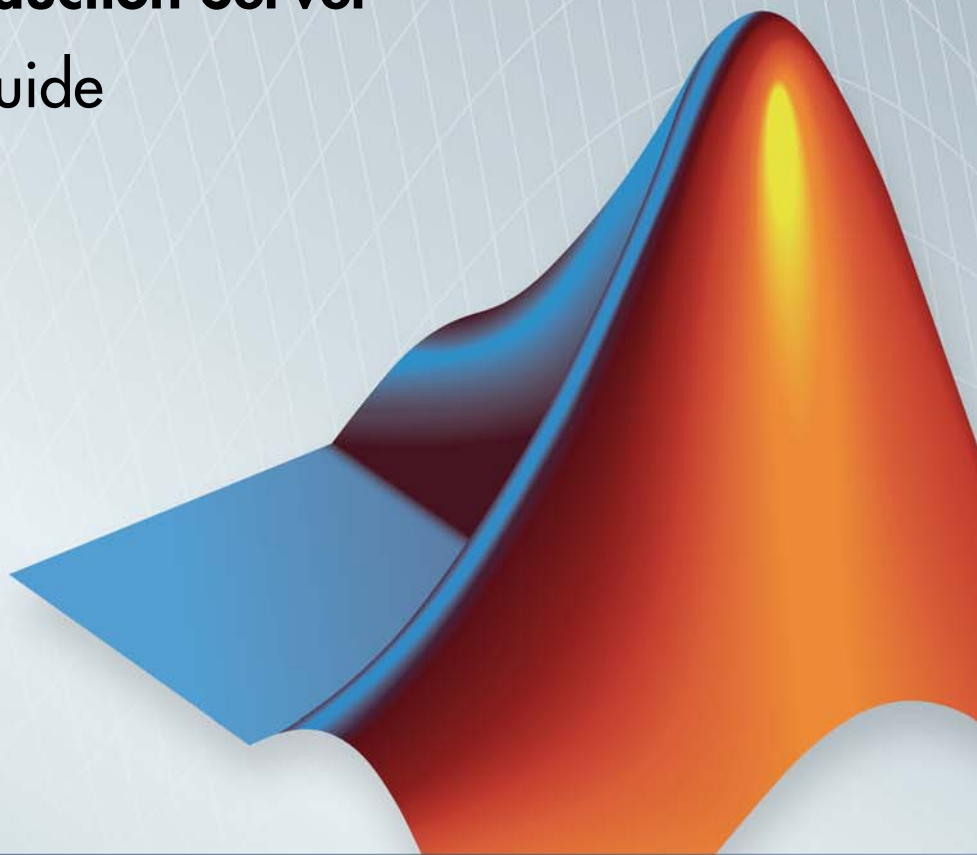


MATLAB® Production Server™

Quick Start Guide

R2013a



MATLAB®

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MATLAB® Production Server™

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Installation

- “Overview” on page 1-2
- “Installing MATLAB® Production Server™ Software ” on page 1-3

Overview

This chapter shows you how to do the following:

- Install MATLAB® Production Server™ software
- Download and install the MATLAB Compiler Runtime (MCR)
- Run `mps-setup` to associate your MATLAB Production Server environment with an MCR.

Installing MATLAB Production Server Software

Install MATLAB Production Server

Prerequisite for Windows Installations

If you plan to install on Windows, ensure that the system on which you install MATLAB Production Server does not depend on access to files located on a network drive. For stable results in a production environment, servers created with MATLAB Production Server should always have *local* access to the deployable CTF archives that they host.

Run the Installation and Licensing Wizards

- 1 Insert the installation DVD into your computer. If the MathWorks® Installer does not automatically start, run `setup.exe`.
- 2 Follow the instructions in the Installation Wizard. Select the **Custom** installation option to verify what will be installed. For help completing the wizard, see the *MATLAB Installation Guide*. As you run the installation wizard, note the following:
 - If you do not already have the License Manager installed, you must install it. On the Installation Type dialog box, choose to perform a **Custom** installation. Then, on the Product Selection dialog box, select the License Manager for installation. By default, it is not selected for installation.
 - If you install the product using the internet, you will be taken to the Licensing Center to complete the licensing process.

Download and Install the MATLAB Compiler Runtime (MCR)

The MATLAB Compiler Runtime (MCR) is a standalone set of shared libraries that enables the execution of compiled MATLAB applications or components on computers that do not have MATLAB installed. When used together, MATLAB Production Server and the MCR enable you to create and distribute mathematical applications or software components quickly and securely.

Download and Install the latest version of the MATLAB Compiler Runtime (MCR) from the Web, on the MATLAB Compiler™ Runtime page at <http://www.mathworks.com/products/compiler/mcr>.

For more information about the MCR, including alternate methods of installing it, see “Distributing MATLAB Code Using the MATLAB Compiler Runtime (MCR)” in the MATLAB Compiler section of MathWorks Documentation Center.

Compatibility Considerations for MATLAB Compiler Runtime (MCR) and Deployed Components. In order to deploy a generic CTF archive created with the Deployment Tool, you install a version of the MCR that is compatible with the version of MATLAB you used to create your archive.

MATLAB Production Server version R2012b is only compatible with MCR version 8.0.

Run mps-setup to Set Location of MATLAB Compiler Runtime (MCR)

Each server that you create with MATLAB Production Server has its own configuration file that defines various server management criteria.

The `mps-setup` command line wizard searches for MCR instances and sets the default path to the MATLAB Compiler Runtime (MCR) for all server instances you create with the product.

To run the command line wizard, do the following after first downloading and performing the “MATLAB Compiler Runtime (MCR) Installation”:

- 1** Ensure you have logged on with administrator privileges.
- 2** At the system command prompt, run `mps-setup` from the `script` folder. Alternately, add the `script` folder to your system `PATH` environment variable to run `mps-setup` from any folder on your system. The `script` folder is located at `$MPS_INSTALL\script`, where `$MPS_INSTALL` is the location in which MATLAB Production Server is installed. For example, on Windows, the default location is: `C:\Program Files\MATLAB\MATLAB Production Server\R2012b\script\mps-setup`.

- 3** Follow the instructions in the command line wizard. The wizard will search your system and display installed MCR instances.
- 4** Enter `y` to confirm or `n` to specify a default MCR for all server configurations created with MATLAB Production Server.

If `mps-setup` cannot locate an installed MCR on your system, you will be prompted to enter a path name to a valid instance.

Run `mps-setup` in Non-Interactive Mode for Silent Install. You can also run `mps-setup` without interactive command input for silent installations.

To run `mps-setup`, specify the path name of the MCR as a command line argument. For example, on Windows®:

```
mps-setup "C:\Program Files\MATLAB\MATLAB Compiler Runtime\v8.0"
```

Disable Windows Interactive Error Reporting (Optional)

If the system on which you are running MATLAB Production Server is not monitored frequently, you may want to disable Windows Interactive Error Reporting, using the `DontShowUI` Windows Error Reporting (WER) setting, to avoid processing disruptions.

See WER Settings for Windows Development at [http://msdn.microsoft.com/en-us/library/windows/desktop/bb513638\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/windows/desktop/bb513638(v=vs.85).aspx) for complete information.

Ensure Deployment Architecture Compatibility

Consider if the computers running MATLAB, as well as server instances of MATLAB Production Server that host your code, are 32-bit or 64-bit.

Your operating system and bit architectures must be compatible (or ideally, the same) across machines running MATLAB Production Server and your deployed components.

For additional compatibility considerations, see the MATLAB documentation.

Installing 32-Bit Version on 64-Bit Systems. You can install a 32-bit image of MATLAB Production Server on a 64-bit version of Windows.

If you do so, you will receive a message prompting you to run `set
MPS_ARCH=win32`.

Set Up

- “Overview” on page 2-2
- “Server Creation” on page 2-3
- “Server Startup” on page 2-6
- “Server Status Verification” on page 2-9

Overview

This chapter shows you how to do the following:

- Create a server instance with `mps -new`.
- Start the server instance with `mps -start`.
- Verify the server is running with `mps -status`.

Server Creation

In this section...

- “Prerequisites” on page 2-3
- “Procedure” on page 2-3
- “Create a Server” on page 2-4
- “For More Information” on page 2-5

Prerequisites

Before creating a server, ensure you have:

- Installed MATLAB Production Server software.
- Added the script folder to your system PATH environment variable. Doing so enables you to run server commands such as `mps-new` from any folder on your system. Alternately, run server commands from the script folder. The script folder is located at `$MPS_INSTALL\script`, where `$MPS_INSTALL` is the location where MATLAB Production Server is installed. For example, on Windows, the default location is: `C:\Program Files\MATLAB\MATLAB Production Server\R2012b\script`.

Procedure

Before you can deploy your MATLAB code with MATLAB Production Server, you need to create a server to host your deployable archive.

A server instance is considered to be one unique *configuration* of the MATLAB Production Server product. Each configuration has its own parameter settings file (`main_config`) as well as its own set of diagnostic files.

To create a server configuration or *instance*, do the following:

- 1 From the system command prompt, navigate to where you want to create your server instance.

- 2 Enter the following command from the system prompt:

```
mps-new [path/]server_name [-v]
```

where:

- *path* is the path to the server instance and configuration you want to create for use with the MATLAB Production Server product. When specifying a path, ensure the path ends with the *server_name*.

If you are creating a server instance in the current folder, you do not need to specify a full path. Only specify the server name.

- *server_name* — is the name of the server instance and configuration you want to create.
- *-v* — enables verbose output, giving you information and status about each folder created in the server configuration.

Upon successful completion of the command, MATLAB Production Server creates a new server instance.

Create a Server

This example shows how to create a new server instance with the MATLAB Production Server:

- 1 Select a folder where you want to create `prod_server_1`. For example, choose the `/tmp` folder, off your root.

```
cd /tmp
```

- 2 Enter the following command:

```
mps-new prod_server_1 -v
```

`mps-new` creates a new server instance named `prod_server_1` in `/tmp`. Enabling the verbose (`-v`) option, allows you to see the results of the command as each folder in the hierarchy is built.

The command produces the following output:

```
prod_server_1/.mps-version...ok
prod_server_1/config/...ok
prod_server_1/config/main_config...ok
```

```

prod_server_1/endpoint/...ok
prod_server_1/auto_deploy/...ok
prod_server_1/.mps-socket/...ok
prod_server_1/log/...ok
prod_server_1/pid/...ok

```

For more information on the files created by `mps -new`, see “What is a Server?”, “How Does a Server Manage Work?”, and “Server Diagnostic Tools”.

Note Before using a server, you must start it. See “Server Startup” on page 2-6.

For More Information

For information about....	See....
Downloading and installing the MCR	“Download and Install the MATLAB Compiler Runtime (MCR)” on page 1-3
How to solve errors when creating a server	“Diagnose a Server Problem”
The <code>mps -new</code> command	<code>mps -new</code> in the <i>MATLAB Production Server User’s Guide</i> .
Product installation	“Installing MATLAB® Production Server™ Software ” on page 1-3

Server Startup

In this section...

- “Prerequisites” on page 2-6
- “Procedure” on page 2-6
- “Start a Server” on page 2-7
- “For More Information” on page 2-7

Prerequisites

Before attempting to start a server, verify that you have:

- Installed the MATLAB Compiler Runtime (MCR)
- Created a server
- Customized the server configuration file, `main_config` with the location of the MCR or Run `mps-setup` to set the location of the MATLAB Compiler Runtime (MCR)

Procedure

To start a server, complete the following steps:

- 1 Open a system command prompt.
- 2 Enter the following command:

```
mps-start [-C path/] server_name [-f]
```

where:

- `-C path/` — Path to the server instance you want to create. *path* should end with the server name.
- `server_name` — Name of the server instance you want to start or stop.
- `-f` — Forces command to succeed, regardless of whether the server is already started or stopped.

Upon successful completion of the command, the server instance is active.

Note If needed, query the status of the server instance that you started to verify the server is running.

Start a Server

This example shows how to start a server instance using the instance you created previously. In this example, you start `prod_server_1` from a location other than the server instance folder (`C:\tmp\prod_server_1`).

- 1 Open a system command prompt.
- 2 Enter the following command to start `prod_server_1`:

```
mps-start -C \tmp\prod_server_1
```

`prod_server_1` is now active and ready to receive requests.

For More Information

For information about...	See...
Downloading and installing the MCR	“Download and Install the MATLAB Compiler Runtime (MCR)” on page 1-3
Solving errors when starting or stopping a server	“Diagnose a Server Problem” in the <i>MATLAB Production Server User’s Guide</i> .
The <code>mps-start</code> command	<code>mps-start</code> command reference page in the <i>MATLAB Production Server User’s Guide</i> .
Stopping the server with the <code>mps-stop</code> command	<code>mps-stop</code> command reference page in the <i>MATLAB Production Server User’s Guide</i> .

For information about...	See...
Verifying status of a server with the <code>mps-status</code> command	<code>mps-status</code> command reference page in the <i>MATLAB Production Server User's Guide</i> .
Product installation	"Product Installation and Licensing"

Server Status Verification

In this section...

“Prerequisite” on page 2-9

“Procedure” on page 2-9

“Verify Status of a Server” on page 2-10

“For More Information” on page 2-11

Prerequisite

Before attempting to verify the status of a server instance, verify that you have first created a server.

Procedure

To verify the status of a server instance, complete the following steps:

- 1 Open a system command prompt.
- 2 Enter the following command:

```
mps-status [-C path/] server_name
```

where:

- *-C path/* — Path to the server instance and configuration you want to create. *path* should end with the server name.
- *server_name* — Name of the server instance and configuration you want to start or stop.

Upon successful completion of the command, the server status displays.

License Server Status Information

In addition to the status of the server, `mps-status` also displays the status of the license server associated with the server you are verifying.

Possible statuses and their meanings follow:

This License Server Status Message...	Means...
License checked out	The server is operating with a valid license. The server is communicating with the License Manager, and the proper number of license keys are checked out..
WARNING: lost connection to license server - request processing will be disabled at <i>time</i> unless connection to license server is restored	The server has lost communication with the License Manager, but the server is still fully operational and will remain operational until the specified <i>time</i> . At <i>time</i> , if connectivity to the license server has not been restored, request processing will be disabled until licensing is reestablished.
ERROR: lost connection to license server - request processing disabled	The server has lost communication with the License Manager for a period of time exceeding the grace period. Request processing has been suspended, but the server actively attempts to reestablish communication with the License Manager until it succeeds, at which time normal request processing resumes. For information about grace periods, see “Specify or Verify License Server Options in Server Configuration File” on page 3-3.

Verify Status of a Server

This example shows how to verify the status of the server instance you started in the previous example.

In this example, you verify the status of `prod_server_1`, from a location other than the server instance folder (`C:\tmp\prod_server_1`).

- 1 Open a system command prompt.
- 2 To verify `prod_server_1` is running, enter this command:

```
mps-status -C \tmp\prod_server_1
```

If `prod_server_1` is running, the following status is displayed:

```
\tmp\prod_server_1 STARTED
license checked out
```

This output confirms `prod_server_1` is running and the server is operating with a valid license.

For more information on the STOPPED status and the `mps-stop` command, see `mps-stop` and `mps-restart`

For more information about license status messages, see “License Server Status Information” on page 2-9.

For More Information

For information about....	See....
The <code>mps-status</code> command	<code>mps-status</code> command reference page in the <i>MATLAB Production Server User's Guide</i> .
Stopping the server with the <code>mps-stop</code> command	<code>mps-stop</code> command reference page in the <i>MATLAB Production Server User's Guide</i> .
Restarting the server with the <code>mps-restart</code> command	<code>mps-restart</code> command reference page in the <i>MATLAB Production Server User's Guide</i> .

Licensing

- “Overview” on page 3-2
- “Licensing MATLAB® Production Server™ Software ” on page 3-3

Overview

This chapter shows you how to do the following:

- Set license server options in the server configuration file (`main_config`).
- Verify status of a license by running `mps-status` on a server.
- Force a license check-out, if needed, using `mps-license-reset`.

Licensing MATLAB Production Server Software

License Management for MATLAB Production Server

Complete instructions for installing License Manager can be found in the *MATLAB Installation Guide*. See “Post-Installation Tasks” for information on how to start License Manager.

In addition to following instructions in the License Center to obtain and activate your license, do the following in order to set up and manage licensing for MATLAB Production Server:

Specify or Verify License Server Options in Server Configuration File

Specify or verify values for License Server options in the server configuration file (`main_config`). You create a server by using the `mps-new` command.

Edit the configuration file for the server. Open the file `server_name/config/main_config` and specify or verify parameter values for the following options. See the comments in the server configuration file for complete instructions and default values.

- `--license` — Configuration option to specify the license servers and/or the license files. You can specify multiple license servers including port numbers (`port_number@license_server_name`), as well as license files, with one entry in `main_config`. List where you want the product to search, in order of precedence, using semi-colons (;) as separators on Windows or colons (:) as separators on Linux.

For example, on a Linux system, you specify this value for `--license`:

```
27000@hostA:/opt/license/license.dat:27001@hostB:./license.dat
```

The system searches these resources in this order:

- 1 27000@hostA: (hostA configured on port 27000)
- 2 /opt/license/license.dat (local license data file)
- 3 27001@hostB: (hostB configured on port 27001)
- 4 ./license.dat (local license data file)

- `--license-grace-period` — The maximum length of time MATLAB Production Server responds to HTTP requests, after license server heartbeat has been lost. See FLEXlm[®] documentation for more on heartbeats and related license terminology.
- `--license-poll-interval` — The interval of time that must pass, after license server heartbeat has been lost and MATLAB Production Server stops responding to HTTP requests, before license server is polled, to verify and checkout a valid license. Polling occurs at the interval specified by `--license-poll-interval` until license has been successfully checked-out. See FLEXlm documentation for more on heartbeats and related license terminology.

Verify Status of License Server using `mps-status`

When you enter an `mps-status` command, the status of the server *and* the associated license is returned.

For detailed descriptions of these status messages, see “License Server Status Information”.

Forcing a License Checkout Using `mps-license-reset`

Use the `mps-license-reset` server command to force MATLAB Production Server to checkout a license. You can use this command at any time, providing you do not want to wait for MATLAB Production Server to verify and checkout a license at an interval established by a server configuration option such as `--license-grace-period` or `--license-poll-interval`.

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