

MATLAB® Production Server™

Quick Start Guide

R2012b

MATLAB®

How to Contact MathWorks



www.mathworks.com Web
comp.soft-sys.matlab Newsgroup
www.mathworks.com/contact_TS.html Technical Support



suggest@mathworks.com Product enhancement suggestions
bugs@mathworks.com Bug reports
doc@mathworks.com Documentation error reports
service@mathworks.com Order status, license renewals, passcodes
info@mathworks.com Sales, pricing, and general information



508-647-7000 (Phone)



508-647-7001 (Fax)



The MathWorks, Inc.
3 Apple Hill Drive
Natick, MA 01760-2098

For contact information about worldwide offices, see the MathWorks Web site.

MATLAB® Production Server™

© COPYRIGHT 2012 by MathWorks, Inc.

The software described in this document is furnished under a license agreement. The software may be used or copied only under the terms of the license agreement. No part of this manual may be photocopied or reproduced in any form without prior written consent from The MathWorks, Inc.

FEDERAL ACQUISITION: This provision applies to all acquisitions of the Program and Documentation by, for, or through the federal government of the United States. By accepting delivery of the Program or Documentation, the government hereby agrees that this software or documentation qualifies as commercial computer software or commercial computer software documentation as such terms are used or defined in FAR 12.212, DFARS Part 227.72, and DFARS 252.227-7014. Accordingly, the terms and conditions of this Agreement and only those rights specified in this Agreement, shall pertain to and govern the use, modification, reproduction, release, performance, display, and disclosure of the Program and Documentation by the federal government (or other entity acquiring for or through the federal government) and shall supersede any conflicting contractual terms or conditions. If this License fails to meet the government's needs or is inconsistent in any respect with federal procurement law, the government agrees to return the Program and Documentation, unused, to The MathWorks, Inc.

Trademarks

MATLAB and Simulink are registered trademarks of The MathWorks, Inc. See www.mathworks.com/trademarks for a list of additional trademarks. Other product or brand names may be trademarks or registered trademarks of their respective holders.

Patents

MathWorks products are protected by one or more U.S. patents. Please see www.mathworks.com/patents for more information.

Revision History

September 2012 Online only

New for Version 1.0 (Release R2012b)

Installation

1

Overview	1-2
Installing MATLAB Production Server Software	1-3
Install MATLAB Production Server	1-3

Set Up

2

Overview	2-2
Server Creation	2-3
Prerequisites	2-3
Procedure	2-3
Create a Server	2-4
For More Information	2-5
Server Startup	2-6
Prerequisites	2-6
Procedure	2-6
Start a Server	2-7
For More Information	2-7
Server Status Verification	2-9
Prerequisite	2-9
Procedure	2-9
Verify Status of a Server	2-9
For More Information	2-11

3

Overview	3-2
Licensing MATLAB Production Server Software	3-3
License Management for MATLAB Production Server ...	3-3

Index

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

Installation Prerequisites

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 Wizard

- 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. 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, it will be installed by default unless you specify otherwise, using the **Custom** installation option. The License Manager installed is the same program installed by default with an installation of MATLAB.
 - 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 servers you create with the product.

If a default value already exists in `server_name/config/mcrroot`, it is updated with the value specified when you run the command line wizard.

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.
- 4** Enter `y` to confirm or `n` to specify a default MCR location for all server configurations created with MATLAB Production Server.

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 you run MATLAB Production Server on Windows, you may want to first disable Windows Interactive Error Reporting using the `DontShowUI` Windows Error Reporting (WER) setting.

If the system on which you are running MATLAB Production Server is not monitored frequently you may want to disable Windows Interactive Error Reporting 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 completed “Product Installation and Licensing”.

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.

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 its 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, ensure you have:

- Installed the MATLAB Compiler Runtime (MCR)
- Created a server
- “Run mps-setup to Set Location of MATLAB Compiler Runtime (MCR)” on page 1-4

Procedure

To start a server, do the following:

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

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

where:

- **-C *path/*** is the path to the server instance and configuration you want to create for use with the MATLAB Production Server product. *path* should end with the server name.
- ***server_name*** — is the name of the server instance and configuration 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
How to solve 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	"Installing MATLAB® Production Server™ Software" on page 1-3

Server Status Verification

In this section...

“Prerequisite” on page 2-9

“Procedure” on page 2-9

“Verify Status of a Server” on page 2-9

“For More Information” on page 2-11

Prerequisite

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

Procedure

To verify the status of a server instance, do the following:

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

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

where:

- *-C path/* is the path to the server instance and configuration you want to create for use with the MATLAB Production Server product. *path* should end with the server name.
- *server_name* — is the name of the server instance and configuration you want to start or stop.

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

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 `prod_server_1`'s status, from a location other than the server instance folder (`C:\tmp\prod_server_1`).

- 1 Open a system command prompt.
- 2 To ensure `prod_server_1` is running, enter the following command:

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

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

```
\tmp\prod_server_1 STARTED
```

The output confirms `prod_server_1` is running. For more information on the STOPPED status and the `mps-stop` command, see `mps-stop` and `mps-restart`

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 has successfully been served a license and the license is assigned to the server whose status is being polled. This status indicates the server is operating with a valid license.
Lost connection to the license server, in grace period	The connection between server and license server has been lost. Licenses are currently being served for a limited grace period. License is assumed to be associated with the server.

This License Server Status Message....	Means....
License server timeout, assuming the license reclaimed by the license server	The server is no longer associated with a specific license or license server after the license server timeout has been reached or exceeded. Licenses are currently being served for a limited grace period. The license is assumed to no longer be assigned to the server and assumed to be reclaimed by the license server. For information about grace periods, see “Specify or Verify License Server Options in Server Configuration File” on page 3-3.
License grace period has expired. HTTP requests temporarily disabled.	The server is no longer associated with a specific license or license server and the grace period has expired. For information about grace periods, see “Specify or Verify License Server Options in Server Configuration File” on page 3-3.

For More Information

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

- Start License Manager.
- 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

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 running 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, if you specify this value for `--license`:

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

the system will search 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 (before entering hibernation status). 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 (effectively entering hibernation status), before license server is polled, in order to verify and checkout a valid license. Polling will occur 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.

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`.

Symbols and Numerics

32-bit and 64-bit Compatibility
 Considerations 1-5

C

Command Line Wizard 1-4

I

Installation 1-3
Installation Wizard
 Running 1-3

L

License Center
 Obtaining licenses through 3-3
License Checkout
 Forcing with mps-license-reset server
 command 3-4
License Server
 Grace period 2-10
 Status messages
 Meaning of 2-10
 Timeout 2-10
 Verifying status of 3-4
License Server Options 3-3
Licensing 3-3

M

MATLAB Compiler Runtime (MCR)
 Compatibility with version of MATLAB 1-4
 Downloading 1-3
 Installing 1-3
 Version considerations 1-4
MATLAB Production Server
 Installing 32-Bit version on 64-Bit
 systems 1-6

mps-new 2-3
mps-setup 1-4
 Running in a silent installation 1-5
 Running in non-interactive mode 1-5
mps-setup Command Line Wizard 1-4
 Running in a silent installation 1-5
 Running in non-interactive mode 1-5
 setting --mcr-root 1-4
 setting location of MCR 1-4
mps-start 2-6
mps-status 2-9
 Using to verify license server status 3-4

S

Server
 Starting up 2-7
 Verifying if started 2-9
 Verifying if stopped 2-9
 Verifying status of 2-9
Server Configuration File (main_config)
 License Server Options 3-3
 Specifying License Server Options 3-3
 Verifying License Server Options 3-3
Server Creation
 using mps-new command 2-3
Server Startup
 using mps-start command 2-6
Server Status Verification
 using mps-status command 2-9

W

Windows Interactive Error Reporting
 Disabling 1-5
 DontShowUI 1-5