Title:
Passing The CCNA and CCNP Exams: Setup Mode

Word Count:
701

Summary:
Setup Mode is a vital part of your CCNA and CCNP studies, but it's not something you can practice at work. Learn the important details of Setup Mode in this illustrated tutorial from Chris Bryant, CCIE #12933.

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Article Body:
CCNA and CCNP candidates need to know all about Setup Mode, why a router goes into that mode, and as you'll see, how to get out of that mode. Practicing Setup Mode at work is a good way to get fired, though, so you need to practice this on your CCNA / CCNP home lab or rack rental.   In this article, we'll take a look at a Cisco 2500 router going into setup mode and a few tips that will help you pass the exams and excel at your job.

First, why does a router go into Setup Mode in the first place? When a Cisco router boots up, the router looks into Non-Volatile RAM (NVRAM) for the startup configuration file. If such a file is not found, and the router has not been programmed to look to a TFTP server for this file, the router enters setup mode.

The most common reason for a router not to have a startup configuration file is that the file's been erased. We will now erase this file on our 2500 router. As you'll see, the Cisco router warns us about erasing NVRAM and makes us confirm this choice, which it acknowledges with the OK message.

R1#write erase

Erasing the nvram filesystem will remove all files! Continue? [confirm]

[OK]

Erase of nvram: complete

R1#

The router will now be reloaded. There is a slightly misleading message
displayed during reboot:

R1#reload

Proceed with reload? [confirm]

00:15:21: %SYS-5-RELOAD: Reload requested

System Bootstrap, Version 11.0(10c)XB1, PLATFORM SPECIFIC RELEASE SOFTWARE (fc1)

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2500 processor with 14336 Kbytes of main memory

Notice: NVRAM invalid, possibly due to write erase.

That notice doesn't mean the NVRAM is corrupt or unusable; this message means
the NVRAM doesn't have a startup configuration file.

The router will continue to boot and finally present you with this prompt:

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]:

Almost every WAN engineer I know answers "no" to this question, because Setup
Mode is a long, clumsy way to set up a router (in my humble opinion). We will
answer "yes" in order to see this mode in action.

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: y

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 '[]'.

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]: y

Configuring global parameters:

Enter host name [Router]: R1

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:

% No defaulting allowed

Enter enable secret:

Already, there's something about Setup Mode that you might not like. This mode
forces you to set an enable password and an enable secret password. As you
continue in this mode, you'll see this mode ask you questions about every single
interface on the router, even if you're not planning to use that interface.
Using Setup Mode really does get quite old after a while, again in my opinion.

One of the most important things about Setup Mode is knowing how to get out of
it without saving the configuration. One way is at the very end of this mode,
where you can answer "no" to "Do you want to save this configuration?" I
personally never make it that far! Instead of waiting until the end of Setup
Mode, we can use the CTRL-C key combination to abort this mode and ignore the
changes.

Configuration aborted, no changes made.

Press RETURN to get started!

Setup Mode is not a mode that CCNA and CCNP candidates get a great deal of
practice with, but you will be tested on your knowledge about it both in the
exam room and on the job. And once you start configuring a router with this
mode, you'll be glad you know how to get out of it!