was created:

```
!
hostname 1941-1
enable secret 5 $1$5fH0$Z6Pr5Egtr5iNJ2nBg3i6y1 enable password ciscoenable line vty 0 4
password ciscoenablesnmp-server community public !
no ip routing

!
interface FastEthernet0/0
no shutdown
media-type 100BaseX
full-duplex
ip address 178.18.44.233 255.255.255.128
!
interface FastEthernet0/1
shutdown
no ip address
!
end
```

To complete your router configuration, do the following:

Step 1 A setup command facility prompt you to save this configuration.

```
[0] Go to the IOS command prompt without saving this config.  
[1] Return back to the setup without saving this config.  
[2] Save this configuration to nvram and exit.
```

```
Enter your selection [2]: 2  
Building configuration...  
[OK]
```

Use the enabled mode 'configure' command to modify this configuration.

Press RETURN to get started!

If you answer:

- **no**—The configuration information that you entered is *not* saved, and you return to the router enable prompt. To return to the system configuration dialog, enter **setup**.
- **yes**—The configuration is saved, and you return to the EXEC prompt.

Step 2 When the messages stop displaying in your window, press **Return** to view the command line prompt.

The 1941-1> prompt indicates that you are now at the CLI and you have just completed a basic router configuration. However, this is *not* a complete configuration. You must configure additional parameters by using the Cisco IOS software CLI as described in [Chapter 4, “Configuring the Cisco MWR 1941-DC-A Router in a RAN-O Solution Using the CLI.”](#)

