

# **TIBCO Messaging Appliance™ P-7500**

## **Getting Started**

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# Preface

This document describes the TIBCO Messaging Appliance P-7500, and has the information you need to start a P-7500 once the hardware is installed. It includes procedures for configuring the software after hardware installation is completed. The software procedures show you how to perform tasks using the P-7500 Command Line Interface (CLI).

## Topics

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- *Audience, page vi*
- *Related Documentation, page vii*
- *Typographical Conventions, page viii*
- *How to Contact TIBCO Support, page x*

## Audience

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This document is intended for use as a reference by system administrators and experienced users who are familiar with IP network configuration.

TIBCO assumes that:

- you have a functioning IP network
- you and your TIBCO Sales representative have determined the correct number and placement of P-7500 systems required
- that these P-7500 systems have been or will be installed in an equipment rack and at least minimally configured by network administrators who are responsible for installing and setting up network equipment

## Related Documentation

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This section lists documentation resources you may find useful.

### **TIBCO Messaging Appliance P-7500 Documentation**

In addition to this book, the following documents form the TIBCO Messaging Appliance P-7500 documentation set:

- *TIBCO Messaging Appliance P-7500 Concepts*
- *TIBCO Messaging Appliance P-7500 Hardware Installation*
- *TIBCO Messaging Appliance P-7500 Operations Guide*
- *TIBCO Messaging Appliance P-7500 Maintenance and Troubleshooting*
- *TIBCO Messaging Appliance P-7500 Administration Interface Reference*
- *TIBCO Messaging Appliance P-7500 Release Notes*

If the information in the latest *TIBCO Messaging Appliance P-7500 Release Notes* differs from the information in this document, always follow the release notes.

# Typographical Conventions

The following typographical conventions are used in this manual.

Table 1 General Typographical Conventions

Convention	Use
code font	<p>Code font identifies commands, code examples, filenames, pathnames, and output displayed in a command window. For example:</p> <p>Use <code>MyCommand</code> to start the foo process.</p>
<b>bold code font</b>	<p>Bold code font is used in the following ways:</p> <ul style="list-style-type: none"><li>• In procedures, to indicate what a user types. For example: Type <b>admin</b>.</li><li>• In large code samples, to indicate the parts of the sample that are of particular interest.</li><li>• In command syntax, to indicate the default parameter for a command. For example, if no parameter is specified, <code>MyCommand</code> is enabled: <code>MyCommand [enable   disable]</code></li></ul>
<i>italic font</i>	<p>Italic font is used in the following ways:</p> <ul style="list-style-type: none"><li>• To indicate a document title. For example: See <i>TIBCO BusinessWorks Concepts</i>.</li><li>• To introduce new terms For example: A portal page may contain several portlets. <i>Portlets</i> are mini-applications that run in a portal.</li><li>• To indicate a variable in a command or code syntax that you must replace. For example: <code>MyCommand <i>pathname</i></code></li></ul>
Key combinations	<p>Key name separated by a plus sign indicate keys pressed simultaneously. For example: <code>Ctrl+C</code>.</p> <p>Key names separated by a comma and space indicate keys pressed one after the other. For example: <code>Esc, Ctrl+Q</code>.</p>

Table 2 *Syntax Typographical Conventions*

Convention	Use
[ ]	<p>An optional item in a command or code syntax.</p> <p>For example:</p> <pre>MyCommand [optional_parameter] required_parameter</pre>
	<p>A logical 'OR' that separates multiple items of which only one may be chosen.</p> <p>For example, you can select only one of the following parameters:</p> <pre>MyCommand param1   param2   param3</pre>
{ }	<p>A logical group of items in a command. Other syntax notations may appear within each logical group.</p> <p>For example, the following command requires two parameters, which can be either the pair param1 and param2, or the pair param3 and param4.</p> <pre>MyCommand {param1 param2}   {param3 param4}</pre> <p>In the next example, the command requires two parameters. The first parameter can be either param1 or param2 and the second can be either param3 or param4:</p> <pre>MyCommand {param1   param2} {param3   param4}</pre> <p>In the next example, the command can accept either two or three parameters. The first parameter must be param1. You can optionally include param2 as the second parameter. And the last parameter is either param3 or param4.</p> <pre>MyCommand param1 [param2] {param3   param4}</pre>

## How to Contact TIBCO Support

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For comments or problems with this manual or the software it addresses, please contact TIBCO Support as follows.

- For an overview of TIBCO Support, and information about getting started with TIBCO Support, visit this site:

<http://www.tibco.com/services/support>

- If you already have a valid maintenance or support contract, visit this site:

<https://support.tibco.com>

Entry to this site requires a user name and password. If you do not have a user name, you can request one.

## Chapter 1

# Getting Started

This chapter describes how to quickly configure and start the TIBCO Messaging Appliance P-7500 after successfully installing and powering up the system as instructed in *TIBCO Messaging Appliance P-7500 Hardware Installation*.

Once you have configured the system, you can then log on remotely through a Secure Shell (SSH) connection. Refer to “Logging On to the CLI” on page 17 for details.

### Topics

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- *Step 1: Perform Initial Software Configuration, page 2*
- *Step 2: Change the Default Support User Account Password (Optional), page 4*
- *Step 3: Perform Quick Start, page 6*
- *Step 4: Enable SSH Server Authentication, page 8*

## Step 1: Perform Initial Software Configuration

---

### NOTICE

**NOTICE:** Your P-7500 system is shipped by TIBCO with the latest TIBCO Messaging Appliance system software installed.

1. At initial logon, general access to the P-7500 system is established when this prompt appears on your management console screen:

```
tibco login:
```

2. Enter the default user administration name:

```
tibco login: admin
```

3. The system prompts you for a password:

```
Password:
```

4. Enter the default password:

```
Password: admin
```

Once Command Line Interface (CLI) connectivity to the P-7500 is established, you see a CLI banner and prompt on your screen similar to:

```
TIBCO Messaging Appliance P-7500. System Software Version  
8.7.0.0003  
Copyright 2011 TIBCO Software, Inc. All rights reserved.  
tibco>
```

5. Enter the enable command at the User EXEC Level prompt:

```
tibco> enable  
tibco#
```

The P-7500 CLI is now in Privileged EXEC level. In Privileged EXEC Level you can begin to configure the system.

6. Enter the setup Privileged EXEC command to quickly configure the hostname, network interfaces, clock, and time zone and other required network parameters on the P-7500 system:

```
tibco# setup
```

The `setup` command prompts you for the information listed in Table 3.

Table 3 *setup Privileged EXEC Command Prompts*

Parameter	Description
Hostname	the host name of the Rendezvous P-7500
Link Aggregation Group (LAG)	a set of multiple physical Ethernet ports combined (that is, aggregated) into one high-speed virtual workgroup or logical port, as defined by the IEEE 802.3ad standard
IP Address / subnet mask	the static IP address and subnet mask (default gateway) for the management interface eth1 and messaging interface lag1
NTP server	the IP address of the Network Time Protocol (NTP) server
DNS server	the IP address of the Domain Name System (DNS) server
Default Gateway	the IP address of the Default Gateway
Clock	the local time in the format hh:mm:ss for the system clock
Time Zone	the local time zone and number of hours and minutes offset from Coordinated Universal Time (UTC) for the system time zone



**Note:** By default through the `setup` Privileged EXEC command, the 1/1/1 to 1/1/8 GigE interfaces on the NAB are configured as Link Aggregation Group (LAG) 1 on system restart. This NAB lag1 interface is used for connecting clients and forwarding messages. Refer to *TIBCO Messaging Appliance P-7500 Operations Guide* for more information on LAGs.

7. Make the required IP network connections to the Ethernet 1 management interface port at the rear of the system, and port interfaces on the NAB.

Refer to *TIBCO Messaging Appliance P-7500 Operations Guide* for details on the NAB, including Ethernet port wiring specifications and signaling for Ethernet ports 2 through 5.



**Note:** Cable installation and network configuration affects overall transmission capability. For network-specific recommendations, consult your TIBCO engineer.

You have completed this procedure.

## Step 2: Change the Default Support User Account Password (Optional)



**Note:** In addition to the default CLI user administration account, the TIBCO Messaging Appliance P-7500 system has a default support user account to allow low-level troubleshooting of the system. By default anyone can directly login to the support user account from the login prompt.

To ensure all users are authenticated through the CLI before logging into the support user account, TIBCO recommends the system administrator change the default of the `allow-direct-shell-login` Authentication CONFIG command to `no allow-direct-shell-login *`. TIBCO also recommends you change the default password for the support user account once the initial software configuration is completed.

Using a CLI user account with an admin access level:

1. Force all CLI users to login to a CLI account before accessing the default support user account:

```
tibco(config)# authentication
tibco(config-authentication)# no allow-direct-shell-login *
tibco(config-authentication)# exit
tibco(config)# exit
```

2. Access the default support user account from the CLI:

```
tibco# shell
```

3. Enter the default support user name:

```
login as: support
```

4. The system prompts you for a password:

```
Password:
```

5. Enter the default password:

```
Password: support
```

Once connectivity to the TIBCO Messaging Appliance P-7500 system is established, you see a prompt on your screen similar to:

```
[support@tibco24]$
```

6. Enter the `passwd` command at the prompt:

```
[support@tibco24]$ passwd
```

7. The system prompts you for the current UNIX password for the default support user account. Enter the current password **support**:

```
Changing password for user support.
```

Changing password for support  
(current) UNIX password: **support**

8. The system prompts you for the new UNIX password for the default support user account. Enter the new password:

New UNIX password: **<new\_password>**



**Note:** You must securely track your new password for the default support user account as it is not possible to recover it without granting physical access to the system to TIBCO.

You have completed this procedure.

## Step 3: Perform Quick Start

---

To be able to forward messages, follow this procedure:

1. Enter the default user administration name:

```
tibco login: admin
```

2. Enter the default password:

```
Password: admin
```

Once CLI connectivity to the TIBCO Messaging Appliance P-7500 system is established, you see a CLI banner and prompt on your computer screen similar to:

```
TIBCO Messaging Appliance P-7500. System Software Version
8.7.0.0003
Copyright 2011 TIBCO Software, Inc. All rights reserved.
tibco>
```

3. Enter the enable command at the User EXEC Level prompt:

```
tibco> enable
tibco#
The TMA P-7500 CLI is now in Privileged EXEC level.
```

4. Enter the configure command at the privileged EXEC Level prompt:

```
tibco# configure
tibco(config)#

The TIBCO Messaging Appliance P-7500 CLI is now in Global CONFIG level.
The Global CONFIG level allows you to globally apply or modify parameters
on the system.
```

5. To configure Rendezvous service parameters on the system, enter the rv Global CONFIG command:

```
tibco(config)# rv

Entering the rv Global CONFIG command moves you to the Rendezvous
CONFIG level within the CLI for configuring Rendezvous parameters:
tibco(config-rv)#
```

6. Specify the IP interface for the Rendezvous service on the system:

```
tibco(config-rv)# interface 1/1/lag1:1 primary
```

7. Enter the no shutdown command to enable Rendezvous services on the system:

```
tibco(config-rv)# no shutdown
```

8. (Optional) Enter the exit command to exit the Rendezvous CONFIG level and return to the Global CONFIG level:

```
tibco(config-rv)# exit
tibco(config)#
```

9. (Optional) Enter the `show rv config` command to view the status of the Rendezvous configuration:

```
tibco(config)# show rv config
```

RV Configuration Status:	Enabled	
RV-Gateway:	Disabled	
	Primary	Backup
	-----	-----
RV Listen Port	7500	7500
RV-Gateway Status	Up	Up
RV IP Interface	2/1/lag1:1	

10. Continue to configure the system parameters as needed. Most of the features on the TIBCO Messaging Appliance P-7500 system can be configured by a single command through the TIBCO Messaging Appliance P-7500 CLI.

Every command available in the TIBCO Messaging Appliance P-7500 CLI is described in detail in the *TIBCO Messaging Appliance P-7500 Administration Interface Reference*.

You have completed this procedure.

## Step 4: Enable SSH Server Authentication

---

The P-7500 system is accessed through the Secure Shell (SSH) protocol. Telnet is not supported.

The P-7500 system uses the SSH protocol to provide secure system access between the management server and devices. SSH provides greater security by encrypting all information before transmission across the network. Through Public Key Cryptography, SSH provides an encrypted terminal connection for server authentication with integrity checks and replay detection. Private keys are then used to transfer information across the network.

Since the Internet Engineering Task Force (IETF) specifies SSH, SSH is widely deployed, commonly used, and secure interoperability is assured.

There are currently two SSH protocols: SSH version 1 (SSHv1), and SSH version 2 (SSHv2). SSHv1 and SSHv2 are different, and incompatible, protocols. SSHv2 is considered more secure than SSHv1 and is currently being developed as the IETF standard. SSHv1 is based on the V1.5 protocol, while SSHv2 is based on the V2 protocol.

SSHv2 is regarded as more secure than SSHv1, and is the only SSH protocol supported by the SSH daemon server on the P-7500 system.

To enable a client to establish SSH connections with the P-7500 system:

1. Obtain and install a third-party commercial SSH client on the host computer from which you want to administer the P-7500 system.

PuTTY is a well-known and free SSH client application that supports SSHv2. For information on obtaining PuTTY SSH software for use by a client application, see <http://www.chiark.greenend.org.uk/~sgtatham/putty/>.

### NOTICE

**NOTICE:** The P-7500 system uses Keyboard/Interactive authentication for SSHv2. Ensure that you enable Keyboard/Interactive authentication on the SSH client you are using with the P-7500 system.

---

2. The SSH server daemon starts when the P-7500 system starts. Once started, the daemon listens for traffic on TCP port 22.

## NOTICE

**NOTICE:** Up to eight active CLI user sessions are allowed at one time. If there are no free CLI sessions when the user attempts to log on, no other SSH client can log onto the SSH server. The logon fails, and the error message “Max CLI sessions are already active” is returned to the user.

If this occurs, use the SSH command parameter `force` to override and disconnect the longest idle CLI user session (for example, `ssh admin@tibco1 force`). However, the use of the SSH `force` option only disconnects the longest idle user. You still must log on a second time (without the SSH `force` option) to occupy the free CLI user session. Also, use of the SSH `force` option does not force any user session out if there are free CLI sessions already available.

You have completed this procedure.



## Chapter 2      **Using the Command Line Interface (CLI)**

The TIBCO Messaging Appliance P-7500 Command Line Interface (CLI) is the interface to the software that you use whenever you access the system—whether from the console or through a remote network connection. The CLI, which automatically starts after the system finishes powering up, provides commands that you use to perform various tasks, including configuring, monitoring, and troubleshooting the software, network connectivity, and the system hardware.

### Topics

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- *Overview, page 12*
- *EXEC Commands, page 14*
- *CONFIG Commands, page 15*
- *Logging On to the CLI, page 17*
- *Identifying Command Context, page 20*
- *CLI Command Structure, page 21*
- *Using Help, page 26*
- *Writing and Running CLI Scripts, page 33*

## Overview

---

The TIBCO Messaging Appliance P-7500 CLI is a text-based interface for configuring and monitoring the system. It allows the network administrator to perform all system administration, configuration, provisioning, and network troubleshooting functions.

You can access the CLI through either a console connection to the system or through a Secure Shell (SSH) connection.

The commands in the CLI are organized into these levels:

- User EXEC lets you display information and perform basic tasks such as pings and Show commands
- Privileged EXEC lets you use the same commands as those at the User EXEC level plus configuration commands that do not require saving the changes to the system config file
- CONFIG lets you make configuration changes to the device and contains sub-levels for individual interfaces, routing protocols, and other configuration areas

To leave any level or sub-level, type `exit`. This takes you back up one level.

In addition to entering commands singly in response to prompts, the CLI provides a basic scripting facility to automate common tasks and command sequences.

## Displaying CLI Command and Option Information

To display a list of commands or command options available in just the current CLI level, press **Tab**, or enter `?` or `tree`.

To display a list of commands or command options available in both the current and global CLI levels, enter `??`, `Help`, or `tree all`.

To display a list of commands or command options available in just the global CLI level, enter `tree global`.

## Automatic CLI Command Completion

The CLI supports command completion, so you do not need to enter the entire name of a command or option. If you enter part of a command, then press **Tab**, the CLI lists the options you can enter at that point in the command string. As long as you enter enough characters of the command or option name to avoid ambiguity with other commands or options, the CLI understands what you are typing and completes it.

## Commenting CLI Commands

Command comments can be entered directly in the CLI by identifying them with an exclamation mark (!) at the start of a line. This tells the P-7500 system that the information is a comment and is to be ignored.

Comments are useful for describing or providing information about command sequences that will be used more than once. For example, you can reuse a sequence of commands, or you can create a script of several commands to make it simpler and faster to do common tasks. For more information on the CLI scripting facility, see “Writing and Running CLI Scripts” on page 33.

## Retrieving Entered CLI Commands for Reuse

All entered CLI commands are stored on the system in a history buffer. You can retrieve these entered commands by navigating the history buffer using the keyboard arrow keys. You can then copy these retrieved commands and either reuse them as is, or edit them for reuse.

## EXEC Commands

---

There are two different levels of EXEC commands, the User EXEC level and the Privileged EXEC level. The User EXEC level commands are at the top, or most basic level, of the CLI hierarchy. These are the first commands that you have access to when connected to the device through the CLI. At this level, you can view basic system information and verify connectivity but cannot make any changes to the device configuration.

To make changes to the configuration, you must move to deeper levels of the CLI hierarchy. This is accomplished by the User EXEC level command `enable`. This command takes you to the Privileged EXEC level, from which you can reach the configuration command levels.

The Privileged EXEC level commands primarily enable you to transfer and store software images and configuration files between the network and the system, and review the configuration.

## CONFIG Commands

---

CONFIG commands modify the configuration of the P-7500 system.

The main CONFIG command level is Global CONFIG, and it is the first level you enter into from the Privileged EXEC level. From the Global CONFIG level you can enter into one of many other CONFIG levels, depending on what it is you would like to configure on the P-7500 system. Some of the main CONFIG levels are:

- Interface CONFIG on page 16
- Rendezvous CONFIG on page 16



**Note:** For a complete listing and description of all the available CONFIG levels, refer to the *TIBCO Messaging Appliance P-7500 Command Line Interface Reference*.

Each configuration command takes effect immediately after it is entered and is stored in the persistent system database.

### Global CONFIG

The Global CONFIG level allows you to globally apply or modify parameters on the system.

Within Global CONFIG level you can:

- apply features globally to a system
- enable a feature or function
- disable a feature or function
- configure a feature or function
- access all CONFIG modes

You reach Global CONFIG level by entering `configure` at the privileged EXEC level:

```
tibco# configure
tibco(config)#
```

The CLI is now at the Global CONFIG level.

## Interface CONFIG

The Interface CONFIG level allows you to assign or modify ethernet or Link Aggregation Group (LAG) interface parameters on an interface by interface basis.

You reach the Interface Ethernet CONFIG level by entering the interface command at the Global CONFIG level:

```
tibco(config)# interface interface-id
```

where *interface-id* is an ASCII string specifying the ethernet interface port or LAG to be displayed. Valid values are:

- *ethport* (for example, eth2)
- *fabric/slot/port* (for example, 1/1/5)
- *fabric/slot/lagN* (for example, 1/1/lag1)

There is no default value.



**Note:** Currently, only a single LAG numbered 1 is supported.

Example:

```
tibco# configure
tibco(config)# interface 1/1/lag1
tibco(config-interface)#
```

The CLI is now at the Interface CONFIG level for LAG 1 on a P-7500.

## Rendezvous CONFIG

The Rendezvous CONFIG level allows you to configure parameters for the Rendezvous on a system-by-system basis.

You reach this level by entering either *rv* at the Global CONFIG level:

```
tibco# configure
tibco(config)# rv
tibco(config-rv)#
```

## Logging On to the CLI

---

### NOTICE

**NOTICE:** The P-7500 CLI has an inactivity timer which logs out inactive users. This inactivity timer is automatically invoked if no commands are entered for five minutes. To change the inactivity timer configuration, enter the `console` Global CONFIG command, which moves you to the Console CONFIG level within the CLI for configuring the inactivity timeout value:

```
tibco# configure
tibco(config)# console
tibco(config-console) timeout idle-timeout
```

where *idle-timeout* is the integer value representing the inactivity timeout value in minutes. Valid range is 0 to 43200, and default is 5. To disable the inactivity timer, enter 0.

To show the inactivity timer configuration, enter the `show console` User EXEC command:

```
tibco> show console
```

You can log onto the CLI through either the management console or Secure Shell (SSH) connections. At initial logon to the system without an IP address, you must set up a management console as described in *TIBCO Messaging Appliance P-7500 Hardware Installation*, and connect it directly to the system's RS-232 serial console port (located on the rear panel of the system) using the provided cable.

Once an IP address is assigned, you can log onto the CLI through SSH. However, to log onto the CLI through SSH, SSH version 2.0 client software must be installed on your host computer. Refer to “Step 4: Enable SSH Server Authentication” on page 8 of this document for more information on SSH.

## NOTICE

**NOTICE:** The P-7500 system uses Keyboard/Interactive authentication for SSHv2. Ensure that you enable Keyboard/Interactive authentication on the SSH client you are using with the P-7500 system.

## NOTICE

**NOTICE:** Up to eight active CLI user sessions are allowed at one time. If there are no free CLI sessions when the user attempts to log on, no other SSH client can log onto the SSH server. The logon fails, and the error message “Max CLI sessions are already active” is returned to the user.

If this should occur, use the SSH command parameter *force* to override and disconnect the most idle CLI user session (for example, `ssh soladmin@tibco1 force`). However, the use of the SSH *force* option only disconnects the most idle user. You then have to log on a second time without the SSH *force* option to occupy the free CLI user session. Also, use of the SSH *force* option does not force any user session out if there are free CLI sessions already available.

1. At initial logon, general access to the P-7500 system is established when this prompt appears on your computer screen:

```
login as>
```

2. Enter the default user administration name:

```
login as: admin
```

3. The system then prompts you for a password:

```
Password:
```

```
Enter the default password:
```

```
Password: admin
```

4. Once CLI connectivity to the P-7500 system is established, you see a CLI banner and prompt similar to:

```
TIBCO Messaging Appliance P-7500. System Software Version
8.7.0.0003
Copyright 2011 TIBCO Software, Inc. All rights reserved.
tibco>
```

At this prompt ( > ), you are at the User EXEC level of the CLI command structure.

5. To reach the Global CONFIG Level, the uppermost level of the CONFIG commands, enter these commands:

— To reach Privileged EXEC level commands:

```
tibco> enable  
tibco#
```

— To reach Global CONFIG level commands:

```
tibco# configure  
tibco(config)#
```

You can reach all the other levels of the CONFIG command structure from this point. Refer to “Identifying Command Context” on page 20 for more information.

## Identifying Command Context

Command levels set a context for the CLI. Command context helps you:

- determine where you are in CONFIG command levels
- determine what you are configuring
- go to other CLI command levels

Each command level has its own distinct CLI command prompt so that you know which level you are in. By recognizing the command line prompt, you can identify where you are in the CLI and the context at any given point. This helps to prevent you from making configuration mistakes that could adversely affect the operation of the P-7500 system.

The CLI command prompt changes at each level of the command structure to easily identify the current level. For example:

Prompt	Level of Command Hierarchy
tibco>	User EXEC Level
tibco#	Privileged EXEC Level
tibco(admin)#	Admin EXEC Level
tibco(config)#	Global CONFIG Level

## CLI Command Structure

---

Many CLI commands require input as part of the command. These fields are either required or optional depending on how the information is bracketed.

### CLI Command Syntax

To get a quick display of available options at a CLI level or for the next option in a command string, enter a single question mark ? at the prompt, or press **Tab**. The option information is presented using certain syntax:

```
logging {<SubsystemId> | all} [level <level>] [mask <mask>]
```

< > Indicates the value is a variable and required.

[] Indicates the value is optional.

{ } Indicates a choice of values to enter, and you must select one. Usually the values are separated by the | symbol.

| Indicates you must enter one of the values as part of the command.

When an item is not enclosed by < >, [ ], or { } symbols, the item is a required keyword.

### Listing CLI Commands

To view all available commands at the user EXEC level, enter a double question mark (??) at the User EXEC CLI level:

```
tibco> ??
```

```
Commands available in the current mode:
```

```
enable - Use this command to enter the Privileged EXEC level of
         the CLI to perform system configuration.
```

```
Global commands available in any mode:
```

```
[no] alarm-display - Use this command to enable the display of
                    P-7500 system alarms in the
                    current CLI session on a
                    session-by-session basis. The no version
                    disables the displaying of system
                    alarms in the current CLI session.

cd - Use this command to change the current
    working directory on the system.

dir - Use this command to list the contents of
     a directory on the system.

end - Use this command to exit the current
     CONFIG command level of the CLI and
     return to the Privileged EXEC level.
```

exit	- Use this command to exit the current command level of the CLI and return to the previous level. From the User EXEC level, use it to exit the CLI.
help	- Use this command to display the Help facility for the command line interface.
home	- Use this command to exit the current command level of the CLI and return to the User EXEC level.
logout	- Use this command to log out of a current CLI session.
more	- Use this command to display the contents of a text file in a directory.
[no] paging	- Use this command to control the output page size for show commands. The no version disables paging.
ping	- Use this command to send ICMP ECHO_REQUEST packets to a specified host.
pwd	- Use this command to display the present working directory (pwd).
session	- Use this command to change the CLI inactivity timeout setting for your current CLI user session on the system.
show	- Use this command to display a variety of configuration and statistical information about the system.
source	- Use this command to run a cli script.
[no] strict-column-wrapping	- By default, this is enabled. Use the 'no' version of this command to allow designated columns to be displayed without wrapping. A column may be designated to be controlled by this setting if it is identified as a column where the content would need to be frequently cut and pasted. This is more easily performed if the content is not wrapped.
tree	- Use this command to show the CLI command tree, starting from the current mode.

Complete help for a command can be displayed by entering:

```
"<command> ?"
```

Output of any command can be redirected to overwrite a file using '>':

```
"show version > version.txt"
```

Output of any command can be redirected to append to a file using '>>':

```
"show version >> version.txt"
```

tibco>



**Note:** You also can enter the question mark (?) with an individual command to see all available options or to check context.

## Listing show Command Options

To view possible show command options, enter:

```
tibco> show ?
```

COMMAND:

show

DESCRIPTION:

Use this command to display a variety of configuration and statistical information about the system.

PARAMETERS:

acl	- Show ACL configuration
alarm	- Show current alarm status
backup	- Show information on configuration backups
client	- Show client information
client-profile	- Show information about the client-profile.
clock	- Show system clock
console	- Show console configuration
debug	- Show internal debug information
disk	- Show local disk usage and the RAID status
environment	- Show system environment information
hardware	- Show system hardware information
hostname	- Show hostname
interface	- Show the parameters configured for the interface
ip	- Show Internet Protocol Parameters
log	- Show the system log
logging	- Show logging information
memory	- Show memory usage
name-server	- Show DNS name server configuration
ntp-server	- Show the NTP server
paging	- Use this command to control the output page size for show commands. The no version disables paging.
process	- Show system process information. Given a pid, displays detailed information for that process.
product-key	- Show installed product-keys and the features they unlock
profile-mapping	- Show profile mapping
redundancy	- Show redundancy configuration
routing	- Show routing configuration
rv	- Show rv configuration and service information
session	- Show information regarding currently active CLI sessions.
snmp	- Show SNMP agent configuration
stats	- Show global level stats
subscriptions	- Show subscriptions
syslog	- Show the configured syslog destinations
username	- Show the names of all the CLI and file transfer users configured on a system
version	- Show information on software loads

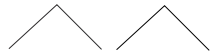
```
tibco>
```

## CLI Command Line Prompts

Within the CLI, the command line prompt identifies both the hostname and the command mode. The hostname is the name of your system (set using the `hostname` command). The command mode indicates your location within the CLI command structure.

For example:

Hostname    Command Mode



system(config)#

For some actions, the CLI prompts you for a response. The acceptable default responses are:

- press **y** or **Enter** to agree with the prompt and continue
- press any other key to disagree with the prompt and cancel the action

## CLI Keywords and Parameters

CLI commands are made up of two primary elements, keywords and parameters.

### Keywords

Every command requires at least one keyword. However, a command can contain other optional keywords. Keywords must be typed into the CLI accurately to be recognized. These are examples of keywords:

- `reload`
- `clear`
- `configure`
- `end`

Keywords identify the operation to be performed. You can abbreviate keywords, but you must enter enough initial characters to unambiguously identify the command. For example, if the keyword you want to specify is `source` and you enter only `s`, an error appears. The error indicates that one or more possible keywords begin with `s`, making your entry ambiguous.

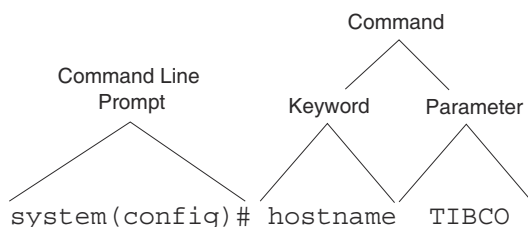
## Parameters

Parameters are often required elements of a command, but for some commands, parameters are not required. A parameter is most often a value that you specify after the keyword. There are different types of parameters, such as strings, integers, or IP addresses. The CLI indicates the type of parameter that you must enter. When you see a range of numbers or uppercase letters, it indicates that you must specify a value.

## Keywords and Parameters Together

By combining keywords and parameters in the correct sequence, you can begin using the CLI to configure and monitor your system. For example, you could specify the command `hostname` to change the name of your system by entering a keyword and a parameter. You need to type only the portion of the keyword that makes it unambiguous, such as `hostn`. Here, the value of the parameter, which is the name you assign to the host, is a string of up to 64 characters.

For example:



When you enter this command, the new hostname appears in the command line prompt:

```
tibco(config)#
```

## Using Help

The P-7500 CLI provides a variety of useful context-sensitive help features. An important thing to remember about using the help features is that the use of a space or the lack of a space before the ? gives different results. Table 4 summarizes the help system.

Table 4 Help Commands

Command	Description
? <Tab> tree	Lists all commands or command options available in the current CLI level.
?? help tree all	Lists commands or command options available in both the current and global CLI levels.
tree global	Lists commands or command options available in the global CLI levels.
partial-command<Tab>	Completes the partial command you entered, if you have provided an unambiguous abbreviation. Otherwise, if ambiguous, the CLI lists the available command options.
command<space>?	Gives detailed help on the specific command and its available parameters in the current CLI level.

### ? (Question Mark Key)

You can enter the question mark (?) key whenever you need additional information. When you enter ?, all available choices are displayed. When you enter ? on a line by itself or when it is preceded by one or more spaces, a list of all next available choices is displayed. Refer to Example 1.

Alternatively, the user can terminate a command with a ? to display the complete help on that command. This feature is most powerful when the command keyword is known, but the list and format of parameters is not. Refer to Example 2.

#### Example 1

From the prompt, you can enter ? to display the online help:

tibco# ?

Commands available in the current mode:

- admin - Use this command to reach the Admin EXEC level.
- backup - Use this command to immediately create a manual local backup of your configuration database file on the system.
- boot - Use this command to upgrade or downgrade the system software to a new or old software load and activate it, or to revert to and run the previous software version that was running before the last upgrade.
- clear - Use this command to clear various system statistics.
- configure - Use this command to reach the Global CONFIG level by entering configure from the privileged EXEC level.
- copy - Use this command to copy files to and from the system.
- delete - Use this command to delete files from the system. Note: Some files are not allowed to be deleted (for example, rotating system event logs such as solcbr.log.X files).
- delete-load - Use this command to delete a software version already installed in the /loads subdirectory on the system (as displayed through the show version User EXEC command), which may not be the current version or the backout version.
- disable - Use this command to return yourself to the User EXEC level of the CLI from the Privileged EXEC level.
- disconnect - Disconnect a CLI session
- power-down - Use this command to turn off power to the system, on a system by system basis. Note: The system does NOT restart automatically after this command is run.
- reload - Use this command to restart the system using the currently installed software version. Optionally, the system configuration can be set to a backed-up configuration or the system default configuration during the restart.
- rename - Use this command to rename a regular (that is, Pathname) system file in the jail subdirectory.
- setup - Use this command to quickly set the hostname, interfaces, clock and time zone on the system.
- shell - Use this command to access the shell.

Global commands (available in all modes) can be displayed by entering:  
"??"

Complete help for a command can be displayed by entering:  
"<command> ?"

Output of any command can be redirected to overwrite a file using '>':  
"show version > version.txt"

Output of any command can be redirected to append to a file using '>>':  
"show version >> version.txt"

tibco#

**Example 2**

You can terminate a CLI command with a ? to display the complete help on that command:

```
tibco(config)# name-server ?

COMMAND:
  name-server <ip-addr>*
  no name-server [<ip-addr>]*

DESCRIPTION:
  Configure the DNS name server

PARAMETERS:
  <ip-addr> [nnn.nnn.nnn.nnn] - IP address
```

**help Command**

From the prompt, you can enter the help command when you want to display a brief description of the context-sensitive help system.

```
tibco# help
```

```
Commands available in the current mode:

admin      - Use this command to reach the Admin EXEC level.
backup     - Use this command to immediately create a manual
             local backup of your configuration database file on
             the system.
boot       - Use this command to upgrade or downgrade the system
             software to a new or old software load and
             activate it, or to revert to and run the previous
             software version that was running before the
             last upgrade.
clear      - Use this command to clear various system statistics.
configure  - Use this command to reach the Global CONFIG level by
             entering configure from the privileged EXEC level.
copy       - Use this command to copy files to and from the
             system.
delete     - Use this command to delete files from the system.
             Note: Some files are not allowed to be deleted (for
             example, rotating system event logs such as
             solcbr.log.X files).
delete-load - Use this command to delete a software version
             already installed in the /loads subdirectory on the
             system (as displayed through the show version User
             EXEC command), which may not be the current version
             or the backout version.
disable    - Use this command to return yourself to the User EXEC
             level of the CLI from the Privileged EXEC level.
disconnect - Disconnect a CLI session
power-down - Use this command to turn off power to the system, on
             a system by system basis. Note: The system does NOT
             restart automatically after this command is run.
reload     - Use this command to restart the system using the
```

- currently installed software version. Optionally, the system configuration can be set to a backed-up configuration or the system default configuration during the restart.
- rename - Use this command to rename a regular (that is, Pathname) system file in the jail subdirectory.
  - setup - Use this command to quickly set the hostname, interfaces, clock and time zone on the system.
  - shell - Use this command to access the shell.

Global commands available in any mode:

- [no] alarm-display - Use this command to enable the display of P-7500 system alarms in the current CLI session on a session-by-session basis. The no version disables the displaying of system alarms in the current CLI session.
- cd - Use this command to change the current working directory on the system.
- dir - Use this command to list the contents of a directory on the system.
- end - Use this command to exit the current CONFIG command level of the CLI and return to the Privileged EXEC level.
- exit - Use this command to exit the current command level of the CLI and return to the previous level. From the User EXEC level, use it to exit the CLI.
- help - Use this command to display the Help facility for the command line interface.
- home - Use this command to exit the current command level of the CLI and return to the User EXEC level.
- logout - Use this command to log out of a current CLI session.
- more - Use this command to display the contents of a text file in a directory.
- [no] paging - Use this command to control the output page size for show commands. The no version disables paging.
- ping - Use this command to send ICMP ECHO\_REQUEST packets to a specified host.
- pwd - Use this command to display the present working directory (pwd).
- session - Use this command to change the CLI inactivity timeout setting for your current CLI user session on the system.
- show - Use this command to display a variety of configuration and statistical information about the system.
- source - Use this command to run a cli script.
- [no] strict-column-wrapping - By default, this is enabled. Use the 'no' version of this command to allow designated columns to be displayed without wrapping. A column may be designated to be controlled by this

```

tree
    setting if it is identified as a column
    where the content would need to be
    frequently cut and pasted. This is more
    easily performed if the content is not
    wrapped.
    - Use this command to show the CLI command
      tree, starting from the current mode.

```

Complete help for a command can be displayed by entering:  
`"<command> ?"`

Output of any command can be redirected to overwrite a file using '>':  
`"show version > version.txt"`

Output of any command can be redirected to append to a file using '>>':  
`"show version >> version.txt"`

## Partial Keyword <Tab>

At any point in the command line, the user can press **Tab** to display the valid inputs onward.

When you cannot recall a complete command name or keyword, type in the first few letters, press **Tab**, and the system completes your partial entry. However, you must type enough characters to provide a unique abbreviation. If your partially entered command is not unique, the CLI presents you with a list of valid options:

```

tibco> show pro<Tab>
tibco> show process

```

A subsequent **Tab** displays the valid parameters for the command/argument pair:

```

tibco> show process <Tab>
COMMAND:
    show process [pid <pid>]
tibco> show process

```

## tree Command

From the prompt, you can enter:

- `tree` to display a list of commands or command options available in just the current CLI level
- `tree all` to display a list of commands or command options available in both the current and global CLI levels
- `tree global` to display a list of commands or command options available in just the global CLI level

```

tibco> tree global

```

GLOBAL COMMANDS - available in all modes:

```
[no] alarm-display
cd [<directory>]
dir [<pattern>]
end
exit
help
home
logout
more <pattern>
[no] paging [size <size>]
ping <vrf-ip-addr-or-host> [ip-interface <ip-interface>]
pwd
session timeout <idle-timeout>
show*
    acl*
        client-connect
        profile <name> [detail]
    alarm
    backup
    client <ip-and-port> [service <service>] [stats
        [congestion | queues] |
        subscriptions | connections [wide]]
        [primary | backup]
    client-profile <name>
    clock [timezones [<pattern>]]
    console
    debug [process-name <process-name>] [process-instance
        <process-instance>] [timeout <seconds>]
        <command> [<parameter-list>]
    disk [detail]
    environment
    hardware [details]
    hostname
    interface [<phy-interface>] [detail]
    ip route
    ip vrf [<name> [route]]
    log*
        acl [client-connect | publish-subject
            | subscribe-subject] [wide]
        command [lines <num-lines>] [find
            <search-string>]
        debug [lines <num-lines>] [find <search-string>]
        event [lines <num-lines>] [find <search-string>]
    logging command
    logging debug [<subsystem-id>]
    memory
    name-server
    ntp-server
    paging
    process [pid <pid>]
    product-key
    profile-mapping [username <username>] [service
        <service>] [default]*
    redundancy
    routing
    rv config
```

```

rv network-mapping
rv service <service> [stats | subscriptions]
                        [primary | backup]
rv service-mapping
session
snmp [trap [<name>]]
stats acl
stats client
subscriptions [service <service>] [subject
                                <subject-string> | subject-starts
                                <subject-start-string> | summary]
                                [primary | backup]
syslog [<name>]
username [<username-pattern>]
version
source script <script-name> [stop-on-error]
                        [no-prompt]
[no] strict-column-wrapping
tree [all | global]

```

\* indicates a mode that can be "typed through"

## Writing and Running CLI Scripts

---

To simplify the loading of common or repetitive configuration setups, the TIBCO Messaging Appliance P-7500 CLI has a basic scripting facility that enables you to define and run scripts that run multiple CLI commands. Basic script files can be used to store more than one CLI command. Depending on your needs, you might want to store all of your CLI commands in one script file, or group scripts by function.

This basic scripting facility does not include structures for control flow, environment variables, or other more sophisticated scripting features.

To run a CLI script file, you must first write the script on your computer using the editor of your choice, save the script as a file with no extension, then transfer the script to the system using the `copy` Privileged EXEC command. Refer to “Adding or Removing System Files” on page 10 in *TIBCO Messaging Appliance P-7500 Operations Guide* for more details on using the `copy` command.

You can then run the basic CLI script file from within the CLI using the command:

```
tibco> source script <script-name>
```

where *script-name* specifies the name of the CLI script file. The file must be in a directory on the system.

Always observe these key points when writing or running CLI scripts:

- the commands in the script must be valid in the current operating mode
- nesting of scripts is allowed, up to a maximum nest level of five
- if a command inside a script contains a syntax error, or fails for some other reason, the remainder of the commands in the file are still run (that is, script execution does not abort on failure)
- a script does not require an `exit` or `logout` command at the end. If present, these commands are run normally, such that if run in user mode the CLI session is exited.
- comments can be included directly in the CLI script file itself and are identified with an exclamation mark (!) at the start of a line. This tells P-7500 systems that the information is a comment and should not be displayed or parsed. Comments do not require an end tag.



**Note:** If you decide to include comments, anyone who reads or edits your CLI script may read them. Any system or application that parses or validates your CLI script ignores commented information.

