

Overview Basic Configuration of a Cisco Networking Device

Cisco IOS software provides two features, AutoInstall and Setup mode, to simplify configuring a Cisco IOS-based networking device. AutoInstall enables automatic loading of device configuration files from a remote location and can be used to configure several devices concurrently. Setup is an interactive Cisco IOS software command-line interface (CLI) mode that guides you through a basic (also called a startup) configuration but limits you to configuring a single device at a time. AutoInstall is an automatic process for the device that is being configured; Setup is a manual process for the device that is being configured.

This module provides an introduction to each feature and directs you to modules that describe the features in detail and explain how to use them.

The terms initial configuration and startup configuration are used interchangeably.

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Prerequisites for Basic Configuration of a Cisco Networking Device

Prerequisites for Cisco IOS AutoInstall

- Using AutoInstall to Remotely Configure Cisco Networking Devices module is written specifically for networking devices running Cisco IOS Release 12.4(1) or newer. However most of the information in this document can be used to configure networking devices that support AutoInstall and are not running Cisco IOS release 12.4(1) or newer. The two key differences that you must allow for are:
  - Some Cisco networking devices use BOOTP instead of DHCP to request IP address addresses over LAN interfaces. Enabling BOOTP support on your DHCP server will resolve this issue.
  - Some Cisco networking devices use a DHCP client identifier format that is different from the format used by networking devices running Cisco IOS release 12.4(1) or newer. This document only explains the DHCP client identifier format used by networking devices running Cisco IOS release

12.4(1) or newer. Use the process described in the "Determining the Value for the DHCP Client Identifier Automatically" section in Using AutoInstall to Remotely Configure Cisco Networking Devices module to determine the DHCP client identifier format that your Cisco networking device is using.

- No configuration file resides in NVRAM on the networking device that is being configured with AutoInstall.
- The configuration files that you want to load on to the networking device using AutoInstall reside on a TFTP server that is connected to the network. In most cases there is more than one file; for example, a network file with the IP-to-hostname mappings and a device-specific configuration file.
- You have someone at the remote site to connect the networking device that is being configured with AutoInstall to the network and power it on.
- The network has the IP connectivity necessary to permit the networking device to load configuration files from the TFTP server during the AutoInstall process.
- A DHCP server is available on the network to provide IP addresses to networking devices that are using AutoInstall over a LAN connection.

Prerequisites for Cisco IOS Setup Mode

- A terminal is connected to the console port of the device being configured.
- You know the interfaces you want to configure.
- You know the routing protocols you want to enable.

For information about routing protocols, see the *Cisco IOS IP Routing Protocols Configuration Guide* .

- You know whether the device you are configuring will perform bridging.
- You know whether the device you are configuring has protocol translation installed.
- You have network addresses for the protocols being configured.

For information about network addresses, see the *Cisco IOS IP Addressing Services Configuration Guide*.

- You have a password strategy for your network environment.

For information about passwords and device security, see "Configuring Security with Passwords, Privilege Levels, and Login User names for CLI Sessions on Networking Devices" in the *Cisco IOS Security Configuration Guide* .

- You have or have access to documentation for the product you want to configure.

Restrictions for Basic Configuration of a Cisco Networking Device

Restrictions for Cisco IOS AutoInstall

- (Serial interfaces only) AutoInstall over a serial interface using either HDLC or Frame Relay can be performed only over the first serial port on a new device (serial interface 0 or serial interface x/0).

- (LAN interfaces only) Only LAN Token Ring interfaces that set ring speed with physical jumpers support AutoInstall.

Restrictions for Cisco IOS Setup Mode

- Setup mode is hardware dependent. You must follow instructions for the specific product you want to configure, as described in documentation for that product.
- Some configuration parameters apply only when a networking device has the protocol translation option. If a device does not have protocol translation, Setup does not prompt for these parameters.

Information About Basic Configuration of a Cisco Networking Device

Before you configure a networking device with a basic configuration, you should understand the following concepts and decide whether AutoInstall or Setup mode is the best method, based on your requirements.

Comparison of Cisco IOS AutoInstall and Cisco IOS Setup Mode

Cisco IOS AutoInstall enables automatic loading of device configuration files from a remote location and can be used to configure several devices concurrently. Setup is an interactive Cisco IOS software CLI mode that guides you through a basic (also called a startup) configuration but limits you to configuring a single device at a time. AutoInstall is an automatic process; Setup is a manual process.

Cisco IOS AutoInstall

AutoInstall is the Cisco IOS software feature that enables the configuration of a remote networking device from a central location. The configuration files must be stored on a TFTP server that is accessible by the devices that you are using AutoInstall to setup.

AutoInstall is supported over Ethernet, Token Ring, and FDDI interfaces for LANs, serial interfaces using High-Level Data Link Control (HDLC) encapsulation, serial interfaces using Frame Relay encapsulation for WANs, and WIC-1-DSU-T1v2 cards (No other T1E1 card supports Autoinstall.).

AutoInstall is designed to facilitate central management of installations at remote sites. The AutoInstall process begins when a Cisco IOS software-based device is turned on and a valid configuration file is not found in NVRAM. AutoInstall may not start if the networking device has Cisco Router and Security Device Manager (SDM) or Cisco Network Assistant already installed. In this case, to enable AutoInstall you need to disable SDM.

Using AutoInstall to Remotely Configure Cisco Networking Devices module describes how AutoInstall functions, how to disable SDM, and how to configure devices to use AutoInstall.

Cisco IOS Setup Mode

Cisco IOS Setup mode enables you to build an initial configuration file using the Cisco IOS CLI or System Configuration Dialog. The dialog guides you through initial configuration and is useful when you are unfamiliar with Cisco products or the CLI and when configuration changes do not require the level of detail the CLI provides.

Setup starts automatically when a device has no configuration file in NVRAM and is not preconfigured from the factory to use Cisco SDM. When setup completes, it presents the System Configuration Dialog. This dialog guides you through an initial configuration with prompts for basic information about your device and network and then creates an initial configuration file. After the file is created, you can use the CLI to perform additional configuration.

Using Setup Mode to Configure a Cisco Networking Device describes how to use Setup to build a basic configuration and to make configuration changes.

Where to Go Next

Proceed to either Using AutoInstall to Remotely Configure Cisco Networking Devices module or Using Setup Mode to Configure a Cisco Networking Device.

Additional References

This section provides references related to the basic configuration of a Cisco networking device.

Related Documents

Related Topic	Document Title
Cisco IOS commands	Cisco IOS Master Commands List, All Releases
Configuration fundamentals commands	*Cisco IOS Configuration Fundamentals Command Reference*
Configuring a networking device for the first time using the Cisco IOS software feature AutoInstall.	Using AutoInstall to Remotely Configure Cisco Networking Devices module in *Cisco IOS Configuration Fundamentals Configuration Guide*
Configuring a networking device using Cisco IOS Setup mode	Using Setup Mode to Configure a Cisco Networking Device module in *Cisco IOS Configuration Fundamentals Configuration Guide*

Technical Assistance

Description	Link
The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for Overview Basic Configuration of a Cisco Networking Device

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Table 1: Feature Information for Overview: Basic Configuration of a Cisco Networking Device

Feature Name	Releases	Feature Information
Overview: Basic Configuration of a Cisco Networking Device	12.4(3)	Cisco IOS software provides two features, AutoInstall and Setup mode, to simplify configuring a Cisco IOS-based networking device. AutoInstall enables automatic loading of device configuration files from a remote location and can be used to configure several devices concurrently. Setup is an interactive Cisco IOS software command-line interface (CLI) mode that guides you through a basic (also called a startup) configuration but limits you to configuring a single device at a time. AutoInstall is an automatic process for the device that is being configured; Setup is a manual process for the device that is being configured.