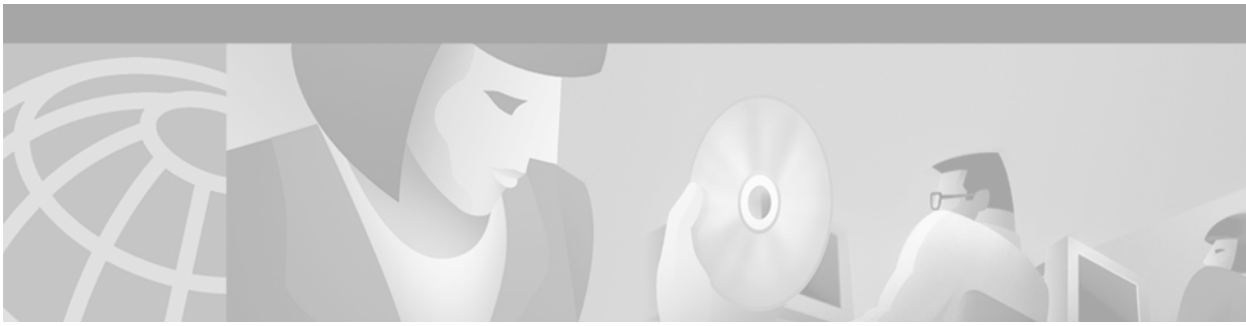

Connection, Menu, and System Banner Commands

This chapter describes the commands for session management, and the commands used to configure usermenus and banners.

For connection and system banner task information and examples, refer to the "Managing Connections, Menus, and System Banners" chapter in the *Cisco IOS Configuration Fundamentals Configuration Guide*.

banner exec

To display a banner on terminals with an interactive EXEC, use the **banner exec** global configuration command. This command specifies a message to be displayed when an EXEC process is created (a line is activated, or an incoming connection is made to a VTY). Use the **no** form of this command to delete the EXEC banner.

banner exec *d message d*

no banner exec

Syntax Description

d	Delimiting character of your choice—a pound sign (#), for example. You cannot use the delimiting character in the banner message.
message	Message text. You can include tokens in the form $(token) in the message text. Tokens will be replaced with the corresponding configuration variable. Tokens are described in Table 9.

Defaults

No banner is displayed.

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.
11.3(7.5) AA and 12.0(3) T	Token functionality was introduced.

Usage Guidelines

Follow this command with one or more blank spaces and a delimiting character of your choice. Then enter one or more lines of text, terminating the message with the second occurrence of the delimiting character.

When someone connects to the router, the MOTD banner appears before the login prompt. After the user successfully logs in to the router, the EXEC banner or incoming banner will be displayed, depending on the type of connection. For a reverse Telnet login, the incoming banner will be displayed. For all other connections, the router will display the EXEC banner.

To disable the EXEC banner on a particular line, use the **no exec-banner** line configuration command.

To customize the banner, use tokens in the form $(token) in the message text. Tokens will display current IOS configuration variables, such as the router's hostname and IP address. The tokens are described in Table 13.

Table 9 banner exec command tokens

Token	Information displayed in the banner
$(hostname)	Displays the router's hostname.
$(domain)	Displays the router's domain name.
$(line)	Displays the VTY or TTY (async) line number.
$(line-desc)	Displays the description attached to the line.

Examples

The following example sets an EXEC banner. The dollar sign ($) is used as a delimiting character.

```
banner exec $
Session activated. Enter commands at the prompt.
$
```

The following example sets an EXEC banner that uses several tokens. The percent sign (%) is used as a delimiting character. Notice that the $(token) syntax is replaced by the corresponding configuration variable.

```
darkstar(config)# banner exec %
Enter TEXT message.  End with the character '%'.
Session activated. Enter commands at the prompt.
You have entered $(hostname).$(domain) on line $(line) ($(line-desc)) %
```

When an EXEC process is created, the user will see the following banner:

```
You have entered darkstar.ourdomain.com on line 5 (Dialin Modem)
```

Related Commands

Command	Description
banner incoming	Specifies a banner used when you have an incoming connection to a line from a host on the network.
banner login	Displays a login banner. This command specifies a message to be displayed before the username and password login prompts.
banner motd	Specifies an MOTD banner.
banner slip-ppp	Configures the SLIP-PPP banner to display a customized message.

banner incoming

To specify a banner used when you have an incoming connection to a line from a host on the network, use the **banner incoming** global configuration command. Use the **no** form of this command to delete the incoming connection banner.

banner incoming *d message d*

no banner incoming

Syntax Description

d	Delimiting character of your choice—a pound sign (#), for example. You cannot use the delimiting character in the banner message.
message	Message text. You can include tokens in the form $(token) in the message text. Tokens will be replaced with the corresponding configuration variable. Tokens are described in Table 10.

Defaults

No banner is displayed.

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.
11.3(7.5) AA and 12.0(3) T	Token functionality was introduced.

Usage Guidelines

Follow this command with one or more blank spaces and a delimiting character of your choice. Then enter one or more lines of text, terminating the message with the second occurrence of the delimiting character.

An *incoming connection* is one initiated from the network side of the router. Incoming connections are also called reverse Telnet sessions. These sessions can display MOTD banners and incoming banners, but they do not display EXEC banners. Use the **no motd-banner** line configuration command to disable the MOTD banner for reverse Telnet sessions on asynchronous lines.

When a user connects to the router, the MOTD banner appears before the login prompt. After the user successfully logs in to the router, the EXEC banner or incoming banner will be displayed, depending on the type of connection. For a reverse Telnet login, the incoming banner will be displayed. For all other connections, the router will display the EXEC banner.

Incoming banners cannot be suppressed. If you do not want the incoming banner to appear, you must delete it with the **no banner incoming** command.

To customize the banner, use tokens in the form $(token) in the message text. Tokens will display current IOS configuration variables, such as the router's hostname and IP address. The tokens are described in Table 13.

Table 10 banner incoming command tokens

Token	Information displayed in the banner
$(hostname)	Displays the router's hostname.
$(domain)	Displays the router's domain name.
$(line)	Displays the VTY or TTY (async) line number.
$(line-desc)	Displays the description attached to the line.

Examples

The following example sets an incoming connection banner. The pound sign (#) is used as a delimiting character.

```
banner incoming #
This is the Reuses router.
#
```

The following example sets an incoming connection banner that uses several tokens. The percent sign (%) is used as a delimiting character.

```
darkstar(config)# banner incoming %
Enter TEXT message.  End with the character '%'.
You have entered $(hostname).$(domain) on line $(line) ($(line-desc)) %
```

When the incoming connection banner is executed, the user will see the following banner. Notice that the $(token) syntax is replaced by the corresponding configuration variable.

```
You have entered darkstar.ourdomain.com on line 5 (Dialin Modem)
```

Related Commands

Command	Description
banner exec	Displays a banner on terminals with an interactive EXEC. This command specifies a message to be displayed when an EXEC process is created (a line is activated, or an incoming connection is made to a VTY).
banner login	Displays a login banner. This command specifies a message to be displayed before the username and password login prompts.
banner motd	Specifies an MOTD banner.
banner slip-ppp	Configures the SLIP-PPP banner to display a customized message.

banner login

To display a login banner, use the **banner login** global configuration command. This command specifies a message to be displayed before the username and password login prompts. The **no** form of this command deletes the login banner.

banner login *d message d*

no banner login

Syntax Description

d	Delimiting character of your choice—a pound sign (#), for example. You cannot use the delimiting character in the banner message.
message	Message text. You can include tokens in the form $(token) in the message text. Tokens will be replaced with the corresponding configuration variable. Tokens are described in Table 11.

Defaults

No login banner is displayed.

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.
11.3(7.5) AA and 12.0(3) T	Token functionality was introduced.

Usage Guidelines

Follow this command with one or more blank spaces and a delimiting character of your choice. Then enter one or more lines of text, terminating the message with the second occurrence of the delimiting character.

When someone connects to the router, the MOTD banner (if configured) appears first, followed by the login banner and prompts. After the user successfully logs in to the router, the EXEC banner or incoming banner will be displayed, depending on the type of connection. For a reverse Telnet login, the incoming banner will be displayed. For all other connections, the router will display the EXEC banner.

To customize the banner, use tokens in the form $(token) in the message text. Tokens will display current IOS configuration variables, such as the router's hostname and IP address. The tokens are described in Table 13.

Table 11 banner login command tokens

Token	Information displayed in the banner
$(hostname)	Displays the router's hostname.
$(domain)	Displays the router's domain name.

Table 11 banner login command (continued)tokens

Token	Information displayed in the banner
$(line)	Displays the VTY or TTY (async) line number.
$(line-desc)	Displays the description attached to the line.

Examples

The following example sets a login banner. The dollar sign ($) is used as a delimiting character.

```
banner login $
Access for authorized users only. Please enter your username and password.
$
```

The following example sets a login banner that uses several tokens. The percent sign (%) is used as a delimiting character.

```
darkstar(config)# banner login %
Enter TEXT message.  End with the character '%'.
You have entered $(hostname).$(domain) on line $(line) ($(line-desc)) %
```

When the login banner is executed, the user will see the following banner. Notice that the $(token) syntax is replaced by the corresponding configuration variable.

```
You have entered darkstar.ourdomain.com on line 5 (Dialin Modem)
```

Related Commands

Command	Description
banner exec	Displays a banner on terminals with an interactive EXEC. This command specifies a message to be displayed when an EXEC process is created (a line is activated, or an incoming connection is made to a VTY).
banner incoming	Specifies a banner used when you have an incoming connection to a line from a host on the network.
banner motd	Specifies an MOTD banner.
banner slip-ppp	Configures the SLIP-PPP banner to display a customized message.

banner motd

To specify a message-of-the-day (MOTD) banner, use the **banner motd** global configuration command. The **no** form of this command deletes the MOTD banner.

banner motd *d message d*

no banner motd

Syntax Description

d	Delimiting character of your choice—a pound sign (#), for example. You cannot use the delimiting character in the banner message.
message	Message text. You can include tokens in the form $(token) in the message text. Tokens will be replaced with the corresponding configuration variable. Tokens are described in

Defaults

No MOTD banner is specified.

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.
11.3(7.5) AA and 12.0(3) T	Token functionality was introduced.

Usage Guidelines

Follow this command with one or more blank spaces and a delimiting character of your choice. Then enter one or more lines of text, terminating the message with the second occurrence of the delimiting character.

This MOTD banner is displayed to all terminals connected and is useful for sending messages that affect all users (such as impending system shutdowns). Use the **no exec-banner** or **no motd-banner** command to disable the MOTD banner on a line. The **no exec-banner** command also disables the EXEC banner on the line.

When someone connects to the router, the MOTD banner appears before the login prompt. After the user successfully logs in to the router, the EXEC banner or incoming banner will be displayed, depending on the type of connection. For a reverse Telnet login, the incoming banner will be displayed. For all other connections, the router will display the EXEC banner.

The **banner** command without any keywords specified defaults to the **banner motd** command. When a new **banner motd** command is added to the configuration, it overwrites the existing **banner** command if no keyword is specified. Similarly, if a **banner** command is added to the configuration, any existing **banner motd** command is overwritten.

To customize the banner, use tokens in the form $(token) in the message text. Tokens will display current IOS configuration variables, such as the router's hostname and IP address. The tokens are described in Table 13.

Table 12 banner motd command tokens

Token	Information displayed in the banner
$(hostname)	Displays the router's hostname.
$(domain)	Displays the router's domain name.
$(line)	Displays the VTY or TTY (async) line number.
$(line-desc)	Displays the description attached to the line.

Examples

The following example sets a MOTD banner. The pound sign (#) is used as a delimiting character.

```
banner motd #
Building power will be off from 7:00 AM until 9:00 AM this coming Tuesday.
#
```

The following example sets a MOTD banner. The percent sign (%) is used as a delimiting character.

```
darkstar(config)# banner motd %
Enter TEXT message.  End with the character '%'.
You have entered $(hostname).$(domain) on line $(line) ($(line-desc)) %
```

When the MOTD banner is executed, the user will see the following. Notice that the $(token) syntax is replaced by the corresponding configuration variable.

```
You have entered darkstar.ourdomain.com on line 5 (Dialin Modem)
```

Related Commands

Command	Description
banner exec	Displays a banner on terminals with an interactive EXEC. This command specifies a message to be displayed when an EXEC process is created (a line is activated, or an incoming connection is made to a VTY).
banner incoming	Specifies a banner used when you have an incoming connection to a line from a host on the network.
banner login	Displays a login banner. This command specifies a message to be displayed before the username and password login prompts.
banner slip-ppp	Configures the SLIP-PPP banner to display a customized message.
exec-banner	Displays EXEC and MOTD banners.
motd-banner	Displays MOTD banners.

banner slip-ppp

To customize the banner that is displayed when a SLIP or PPP connection is made, use the **banner slip-ppp** global configuration command. To restore the default SLIP or PPP banner, use the **no** form of this command.

banner slip-ppp *d message d*

no banner slip-ppp

Syntax Description

d	Delimiting character of your choice—a pound sign (#), for example. You cannot use the delimiting character in the banner message.
message	Message text. You can include tokens in the form $(token) in the message text. Tokens will be replaced with the corresponding configuration variable. Tokens are described in

Defaults

The default SLIP or PPP banner message is:

```
Entering encapsulation mode.
Async interface address is unnumbered (Ethernet0)
Your IP address is 10.000.0.0 MTU is 1500 bytes
```

The banner message when using the **service old-slip-prompt** command is:

```
Entering encapsulation mode.
Your IP address is 10.100.0.0 MTU is 1500 bytes
```

Where *encapsulation* is SLIP or PPP.

Command Modes

Global configuration

Command History

Release	Modification
12.0 (3) T	This command was introduced.
11.3(7.5) AA and 12.0(3) T	Token functionality was introduced.

Usage Guidelines

Follow this command with one or more blank spaces and a delimiting character of your choice. Then enter one or more lines of text, terminating the message with the second occurrence of the delimiting character.

Use this command to define a custom SLIP or PPP connection message. This is useful when legacy client applications require a specialized connection string. To customize the banner, use tokens in the form $(token) in the message text. Tokens will display current IOS configuration variables, such as the routers hostname, IP address, encapsulation type, and MTU size. The banner tokens are described in Table 13.

Table 13 banner slip-ppp command tokens

Token	Information displayed in the banner
$(hostname)	Displays the router's hostname.
$(domain)	Displays the router's domain name.
$(peer-ip)	Displays the IP address of the peer machine.
$(gate-ip)	Displays the IP address of the gateway machine.
$(encap)	Displays the encapsulation type (SLIP, PPP, etc.).
$(encap-alt)	Displays the encapsulation type as SL/IP instead of SLIP.
$(mtu)	Displays the Maximum Transmission Unit size.

Examples

The following example sets the SLIP/PPP banner using several tokens and the percent sign (%) as the delimiting character:

```
darkstar(config)# banner slip-ppp %
Enter TEXT message.  End with the character '%'.
Starting $(encap) connection from $(gate-ip) to $(peer-ip) using a maximum packet size of
$(mtu) bytes... %
```

The new SLIP/PPP banner will now be displayed when the slip command is used after the user logs in to the router. Notice that the $(token) syntax is replaced by the corresponding configuration variable.

```
darkstar# slip
Starting SLIP connection from 172.16.69.96 to 192.168.1.200 using a maximum packet size
of 1500 bytes...
```

Related Commands

Command	Description
banner exec	Displays a banner on terminals with an interactive EXEC. This command specifies a message to be displayed when an EXEC process is created (a line is activated, or an incoming connection is made to a VTY).
banner incoming	Specifies a banner used when you have an incoming connection to a line from a host on the network.
banner motd	Specifies an MOTD banner.
slip	Starts Serial-line IP (SLIP).
ppp	Starts Point-to-Point Protocol (PPP)

clear tcp

To clear a TCP connection, use the **clear tcp** privileged EXEC command.

clear tcp {**line** *line-number* | **local** *host-name port* **remote** *host-name port* | **tcb** *address*}

Syntax Description

line *line-number*	TTY line number of the TCP connection to clear.
local *host-name port* **remote** *host-name port*	Host name of the local router and port and host name of the remote router and port of the TCP connection to clear.
tcb *address*	Transmission Control Block (TCB) address of the TCP connection to clear. The TCB address is an internal identifier for the end point.

Command Modes

Privileged EXEC

Command History

Release	Modification
11.1	This command was introduced.

Usage Guidelines

The **clear tcp** command is particularly useful for clearing hung TCP connections.

The **clear tcp line** *line-number* command terminates the TCP connection on the specified TTY line. Additionally, all TCP sessions initiated from that TTY line are terminated.

The **clear tcp local** *host-name port* **remote** *host-name port* command terminates the specific TCP connection identified by the host name/port pair of the local and remote router.

The **clear tcp tcb** *address* command terminates the specific TCP connection identified by the TCB address.

Examples

The following example clears a TCP connection using its TTY line number. The **show tcp** command displays the line number (tty2) that is used in the **clear tcp** command.

```
Router# show tcp

    tty2, virtual tty from host router20.cisco.com
    Connection state is ESTAB, I/O status: 1, unread input bytes: 0
    Local host: 171.69.233.7, Local port: 23
    Foreign host: 171.69.61.75, Foreign port: 1058

    Enqueued packets for retransmit: 0, input: 0, saved: 0

    Event Timers (current time is 0x36144):
    Timer          Starts    Wakeups            Next
    Retrans             4          0             0x0
    TimeWait            0          0             0x0
    AckHold             7          4             0x0
```

```
    SendWnd             0           0             0x0
    KeepAlive           0           0             0x0
    GiveUp              0           0             0x0
    PmtuAger            0           0             0x0

    iss: 4151109680  snduna: 4151109752  sndnxt: 4151109752     sndwnd:  24576
    irs: 1249472001  rcvnxt: 1249472032  rcvwnd:       4258  delrcvwnd:     30

    SRTT: 710 ms, RTTO: 4442 ms, RTV: 1511 ms, KRTT: 0 ms
    minRTT: 0 ms, maxRTT: 300 ms, ACK hold: 300 ms

Router# clear tcp line 2
    [confirm]
     [OK]
```

The following example clears a TCP connection by specifying its local router host name and port and its remote router host name and port. The **show tcp brief** command displays the local (Local Address) and remote (Foreign Address) host names and ports to use in the **clear tcp** command.

```
Router# show tcp brief
    TCB       Local Address           Foreign Address        (state)
    60A34E9C  router1.cisco.com.23      router20.cisco.1055  ESTAB

Router# clear tcp local router1 23 remote router20 1055
    [confirm]
     [OK]
```

The following example clears a TCP connection using its TCB address. The **show tcp brief** command displays the TCB address to use in the **clear tcp** command.

```
Router# show tcp brief
    TCB       Local Address           Foreign Address        (state)
    60B75E48  router1.cisco.com.23      router20.cisco.1054  ESTAB

Router# clear tcp tcb 60B75E48
    [confirm]
     [OK]
```

Related Commands

Command	Description
show tcp	Displays the status of TCP connections.
show tcp brief	Displays a concise description of TCP connection endpoints.

exec

To allow an EXEC process on a line, use the **exec** line configuration command. Use the **no** form of this command to turn off the EXEC process for the specified line.

exec

no exec

Syntax Description

This command has no arguments or keywords.

Defaults

The EXEC processes start is activated automatically on all lines.

Command Modes

Line configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

When you want to allow an outgoing connection *only* for a line, use the **no exec** command. When a user tries to Telnet to a line with the **no exec** command configured, the user will get no response when pressing the Return key at the login screen.

Examples

The following example turns off the EXEC on line 7. You might want to do this on the auxiliary port if the attached device (for example, the control port of a rack of modems) sends unsolicited data. If this happens, an EXEC process starts, which makes the line unavailable.

```
line 7
 no exec
```

exec-banner

To display EXEC and message-of-the-day banners, use the **exec-banner** line configuration command. Use the **no** form of this command to suppress the banners.

exec-banner

no exec-banner

Syntax Description

This command has no arguments or keywords.

Defaults

Enabled on all lines.

Command Modes

Line configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

This command determines whether the router will display the EXEC banner and the message-of-the-day (MOTD) banner when an EXEC session is created. These banners are defined with the **banner exec** and **banner motd** commands. By default, these banner are enabled on all lines. Disable the EXEC and MOTD banners using the **no exec-banner** command.

This command has no effect on the incoming banner, which is controlled by the **banner incoming** command.

The MOTD banners can also be disabled by the **no motd-banner** line configuration command, which disables MOTD banners on a line. If the **no exec-banner** command is configured on a line, the MOTD banner will be disabled regardless of whether the **motd-banner** command is enabled or disabled. Table 14 summarizes the effects of the **exec-banner** command and the **motd-banner** command.

Table 14 Banners Displayed

	exec-banner (default)	**no exec-banner**
motd-banner (default)	MOTD banner EXEC banner	None
no motd-banner	EXEC banner	None

For reverse Telnet connections, the EXEC banner is never displayed. Instead, the incoming banner is displayed. The MOTD banner is displayed by default, but it is disabled if either the **no exec-banner** command or **no motd-banner** command is configured. Table 15 summarizes the effects of the **exec-banner** command and the **motd-banner** command for reverse Telnet connections.

Table 15 Banners Displayed—Reverse Telnet Session to Async Lines

	exec-banner (default)	**no exec-banner**
motd-banner (default)	MOTD banner Incoming banner	Incoming banner
no motd-banner	Incoming banner	Incoming banner

Examples

The following example suppresses the EXEC and MOTD banners on virtual terminal lines 0 to 4:

```
line vty 0 4
 no exec-banner
```

Related Commands

Command	Description
banner exec	Displays a banner on terminals with an interactive EXEC. This command specifies a message to be displayed when an EXEC process is created (a line is activated, or an incoming connection is made to a VTY).
banner incoming	Specifies a banner used when you have an incoming connection to a line from a host on the network.
banner motd	Specifies an MOTD banner.
motd-banner	Display MOTD banners.

exec-timeout

To set the interval that the EXEC command interpreter waits until user input is detected, use the **exec-timeout** line configuration command. Use the **no** form of this command to remove the timeout definition.

exec-timeout *minutes* [*seconds*]

no exec-timeout

Syntax Description

minutes	Integer that specifies the number of minutes.
seconds	(Optional) Additional time intervals in seconds.

Defaults

10 minutes

Command Modes

Line configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

If no input is detected during the interval, the EXEC facility resumes the current connection. If no connections exist, the EXEC facility returns the terminal to the idle state and disconnects the incoming session.

To specify no timeout, enter the **exec-timeout 0 0** command.

Examples

The following example sets a time interval of 2 minutes, 30 seconds:

```
line console
 exec-timeout 2 30
```

The following example sets a time interval of 10 seconds:

```
line console
 exec-timeout 0 10
```

menu clear-screen

To clear the terminal screen before displaying a menu, use the **menu clear-screen** global configuration command.

menu *name* **clear-screen**

Syntax Description

name	The configuration name of the menu.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

This command uses a terminal-independent mechanism based on termcap entries defined in the router and the terminal type configured for the user's terminal. This command allows the same menu to be used on multiple types of terminals instead of having terminal-specific strings embedded within menu titles. If the termcap entry does not contain a clear string, the menu system enters 24 new lines, causing all existing text to scroll off the top of the terminal screen.

Examples

The following example clears the terminal screen before displaying the menu named Access1:

```
menu Access1 clear-screen
```

Related Commands

Command	Description
menu (EXEC)	Invokes a user menu.
menu command	Specifies underlying commands for user interface menus.
menu default	Specifies the menu item to use as the default.
menu line-mode	Requires the user to press Enter after specifying an item.
menu options	Sets options for items in user interface menus.
menu prompt	Specifies the prompt for a user interface menu.
menu single-space	Displays menu items single-spaced rather than double-spaced.
menu status-line	Displays a line of status information about the current user at the top of a menu
menu text	Specifies the text of a menu item in a user interface menu.
menu title	Creates a title, or banner, for a user menu.
no menu	Deletes a specified menu from a menu configuration.

menu command

To specify underlying commands for user interface menus, use the **menu command** global configuration command.

menu *name* **command** *item* {*command* | **menu-exit**}

Syntax Description

name	The configuration name of the menu. You can specify a maximum of 20 characters.
item	Number, character, or string used as the key for the item. The key is displayed to the left of the menu item text. You can specify a maximum of 18 menu entries. When the tenth item is added to the menu, the line-mode and single-space options are activated automatically.
command	Command to issue when the user selects an item.
menu-exit	Provides a way for menu users to return to a higher-level menu or exit the menu system

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

Use this command to assign actions to items in a menu. Use the **menu text** command to assign text to items. These commands must use the same menu name and menu selection key.

The **menu command** command has a special keyword for the *command* argument, **menu-exit**, that is available only within menus. It is used to exit a submenu and return to the previous menu level or exit the menu altogether and return to the EXEC command prompt.

You can create submenus that are opened by selecting entries in another menu. Use the **menu** EXEC command as the *command* for the submenu item.

Note If you nest too many levels of menus, the system prints an error message on the terminal and returns to the previous menu level.

When a menu allows connections (their normal use), the command for an entry activating the connection should contain a **resume** command, or the line should be configured to prevent users from escaping their sessions with the **escape-char none** command. Otherwise, when they escape from a connection and return to the menu, there will be no way to resume the session and it will sit idle until the user logs off.

Specifying the **resume** command as the action that is performed for a selected menu entry permits a user to resume a named connection or connect using the specified name, if there is no active connection by that name. As an option, you can also supply the connect string needed to connect initially. When you do not supply this connect string, the command uses the specified connection name.

You can also use the **resume/next** command, which resumes the next connection in the user's list of connections. This function allows you to create a single menu entry that steps through all of the user's connections.

Note A menu should not contain any exit paths that leave users in an unfamiliar interface environment.

When a particular line should always display a menu, that line can be configured with an **autocommand** line configuration command. Menus can be run on a per-user basis by defining a similar **autocommand** command for that local username. For more information about **autocommand**, see the "Modem Support and Asynchronous Commands" chapter of the *Cisco IOS Dial Solutions Command Reference* publication.

Examples

The following example specifies the commands to be issued when a user enters the selection number associated with the menu entry for the menu named Access1:

```
menu Access1 command 1 tn3270 vms.cisco.com
menu Access1 command 2 rlogin unix.cisco.com
menu Access1 command 3 menu-exit
```

The following example allows a menu user to exit a menu by entering **Exit** at the menu prompt:

```
menu Access1 text Exit Exit
menu Access1 command Exit menu-exit
```

Related Commands

Command	Description
autocommand	Configures the Cisco IOS software to automatically execute a command when a user connects to a particular line.
menu (EXEC)	Invokes a user menu.
menu clear-screen	Clears the terminal screen before displaying a menu.
menu default	Specifies the menu item to use as the default.
menu line-mode	Requires the user to press Enter after specifying an item.
menu options	Sets options for items in user interface menus.
menu prompt	Specifies the prompt for a user interface menu.
menu single-space	Displays menu items single-spaced rather than double-spaced.
menu status-line	Displays a line of status information about the current user at the top of a menu
menu text	Specifies the text of a menu item in a user interface menu.
menu title	Creates a title, or banner, for a user menu.

menu default

To specify the menu item to use as the default, use the **menu default** global configuration command.

menu *name* **default** *item*

Syntax Description

name	The name of the menu. You can specify a maximum of 20 characters.
item	Number, character, or string key of the item to use as the default.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

Use this command to specify which menu entry is used when the user presses Enter without specifying an item. The menu entries are defined by the **menu command** and **menu text** commands.

Examples

The following example exits the menu when a user presses Enter without selecting an item:

```
menu Access1 9 text Exit the menu
menu Access1 9 command menu-exit
menu Access1 default 9
```

Related Commands

Command	Description
menu (EXEC)	Invokes a user menu.
menu command	Specifies underlying commands for user interface menus.
menu prompt	Specifies the prompt for a user interface menu.
menu text	Specifies the text of a menu item in a user interface menu.
menu title	Creates a title, or banner, for a user menu.

menu line-mode

Use the **menu line-mode** global configuration command to require the user to press Enter after specifying an item.

menu *name* **line-mode**

Syntax Description

name	The configuration name of the menu.

Defaults

Enabled for menus with more than nine items. Disabled for menus with nine or fewer items.

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

In a menu of nine or fewer items, you ordinarily select a menu item by entering the item number. In line mode, you select a menu entry by entering the item number and pressing Enter. Line mode allows you to backspace over the selected number and enter another number before pressing Enter to issue the command.

This option is activated automatically when more than nine menu items are defined but also can be configured explicitly for menus of nine or fewer items.

In order to use strings as keys for items, the **menu line-mode** command must be configured.

Examples

The following example enables the line-mode option for the menu named Access1:

```
menu Access1 line-mode
```

Related Commands

Command	Description
menu (EXEC)	Invokes a user menu.
menu clear-screen	Clears the terminal screen before displaying a menu.
menu command	Specifies underlying commands for user interface menus.
menu default	Specifies the menu item to use as the default.
menu options	Sets options for items in user interface menus.
menu prompt	Specifies the prompt for a user interface menu.
menu single-space	Displays menu items single-spaced rather than double-spaced.
menu status-line	Displays a line of status information about the current user at the top of a menu
menu text	Specifies the text of a menu item in a user interface menu.

menu options

To set options for items in user interface menus, use the **menu options** global configuration command.

menu *name* **options** *item* {**login** | **pause**}

Syntax Description

name	The name of the menu. You can specify a maximum of 20 characters.
item	Number, character, or string key of the item affected by the option.
login	Requires a login before issuing the command.
pause	Pauses after the command is entered before redrawing the menu.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

Use the **menu command** and **menu text** commands to define a menu entry.

Examples

The following example requires a login before issuing the command specified by menu entry 3 of the menu named Access1:

```
menu Access1 options 3 login
```

Related Commands

Command	Description
menu (EXEC)	Invokes a user menu.
menu clear-screen	Clears the terminal screen before displaying a menu.
menu command	Specifies underlying commands for user interface menus.
menu default	Specifies the menu item to use as the default.
menu line-mode	Requires the user to press Enter after specifying an item.
menu prompt	Specifies the prompt for a user interface menu.
menu single-space	Displays menu items single-spaced rather than double-spaced.
menu status-line	Displays a line of status information about the current user at the top of a menu.
menu text	Specifies the text of a menu item in a user interface menu.
menu title	Creates a title, or banner, for a user menu.

menu prompt

To specify the prompt for a user interface menu, use the **menu prompt** global configuration command.

menu *name* **prompt** *d prompt d*

Syntax Description

name	The name of the menu. You can specify a maximum of 20 characters.
d	Delimiting characters that mark the beginning and end of the prompt. Text delimiters are characters that do not ordinarily appear within the text of a title, such as slash (/), double quote ("), and tilde (~). Ctrl-C is reserved for special use and should not be used in the text of the title.
prompt	Prompt string for the menu.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

Press Enter after entering the first delimiter. The router will prompt you for the text of the prompt. Enter the text followed by the delimiter, and press Enter.

Use the **menu command** and **menu text** commands to define the menu selections.

Examples

The following example configures the prompt as “Select an item.”:

```
Router(config)# menu Access1 prompt /
Enter TEXT message.  End with the character '/'.
Select an item. /
Router(config)#
```

Related Commands

Command	Description
menu (EXEC)	Invokes a user menu.
menu command	Specifies underlying commands for user interface menus.
menu default	Specifies the menu item to use as the default.
menu text	Specifies the text of a menu item in a user interface menu.
menu title	Creates a title, or banner, for a user menu.

menu single-space

To display menu items single-spaced rather than double-spaced, use the **menu single-space** global configuration command.

menu *name* **single-space**

Syntax Description

name	The configuration name of the menu.

Defaults

Enabled for menus with more than nine items; disabled for menus with nine or fewer items.

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

When more than nine menu items are defined, the menu is displayed single-spaced. To configure the menus with nine or fewer items to display single-spaced, use this command.

Examples

The following example displays single-spaced menu items for the menu named Access1:

```
menu Access1 single-spaced
```

Related Commands

Command	Description
menu (EXEC)	Invokes a user menu.
menu clear-screen	Clears the terminal screen before displaying a menu.
menu command	Specifies underlying commands for user interface menus.
menu default	Specifies the menu item to use as the default.
menu line-mode	Requires the user to press Enter after specifying an item.
menu options	Sets options for items in user interface menus.
menu prompt	Specifies the prompt for a user interface menu.
menu status-line	Displays a line of status information about the current user at the top of a menu.
menu text	Specifies the text of a menu item in a user interface menu.
menu title	Creates a title, or banner, for a user menu.

menu status-line

To display a line of status information about the current user at the top of a menu, use the **menu status-line** global configuration command.

menu *name* **status-line**

Syntax Description

name	The configuration name of the menu.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

This command displays the status information at the top of the screen before the menu title is displayed. This status line includes the router's host name, the user's line number, and the current terminal type and keymap type (if any).

Examples

The following example displays the status information using the **status-line** option for the menu named Access1:

```
menu Access1 status-line
```

Related Commands

Command	Description
logout	Invokes a user menu.
menu clear-screen	Clears the terminal screen before displaying a menu.
menu command	Specifies underlying commands for user interface menus.
menu default	Specifies the menu item to use as the default.
menu line-mode	Requires the user to press Enter after specifying an item.
menu options	Sets options for items in user interface menus.
menu prompt	Specifies the prompt for a user interface menu.
menu single-space	Displays menu items single-spaced rather than double-spaced.
menu text	Specifies the text of a menu item in a user interface menu.
menu title	Creates a title, or banner, for a user menu.

menu text

To specify the text of a menu item in a user interface menu, use the **menu text** global configuration command.

menu *name* **text** *item text*

Syntax Description

name	The configuration name of the menu. You can specify a maximum of 20 characters.
item	Number, character, or string used as the key for the item. The key is displayed to the left of the menu item text. You can specify a maximum of 18 menu items. When the tenth item is added to the menu, the **menu line-mode** and **menu single-space** commands are activated automatically.
text	Text of the menu item.

Defaults

No text appears for the menu item.

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

Use this command to assign text to items in a menu. Use the **menu command** command to assign actions to items. These commands must use the same menu name and menu selection key.

You can specify a maximum of 18 items in a menu.

Examples

The following example specifies the descriptive text for the three entries in the menu named Access1:

```
menu Access1 text 1 IBM Information Systems
menu Access1 text 2 UNIX Internet Access
menu Access1 text 3 Exit menu system
```

Related Commands

Command	Description
logout	Invokes a user menu.
menu clear-screen	Clears the terminal screen before displaying a menu.
menu command	Specifies underlying commands for user interface menus.
menu default	Specifies the menu item to use as the default.
menu line-mode	Requires the user to press Enter after specifying an item.
menu options	Sets options for items in user interface menus.

Command	Description
menu prompt	Specifies the prompt for a user interface menu.
menu single-space	Displays menu items single-spaced rather than double-spaced.
menu status-line	Displays a line of status information about the current user at the top of a menu
menu title	Creates a title, or banner, for a user menu.

menu title

To create a title, or banner, for a user menu, use the **menu title** global configuration command.

menu *name* **title** *d title d*

Syntax Description

name	The configuration name of the menu. You can specify a maximum of 20 characters.
d	A delimiting character that marks the beginning and end of a title. Text delimiters are characters that do not ordinarily appear within the text of a title, such as slash (/), double quote ("), and tilde (~). Ctrl-C is reserved for special use and should not be used in the text of the title.
title	The lines of text to appear at the top of the menu.

Defaults

The menu does not have a title.

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

The **menu title** command must use the same menu name used with the **menu text** and **menu command** commands used to create a menu.

You can position the title of the menu horizontally by preceding the title text with blank characters. You can also add lines of space above and below the title by pressing Enter.

Follow the **title** keyword with one or more blank characters and a delimiting character of your choice. Then enter one or more lines of text, ending the title with the same delimiting character. You cannot use the delimiting character within the text of the message.

When you are configuring from a terminal and are attempting to include special control characters, such as a screen-clearing string, you must use Ctrl-V before the special control characters so that they are accepted as part of the title string. The string ^[[H^[[J is an escape string used by many VT100-compatible terminals to clear the screen. To use a special string, you must enter **Ctrl-V** before each escape character.

You also can use the **menu clear-screen** command to clear the screen before displaying menus and submenus, instead of embedding a terminal-specific string in the menu title. The **menu clear-screen** command allows the same menu to be used on different types of terminals.

Examples

The following example specifies the title that will be displayed when the menu named Access1 is invoked. Press Enter after the second slash (/) to display the prompt.

```
Router(config)# menu Access1 title /^[[H^[[J
Enter TEXT message.  End with the character '/'.
               Welcome to Access1 Internet Services

                  Type a number to select an option;
                           Type 9 to exit the menu.
/
Router(config)#
```

Related Commands

Command	Description
logout	Invokes a user menu.
menu clear-screen	Clears the terminal screen before displaying a menu.
menu command	Specifies underlying commands for user interface menus.
menu default	Specifies the menu item to use as the default.
menu line-mode	Requires the user to press Enter after specifying an item.
menu options	Sets options for items in user interface menus.
menu prompt	Specifies the prompt for a user interface menu.
menu single-space	Displays menu items single-spaced rather than double-spaced.
menu status-line	Displays a line of status information about the current user at the top of a menu
menu text	Specifies the text of a menu item in a user interface menu.

no menu

To delete the specified menu from the configuration, use the **no menu** global configuration command.

no menu *name*

Syntax Description

name	The configuration name of the menu.

Defaults

menu commands, if any, remain in the configuration.

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

Use this command to remove any **menu** commands for a particular menu from the configuration.

Examples

The following example deletes the menu named Access1:

```
no menu Access1
```

Related Commands

Command	Description
logout	Invokes a user menu.
menu command	Specifies underlying commands for user interface menus.
menu prompt	Specifies the prompt for a user interface menu.
menu text	Specifies the text of a menu item in a user interface menu.
menu title	Creates a title, or banner, for a user menu.

motd-banner

To display message-of-the-day (MOTD) banners, use the **motd-banner** line configuration command. Use the **no** form of this command to suppress the MOTD banners.

motd-banner

no motd-banner

Syntax Description

This command has no arguments or keywords.

Defaults

Enabled on all lines.

Command Modes

Line configuration

Command History

Release	Modification
11.1	This command was introduced.

Usage Guidelines

This command determines whether the router will display the MOTD banner when an EXEC session is created. The MOTD banner is defined with the **banner motd** command. By default, the MOTD banner is enabled on all lines. Disable the MOTD banner using the **no motd-banner** command.

The MOTD banners can also be disabled by the **no exec-banner** line configuration command, which disables both MOTD banners and EXEC banners on a line. If the **no exec-banner** command is configured on a line, the MOTD banner will be disabled regardless of whether the **motd-banner** command is enabled or disabled. Table 16 summarizes the effects of the **exec-banner** command and the **motd-banner** command.

Table 16 Banners Displayed

	exec-banner (default)	**no exec-banner**
motd-banner (default)	MOTD banner EXEC banner	None
no motd-banner	EXEC banner	None

For reverse Telnet connections, the EXEC banner is never displayed. Instead, the incoming banner is displayed. The MOTD banner is displayed by default, but it is disabled if either the **no exec-banner** command or **no motd-banner** command is configured. Table 17 summarizes the effects of the **exec-banner** command and the **motd-banner** command for reverse Telnet connections.

Table 17 Banners Displayed

	exec-banner (default)	**no exec-banner**
motd-banner (default)	MOTD banner Incoming banner	Incoming banner
no motd-banner	Incoming banner	Incoming banner

Examples

The following example suppresses the MOTD banner on virtual terminal lines 0 to 4:

```
line vty 0 4
 no motd-banner
```

Related Commands

Command	Description
banner exec	Displays a banner on terminals with an interactive EXEC. This command specifies a message to be displayed when an EXEC process is created (a line is activated, or an incoming connection is made to a VTY).
banner incoming	Specifies a banner used when you have an incoming connection to a line from a host on the network.
banner motd	Specifies an MOTD banner.
motd-banner	Displays MOTD banners.

name-connection

To assign a logical name to a connection, use the **name-connection** user EXEC command.

name-connection

Syntax Description

This command has no arguments or keywords.

Defaults

No logical name is defined.

Command Modes

User EXEC

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

This command can be useful for keeping track of multiple connections.

You are prompted for the connection number and name to assign. The **where** command displays a list of the assigned logical connection names.

Examples

The following example assigns the logical name blue to the connection:

```
Router> where
Conn Host                Address             Byte  Idle Conn Name
*  1 doc-2509            172.30.162.131         0     0 doc-2509

Router> name-connection
Connection number: 1
Enter logical name: blue
Connection 1 to doc-2509 will be named "BLUE" [confirm]
```

Related Commands

Command	Description
where	Lists open sessions associated with the current terminal line.

refuse-message

To define a line-in-use message, use the **refuse-message** line configuration command. Use the **no** form of this command to disable the message.

refuse-message *d message d*

no refuse-message

Syntax Description

d	Delimiting character of your choice—a pound sign (#) for example. You cannot use the delimiting character in the message.
message	Message text.

Defaults

No line-in-use message is defined.

Command Modes

Line configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

Follow this command with one or more blank spaces and a delimiting character of your choice. Then enter one or more lines of text, terminating the message with the second occurrence of the delimiting character. You cannot use the delimiting character within the text of the message.

When you define a message using this command, the Cisco IOS software performs the following procedure:

1. Accepts the connection.
2. Prints the custom message.
3. Clears the connection.

Examples

In the following example, line 5 is configured with a line-in-use message, and the user is instructed to try again later:

```
line 5
refuse-message  /The dial-out modem is currently in use.

Please try again later./
```

send

To send messages to one or all terminal lines, use the **send** EXEC command.

send {*line-number* | ***** | **aux** *number* | **console** *number* | **tty** *number* | **vty** *number*}

Syntax Description

line-number	Line number to which the message will be sent.
*	Sends a message to all TTY lines.
aux *number*	Sends a message to the AUX port.
console *number*	Sends a message to the console port.
tty *number*	Sends a message to an asynchronous line.
vty *number*	Sends a message to a VTY.

Defaults

No messages are sent.

Command Modes

EXEC

Command History

Release	Modification
11.2	This command was introduced.

Usage Guidelines

The system prompts for the message, which can be up to 500 characters long. Enter **Ctrl-Z** to end the message. Enter **Ctrl-C** to abort this command.

Caution Be aware that in some circumstances text sent using the **send** command may be interpreted as an executable command by the receiving device. For example, if the receiving device is Unix workstation, and the receiving device is in a state (shell) where commands can be executed, the incoming text (if a valid Unix command) will be interpreted as a command. For this reason you should limit your use of any unmonitored connection to a router when using an interactive shell, or connect only to a trusted network.

Examples

The following example sends a message to all lines:

```
2509# send *
Enter message, end with CTRL/Z; abort with CTRL/C:
The system 2509 will be shut down in 10 minutes for repairs.^Z
Send message? [confirm]
2509#


***
***
*** Message from tty0 to all terminals:
***
The system 2509 will be shut down in 10 minutes for repairs.


2509#
```

service linenumber

To configure the Cisco IOS software to display line number information after the EXEC or incoming banner, use the **service linenumber** global configuration command. Use the **no** form of this command to disable this function.

service linenumber

no service linenumber

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

With the **service linenumber** command, you can have the Cisco IOS software display the host name, line number, and location each time an EXEC process is started, or an incoming connection is made. The line number banner appears immediately after the EXEC banner or incoming banner. This feature is useful for tracking problems with modems, because the host and line for the modem connection are listed. Modem type information can also be included.

Examples

In the following example, a user Telnets to Router2 before and after the **service linenumber** command is enabled. The second time, information about the line is displayed after the banner.

```
Router1> telnet Router2
Trying Router2 (172.30.162.131)... Open

Welcome to Router2.

User Access Verification

Password:
Router2> enable
Password:
Router2# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router2(config)# service linenumber
Router2(config)# end
Router2# logout

[Connection to Router2 closed by foreign host]
Router1> telnet Router2
Trying Router2 (172.30.162.131)... Open

Welcome to Router2.

Router2 line 10


User Access Verification

Password:
Router2>
```

Related Commands

Command	Description
show users	Displays information about the active lines on the router.

vacant-message

To display an idle terminal message, use the **vacant-message** line configuration command. Use the **no** form of this command to remove the default vacant message or any other vacant message that may have been set.

vacant-message [*d message d*]

no vacant-message

Syntax Description

d	(Optional) A delimiting character of your choice—a pound sign (#), for example. You cannot use the delimiting character in the banner message.
message	(Optional) Vacant terminal message.
d	(Optional) A delimiting character of your choice.

Defaults

The format of the default vacant message is as follows:

```
<blank lines>
hostname tty# is now available
<blank lines>
Press RETURN to get started.
```

This message is generated by the system.

Command Modes

Line configuration

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

This command enables the banner to be displayed on the screen of an idle terminal. The **vacant-message** command without any arguments restores the default message.

Follow this command with one or more blank spaces and a delimiting character of your choice. Then enter one or more lines of text, terminating the message with the second occurrence of the delimiting character.

Note For a rotary group, you only need to define the message for the first line in the group.

Examples

The following example turns on the system banner and displays this message:

```
line 0
vacant-message #
                Welcome to Cisco Systems, Inc.
                 Press Return to get started.
```