MATLAB® & Simulink® Release 2009b Installation Guide for UNIX®





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www.mathworks.com

comp.soft-sys.matlab

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Installation Guide for UNIX®

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Standard UNIX Installation and Activation Procedures

This topic describes how to install and activate MathWorksTM products on systems running the UNIX[®] and Linux[®] operating systems.

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Installing MathWorks Software in a Standalone Environment

In this section...

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Step 1: Prepare to Install

Before you run the installer:

- Make sure you have your e-mail address and your MathWorks Account
 password handy. You log in to your account during installation. If you
 have multiple licenses associated with your account, know the number
 of the license you want to install.
 - If you don't have a MathWorks Account, you can create one during installation. However, to do this, you must have an *Activation Key*. An Activation Key is the unique code that identifies a license. It is used to activate the license. The Activation Key also allows licensed end users to associate their MathWorks Account with a license. Ask the administrator of the license for the Activation Key.
- Get the root password. To install the symbolic links that add the matlab command to your users' paths and to edit the system boot script to start the license manager automatically at system boot time, you need superuser

status. If you do not have superuser status, you can still install MATLAB® software, but you must specify absolute pathnames to start the software. You can also set up these links after the installation is complete.

If you do not have an Internet connection during installation, see "Installing and Activating Without an Internet Connection" on page 1-24.

If you need to perform a network server or client installation, see "Installing MathWorks Products in a Network Configuration" on page 1-37.

Step 2: Start the Installer

Insert the MathWorks DVD into the DVD drive connected to your system or download product files from the MathWorks Web site.

Note Do not move to the newly mounted DVD folder.

If you are downloading product files over the Internet, save the files to a temporary location (referred to as \$TEMP in this documentation).

Note On Linux systems, DVD drives typically mount automatically; however, the drives mount with read-only permission. You might have to change the DVD drive configuration from read-only to execute—see "Problems with Your DVD Drive" on page 2-3.

If you are installing from a DVD, execute the following command to run the installer:

```
/path_to_dvd/install &
```

If you are installing from downloaded files, extract the installer from the archive file in the \$TEMP folder. For example, on Linux systems run the following command:

```
tar -xf boot.ftp
```

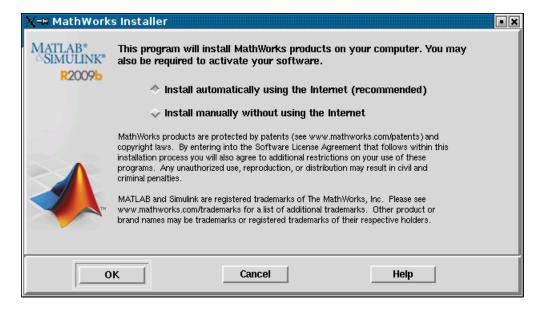
When you expand all the installer files in the \$TEMP folder, execute the appropriate command to run the MathWorks installer on your platform:

./install

Step 3: Choose Whether to Install Automatically or Manually

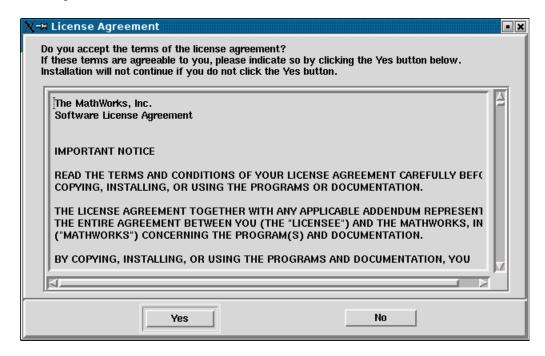
When it starts, the installer displays the following dialog box. Choose whether you want to install automatically or manually. When you install automatically, the installer contacts The MathWorks during installation to get license information. The MathWorks recommends installing automatically. If you choose to install manually, see "Installing and Activating Without an Internet Connection" on page 1-24 for step-by-step instructions.

Make your selection and click **OK** to proceed with the installation.



Step 4: Review the Software License Agreement

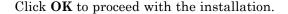
Review the software licensing agreement and, if you agree to its terms, click **Yes** to proceed with the installation.

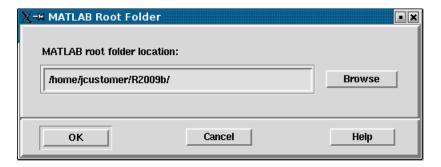


Step 5: Specify the Installation folder

Specify the name of the folder in which you want to install MathWorks products. If the folder does not exist, the installer creates it. When choosing a name for your installation folder, do not specify a name that contains an at (@) sign, the percent (%) character, a plus (+) sign, an exclamation point (!), or a dollar (\$) sign. Do not specify a name a folder named private as part of the path.

Note When upgrading an existing installation, always install the new release in a new installation folder. Each release of MathWorks products stands alone and does not require any previous release. Do not install MathWorks products over any previously released version.





Step 6: Log In to Your MathWorks Account

Enter your e-mail address and your MathWorks Account password, and click **OK** to log in to your MathWorks Account.

If you need to create an account, select the **Create a MathWorks Account** for me option and enter your e-mail address, first name, last name, and Activation Key. You must specify an Activation Key to associate your newly created account with a license. The Activation Key identifies the license you want to install. The administrator contact on the license can retrieve the key by visiting the License Center at the MathWorks Web site. Click **OK** to proceed with installation. (Because the Activation Key you entered specifies a particular license, the installer skips the next step, license selection.)



Step 7: Select the License You Want to Install

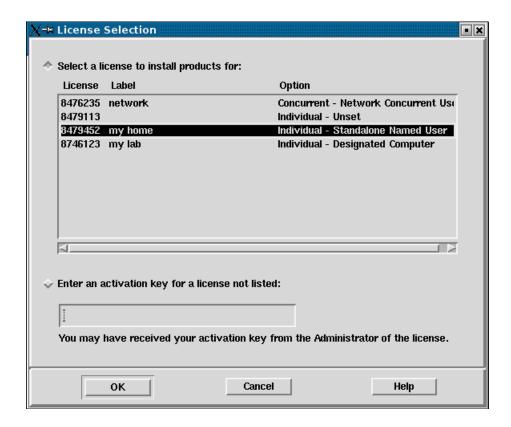
Note If you created a MathWorks Account in the previous step, specifying an Activation Key, the installer skips this step.

When you log in to your MathWorks Account, the installer displays all the licenses associated with your account. Each row contains:

- License number
- An optional descriptive text label that can help identify a license. To assign a label to a license, go to the License Center at the MathWorks Web site. See the License Center Help for instructions.
- Information identifying the license option and the activation type. If an activation type has not yet been set on the license, the word "Unset" appears.

Select the license you want to install by clicking anywhere in a row. (If the license is a network license option, see "Installing MathWorks Products in a Network Configuration" on page 1-37.)

Click **OK** to proceed with the installation.



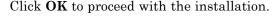
Specifying an Activation Key

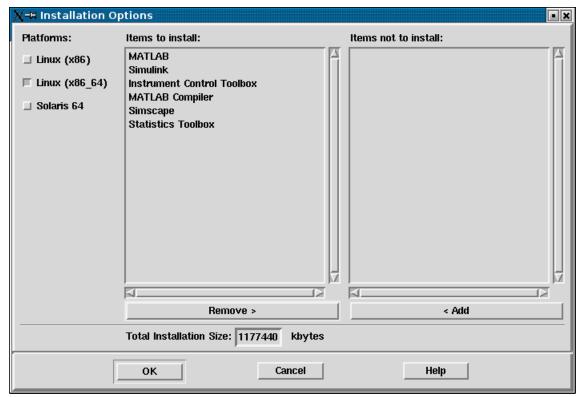
If you do not see the license you want in the list, select the **Enter an activation key for a license not listed** option and enter an Activation Key. Specifying an Activation Key enables you to install the products associated with the license, but does not associate the license with your account—that occurs when you activate the license.

Step 8: Select the Products to Install

Specify the products you want to install in the Installation Options dialog box. By default, the installer lists all the products that you are licensed to install in the **Items to install** pane. If you do not want to install an item, select it and click **Remove**. This moves the product into the **Items not to install** pane.

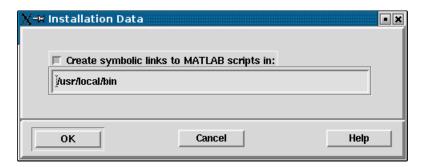
You can also choose which product binary files are installed on your computer from the **Platforms** list. By default, the installer preselects the platform on which you are running the installer. If you want to install product binary files for additional platforms, select them in the **Platforms** list.





Step 9: Specify the Location of Symbolic Links

In the Installation Data dialog box, you can specify whether you want to create symbolic links to the matlab and mex scripts. Specify a folder such as /usr/local/bin that is common to all your users' paths and click **OK** to continue with the installation.



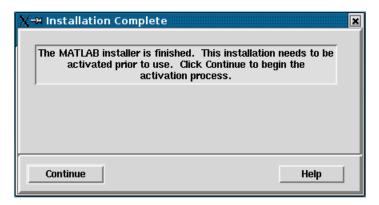
Step 10: Begin the Installation

To begin copying files onto your hard disk, click **OK**. The installer displays a dialog box indicating the progress of the installation.



Step 11: Complete the Installation

When the installation successfully completes, the installer informs you if your installation needs to be activated. While you can activate as a separate process, The MathWorks recommends activating immediately after installing. See "Activating Your Installation" on page 1-13 for step-by-step instructions.



For information about some common post-installation tasks, see "After You Install" on page 1-51.

Whether you choose to activate immediately or not, click **Continue**.

If you are going to continue on with activation, leave the MathWorks DVD mounted. If you decided to activate later, you can unmount the DVD drive and remove the DVD.

Activating Your Installation

In this section...

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- "Step 2: Log In to Your MathWorks Account" on page 1-16
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Step 1: Start the Activation Application

If you let the installer start the activation application for you, and you were already logged in to your MathWorks Account, simply click **Next** to proceed with activation. Your MathWorks Account log-in session continues into the activation process.



Starting the Activation Application Independently

If you chose not to continue with activation after installation, you can start the activation application independently. Go to the <code>matlabroot/bin</code> folder, where <code>matlabroot</code> represents the name of your MATLAB installation folder, and run the <code>activate_matlab.sh</code> script. For example:

```
cd matlabroot/bin
./activate_matlab.sh &
```

When started independently, you must choose whether to activate automatically or manually. If you are connected to the Internet, leave the **Activate automatically using the Internet** option selected and click **Next** to proceed with activation. The MathWorks recommends activating automatically. The option to activate manually is useful if you do not have an Internet connection—see "Step 11: Start the Activation Application" on page 1-33.



If your Internet connection requires a proxy server, click the **Advanced Options** button. You can enter the server name and port information in the Advanced Options dialog box, and access other activation options. See "Accessing Activation Options" on page 2-4 for more information.

Step 2: Log In to Your MathWorks Account

Note If you let the installer start the activation application, and you were logged in to your account during installation, the activation application skips this step.

Enter your e-mail address and MathWorks Account password and click **Next** to proceed with activation.

If you do not have a MathWorks Account, select the **I need to create a MathWorks Account** option and click **Next**. See "Creating a MathWorks Account" on page 1-16 for instructions.



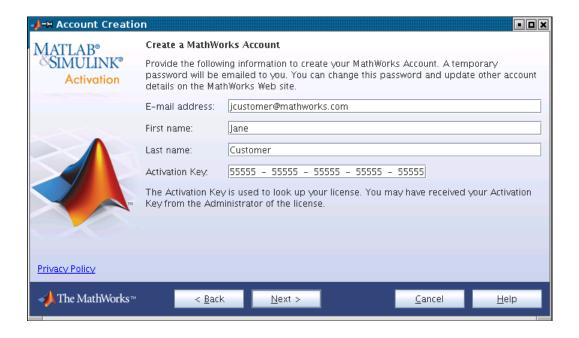
Creating a MathWorks Account

If you selected the **I need to create a MathWorks Account** option, the activation application displays the Account Creation dialog box. Provide the information required to create an account. Note that you must provide an

Activation Key to identify a license to associate with the account. Ask the administrator on your license for the Activation Key.

Click **Next** to proceed with activation.

Note Because the Activation Key identifies a license, the activation application can skip the next step, license selection. If the license specified already has the activation type set, the activation application can also skip the activation type selection step.



Step 3: Select the License You Want to Activate

Note If you continued with activation immediately after installation, the activation application assumes you want to activate the license that you just installed and skips this step. Likewise, if you created a new account in the previous step and specified an Activation Key, the activation application skips this step.

When you log in to your MathWorks Account, the activation application displays all the licenses associated with your account. Each row contains:

- License number
- An optional descriptive text label that can help identify a license. To assign a label to a license, go to the License Center at the MathWorks Web site. See the License Center Help for instructions.
- Information identifying the license option and the activation type. If an activation type has not yet been set on the license, the word "Unset" appears.

Select the license you want to activate by clicking anywhere in a row and click **Next** to proceed with the activation.



Specifying an Activation Key

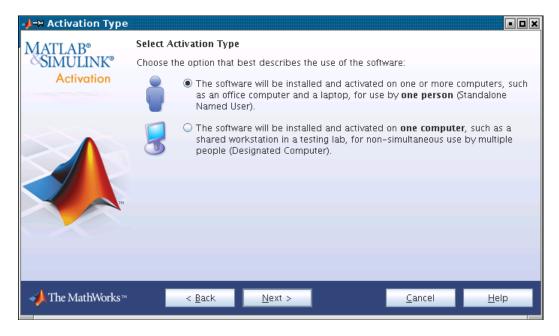
If you do not see the license you want in the list, select the **Enter an Activation Key for a license not listed** option and enter an Activation Key. Specifying an Activation Key enables you to install the products associated with the license, but does not associate the license with your account—that occurs when you activate the license.

Step 4: Choose an Activation Type

Note If the license you installed (or selected) has the activation type preset, the activation application skips this step.

Select an activation type for your license. If you want to ensure that you are the only person who can use the software, select the **Standalone Named User** option. If you want to share the installation for nonsimultaneous use by several people, choose the **Designated Computer** option.

After making your selection, click **Next** to proceed with activation.



Step 5: Specify the Login Name

Note If you picked the Designated Computer activation type for the license, the activation application skips this step; you do not need to specify a user name.

If you selected the Standalone Named User activation type, you must specify the operating system user name of the person who will use the software. The operating system user name is the ID under which a user gains access to a computer. It is also known as the computer login name. Standalone Named User activation types lock to this user name in addition to the computer host ID. Accept the default user name or enter a new one and click **Next** to proceed with activation.

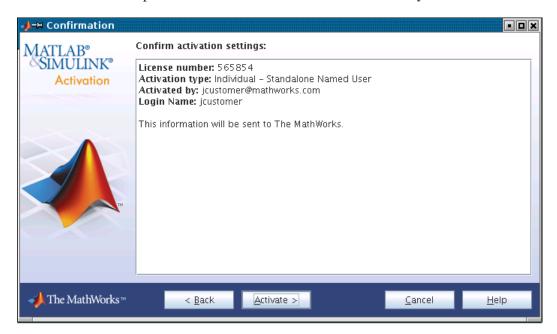
If you are the administrator of the license, you can activate the license for someone else. Select the **Someone else** option and specify the e-mail address, name, and operating system user name. When you click **Next**, the activation application looks for the user's MathWorks Account or creates a new account.



Step 6: Confirm Your Activation Information

If all the information displayed is correct, click **Activate**.

To activate an installation, The MathWorks creates a License File that is locked to the computer. If you selected the Standalone Named User activation type, The MathWorks also locks the License File to a particular user. The activation application copies this License File onto your computer. This License File enables you to run MathWorks products on your computer. The MathWorks also keeps a record of the activation in MathWorks systems.



Step 7: Complete the Activation

After activation is complete, you can run the MathWorks software on your computer. Click **Finish** to exit the activation process.



Installing and Activating Without an Internet Connection

In this section...

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Step 1: Prepare to Install

Before you run the installer:

- Make sure you have a *File Installation Key* and a License File. The File Installation Key is a code that determines which products you can install. The File Installation Key is not unique to a license. The License File identifies the products you can run. The administrator on the license can retrieve the File Installation Key and License File at the License Center at the MathWorks Web site. See the License Center Help for instructions.
- Get the root password. To install the symbolic links that add the matlab command to your users' paths and to edit the system boot script to start the MATLAB license manager automatically at system boot time, you need superuser status. If you do not have superuser status, you can still install MATLAB software, but you must specify absolute path to start the software. You can also set up these links after the installation is complete.

If you have an Internet connection, follow the instructions in "Installing MathWorks Software in a Standalone Environment" on page 1-2. The MathWorks recommends installing and activating automatically using an Internet connection.

You can use this procedure to install the software in a standalone environment and in network configurations. For detailed instructions about performing an installation in a network configuration, see "Installing MathWorks Products in a Network Configuration" on page 1-37.

Step 2: Start the Installer

Log in to the system on which you want to install MATLAB software.

Insert the MathWorks DVD into the DVD drive connected to your system or download product files from the MathWorks Web site. If your system requires that you mount the DVD drive you intend to use to do the installation, use the following instructions. If you are downloading product files over the Internet, save the files to a temporary location (referred to as \$TEMP in this documentation).

Note On Linux systems, DVD drives typically mount automatically; however, the drives mount with read-only permission. You might have to change the DVD drive configuration from read-only to execute—see "Problems with Your DVD Drive" on page 2-3.

If you are installing from a DVD, execute the following command to run the installer:

/path_to_dvd/install &

If you are installing from downloaded files, extract the installer from the archive file in the \$TEMP folder. For example, on Linux systems run the following command:

tar -xf boot.ftp

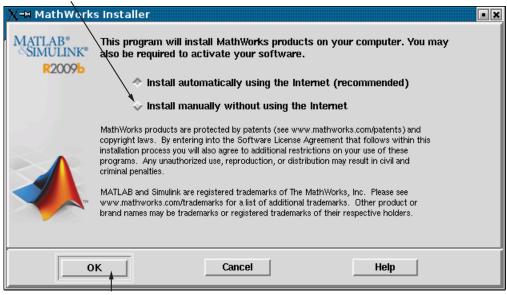
After you expand all the installer files in the \$TEMP folder, execute the appropriate command to run the installer on your platform:

./install

Step 3: Choose to Install Manually

When it starts, the installer displays the following dialog box. If you do not have an Internet connection, select the **Install manually without using the Internet** option and click **OK** to proceed with installation.

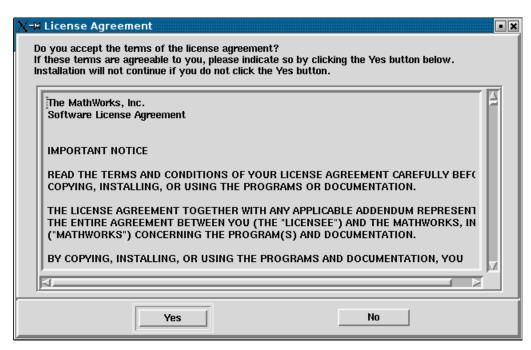
Choose to install manually.



Click OK.

Step 4: Review the License Agreement

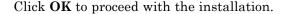
Review the software licensing agreement and, if you agree to its terms, click Yes.

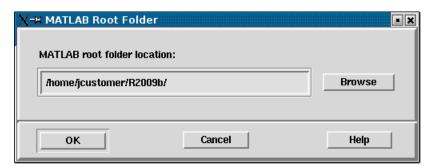


Step 5: Specify the Installation folder

Specify the name of the folder in which you want to install MathWorks products. If the folder does not exist, the installer creates it. When choosing a name for your installation folder, do not specify a name that contains an at (@) sign, the percent (%) character, a plus (+) sign, an exclamation point (!), or a dollar (\$) sign. Do not specify a folder name that includes the word private as part of the path.

Note When upgrading an existing installation, always install the new release in a new installation folder. Each release of MathWorks products stands alone and does not require any previous release. Do not install MathWorks products over any previously released version.

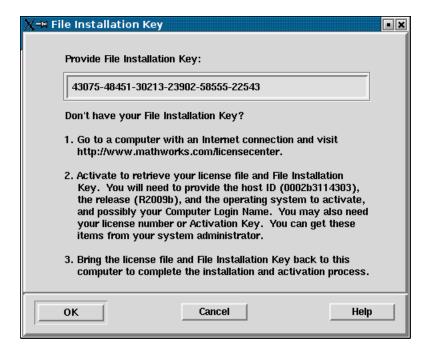




Step 6: Enter the File Installation Key

Enter your File Installation Key and click OK.

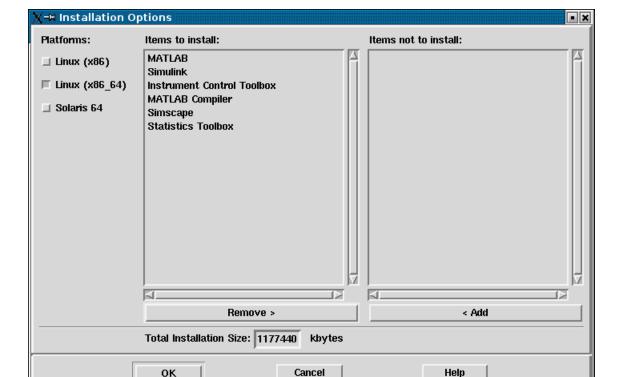
If you do not have your File Installation Key, note the host ID and release number information given in this dialog box and click **Cancel** to exit the installer. Take this information to a computer with an Internet connection and visit the License Center at the MathWorks Web site. Provide The MathWorks with this information to retrieve the File Installation Key and License File.



Step 7: Select the Products to Install

Specify the products you want to install in the Installation Options dialog box. By default, the installer lists all the products that you are licensed to install in the **Items to install** pane of this dialog box. If you do not want to install an item, select it and click **Remove**. This moves the product into the **Items not to install** pane.

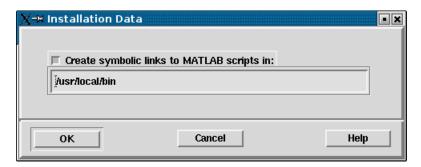
You can also choose which product binary files are installed on your computer from the **Platforms** list. By default, the installer preselects the platform on which you are running the installer. If you want to install product binary files for additional platforms, select them in the **Platforms** list.



Click **OK** to proceed with the installation.

Step 8: Specify the Location of Symbolic Links

In the Installation Data dialog box, you can specify whether you want to create symbolic links to the matlab and mex scripts. Specify a folder such as /usr/local/bin that is common to all your users' paths and click **OK** to continue with the installation.



Step 9: Begin the Installation

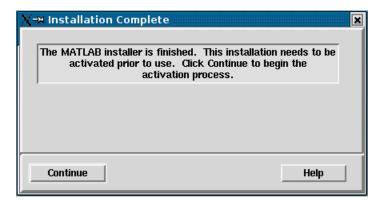
To begin copying files onto your hard disk, click **OK**. The installer displays a dialog box indicating the progress of the installation.



Step 10: Complete the Installation

When the installation successfully completes, the installer displays the Installation Complete dialog box. This dialog box gives you the option to proceed directly to activating your installation. While you can activate as a separate process, The MathWorks recommends activating immediately after installing. Click **Continue** to proceed to activation or exit the installer.

This procedure for installing and activating without an Internet connection assumes you choose to continue with the activation process at "Step 11: Start the Activation Application" on page 1-33.



For general information about some common post-installation tasks, see "After You Install" on page 1-51.

Step 11: Start the Activation Application

If you clicked **Continue** on the last installer screen, or started the activation application independently, the activation application starts. Select the **Activate manually without the Internet** option and click **Next**.

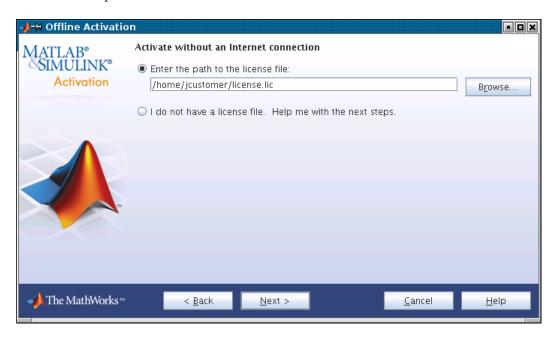


Step 12: Specify the Location of Your License File

Specify the full path of the License File associated with the installation of this license, or use the **Browse** button to find the file. The administrator on the license retrieved this License File along with the File Installation Key at the License Center.

If you do not have your License File, select the **I do not have a license file** option. See "If You Do Not Have a License File" on page 1-34 for more information.

Click **Next** to proceed with activation.



If You Do Not Have a License File

If you selected the **I** do not have a license file option, the activation application displays the License File Retrieval dialog box. Note the host ID and release number given in this dialog box (you can print it). You will need this information to get your License File.

Click **Finish** to exit the activation application. Visit the License Center at the MathWorks Web site to get your License File, and bring these items back to this computer to complete activation.



Step 13: Complete the Activation

When activation completes successfully, you can start MATLAB software on your computer. Click **Finish** to exit the activation application. If you want the activation application to start the MATLAB software as it exits, leave the **Start MATLAB** check box selected.



Installing MathWorks Products in a Network Configuration

In this section...

- "Step 1: Prepare to Install" on page 1-37
- "Step 2: Start the Installer" on page 1-38
- "Step 3: Choose Whether to Install Automatically or Manually" on page 1-39
- "Step 4: Review the Software License Agreement" on page 1-40
- "Step 5: Specify the Installation folder" on page 1-41
- "Step 6: Log In to Your MathWorks Account" on page 1-42
- "Step 7: Select the License You Want to Install" on page 1-43
- "Step 8: Specify the Products to Install" on page 1-45
- "Step 9: Specify the Location of Symbolic Links" on page 1-47
- "Step 10: Specify the Location of Your License File" on page 1-47
- "Step 11: Begin the Installation" on page 1-49
- "Step 12: Complete the Installation" on page 1-50

Step 1: Prepare to Install

Before you run the installer:

- Make sure you have an activated License File. When installing one of the network license options, you must visit the License Center at the MathWorks Web site, provide the host ID of the computer on which you will run the license manager, and retrieve an activated License File.
- Make sure you have your e-mail address and your MathWorks Account
 password handy. You will need them to log in to your account during
 installation. If you have multiple licenses associated with your account,
 know the number of the license you want to install.

If you don't have a MathWorks Account, you can create one during installation. However, to do this, you must have an *Activation Key*. An Activation Key is the unique code that identifies a license. It is used to activate the license. The Activation Key also allows licensed end users to

associate their MathWorks Account with a license. Ask the administrator of the license for the Activation Key.

• Get the root password. Superuser status is required to install the symbolic links that add the matlab command to your users' paths and to edit the system boot script to start the license manager automatically at system boot time. If you do not have superuser status, you can still install the software, but you must use absolute path to start the software. You can also set up these links after the installation is complete.

If you do not have an Internet connection during installation, see "Installing and Activating Without an Internet Connection" on page 1-24. Note that the procedure for installations of network license options contain a few additional steps.

If you need to perform an installation in a standalone environment, see "Installing MathWorks Software in a Standalone Environment" on page 1-2.

Step 2: Start the Installer

Insert the MathWorks DVD into the DVD drive connected to your system or download product files from the MathWorks Web site.

If you are downloading product files over the Internet, save the files to a temporary location (referred to as \$TEMP in this documentation).

Note On Linux systems, DVD drives typically mount automatically; however, the drives mount with read-only permission. You might have to change the DVD drive configuration from read-only to execute—see "Problems with Your DVD Drive" on page 2-3.

If you are installing from a DVD, execute the following command to run the installer:

/path_to_dvd/install &

If you are installing from downloaded files, extract the installer in the \$TEMP folder. For example, on Linux systems run the following command:

tar -xf boot.ftp

After you expand all the installer files in the \$TEMP folder, execute the appropriate command to run the installer on your platform:

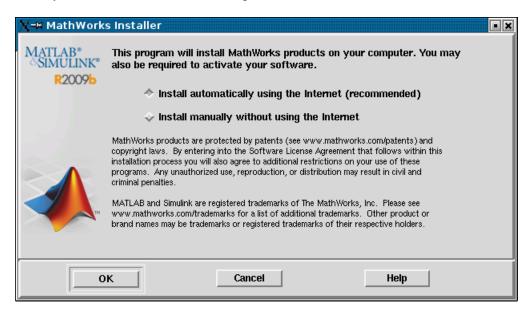
./install

Step 3: Choose Whether to Install Automatically or Manually

When it starts, the installer displays the following dialog box. Choose whether you want to install automatically or manually. When you install automatically, the installer contacts The MathWorks during installation. The MathWorks recommends installing automatically.

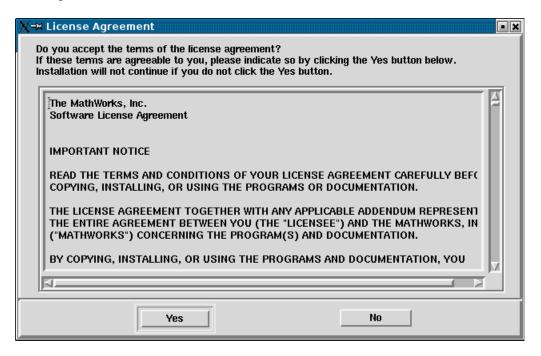
If you choose to install manually, see "Installing and Activating Without an Internet Connection" on page 1-24 for step-by-step instructions.

Make your selection and click **OK** to proceed with installation.



Step 4: Review the Software License Agreement

Review the software licensing agreement and, if you agree to its terms, click **Yes** to proceed with installation.

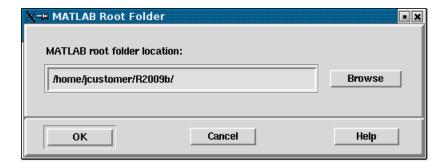


Step 5: Specify the Installation folder

Specify the name of the folder in which you want to install MathWorks products. When choosing a name for your installation folder, do not specify a name that contains an at (@) sign, the percent (%) character, a plus (+) sign, an exclamation point (!), or a dollar (\$) sign. Do not use a folder name that includes the word private as part of the path. Click **OK** to proceed with the installation.

If the folder does not exist, the installer displays a dialog box asking if you want to create it. Click **Create** to create the folder, and then click **OK** in the MATLAB Root folder dialog box.

Note When upgrading an existing installation, always install the new release in a new installation folder. Each release of MathWorks products stands alone and does not require any previous release. Do not install MathWorks products over any previously released version.



Step 6: Log In to Your MathWorks Account

Enter your e-mail address and your MathWorks Account password, and click **OK** to log in to your MathWorks Account.

If you need to create an account, select the **Create a MathWorks Account** for me option and enter your e-mail address, first name, last name, and Activation Key. You must specify an Activation Key to associate your newly created account with a license. The Activation Key identifies the license you want to install. The administrator contact on the license can retrieve the key by visiting the License Center at the MathWorks Web site. Click **OK** to proceed with installation. (Because the Activation Key you entered specifies a particular license, the installer skips the next step, license selection.)

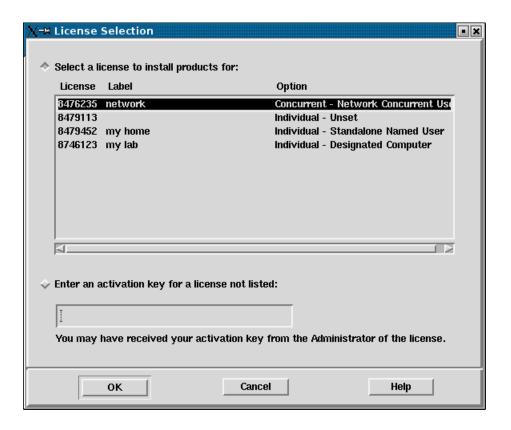


Step 7: Select the License You Want to Install

When you log in to your MathWorks Account, the installer displays all the licenses associated with your account. Each row contains:

- License number
- An optional descriptive text label that can help identify a license. To label a license, go to the License Center at the MathWorks Web site. See the License Center Help for instructions.
- Information identifying the license option and the activation type. If an activation type has not yet been set on the license, the word "Unset" appears.

Select the license you want to install from the list of licenses associated with your account. For a network configuration, select a Concurrent license from the list. Click \mathbf{OK} to proceed with the installation.



Specifying an Activation Key

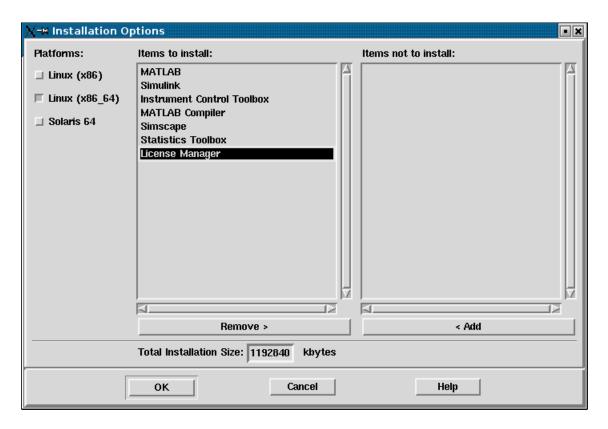
If you do not see the license you want in the list, select the **Enter an activation key for a license not listed** option and enter an Activation Key. Specifying an Activation Key enables you to install the products associated with the license, but does not associate the license with your account—that occurs when you activate the license.

Step 8: Specify the Products to Install

Specify the products you want to install in the Installation Options dialog box, and then click \mathbf{OK} to continue. Your product selection depends on your network configuration:

- If you are installing only the license manager on a server, select all the other products and click **Remove**. This moves the products to the **Items not to install** list.
- If you are installing the license manager and MathWorks products on the same server, leave all the products in the Items to install list.
- If you are installing the software on a client computer, do not install the license manager. Select the license manager in the list and click **Remove**. This moves the products to the **Items not to install** list.

See the License Administration Guide for more information about network configurations that include the license manager.



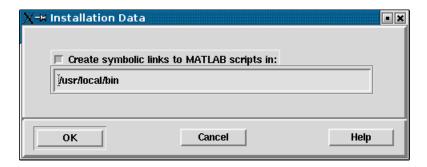
The **Platforms** column identifies which product binary files are installed. By default, the check box identifying the platform on which you are running the installer is preselected. If you want to install product binary files for additional platforms, select them in the **Platforms** column.

Note The installer might display a message box stating that one or more of your licensed products are not available on the DVD. To obtain products that have been released since the DVD was produced, visit the MathWorks Web site, www.mathworks.com, and download them. Click **Close** to continue with the installation.

Step 9: Specify the Location of Symbolic Links

If you installed MathWorks products as part of your installation, you can specify where you want to put symbolic links to the matlab and mex scripts. Specify a folder such as /usr/local/bin that is common to all your users' paths. If you only installed the license manager, the installer does not display this dialog box.

Click **OK** to continue with the installation.



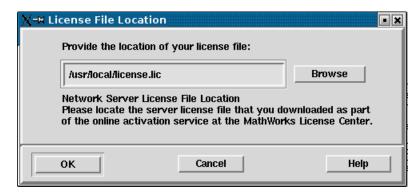
Step 10: Specify the Location of Your License File

Specify the path for the License File and click **OK**.

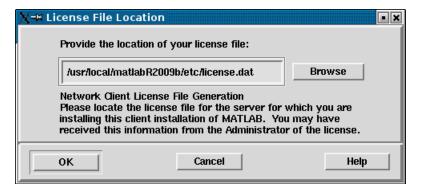
The License File you specify depends on whether you are installing the license manager on a server or installing MathWorks software on a client computer in your network configuration. (See the License Administration Guide for information about network configurations.)

Note Note that the text displayed on the dialog box changes, depending on whether or not you are installing the license manager.

• If you are installing the license manager, specify the name of the License File you received from The MathWorks.



• If you are *not* installing the license manager, specify the name of the License File on your license server—see "License File Processing on the Server and Client" on page 1-48 for more information.



License File Processing on the Server and Client

During a server installation, where you install the license manager, you must specify the location of the License File you received from The MathWorks. The installer performs the following processing of this License File:

• Makes a copy of your License File, naming it license.dat, and puts it in the /etc folder of your MATLAB installation folder.

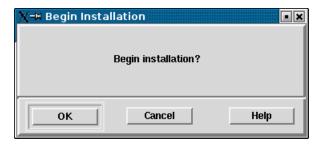
• Adds SERVER and DAEMON lines to the file. The SERVER line identifies the server (host and port number). The DAEMON line identifies the name of the license manager daemon (matlabroot/etc/lm_matlab)

During a client installation, where you do not install the license manager, you must specify the location of the License File that the installer processed during installation of the license manager on the server. The installer performs this processing of the License File on client systems:

- Makes a copy of the License File on the server, naming it network.lic, and puts the file in the /licenses folder in your MATLAB client installation folder.
- Deletes all the product information and the DAEMON line in the License File, leaving the SERVER line. Adds the statement USE_SERVER to the file.

Step 11: Begin the Installation

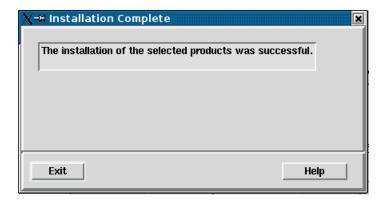
The installer displays the Begin Installation dialog box. Click **OK** to begin the installation.



After you click **OK**, the installer displays a dialog box indicating the progress of the installation.

Step 12: Complete the Installation

After the installation is complete, the installer displays the Installation Complete dialog box. For network installations, you do not need to activate the software as a separate process after installation. The License File you specified during installation was already activated by The MathWorks. Click **Exit** to dismiss the installer.



If you installed the license manager, you must start it. The license manager must be running to start the MATLAB software. See "After You Install" on page 1-51 for more information.

After You Install

In this section...

"Starting the License Manager" on page 1-51

"Starting the MATLAB Program" on page 1-55

"Specifying Print Options" on page 1-56

"Specifying Documentation Viewing Options" on page 1-56

"Specifying MATLAB Startup Options" on page 1-56

"Updating Your Licenses" on page 1-57

Note For more information about setting up network configurations, see the License Administration Guide.

Starting the License Manager

The license manager must be running to start MATLAB software. This section describes how to start the license manager at the command line and automatically at boot time.

- "At the Command Line" on page 1-51
- "At Boot Time" on page 1-52

At the Command Line

If the license manager daemons are not running, you can start them by executing the lmstart script (located in the matlabroot/etc folder). The lmstart script stops any currently running daemons and starts new ones.

Note A user other than root should run the lmstart script because it is a security risk to run any program as root that does not require root permissions. The license manager (lmgrd) does not require root permissions. If you must start the license manager as root, use the UNIX su command to start lmgrd as a nonprivileged user:

su username -c "lmgrd -c license_file -l /var/tmp/LM_TMW.log"

where username is a nonprivileged user.

At Boot Time

You can start the license manager automatically at boot time by editing the system boot script. The MathWorks provides the set of Bourne shell commands required to start the license manager on each UNIX system. These boot script files are in the matlabroot/etc folder. Each file has the name flexnet.boot.system, where system identifies the system type.

For example, the following is the contents of the file flexnet.boot.linux, which contains the boot script commands required to start the license manager on Linux systems. When you add these commands to a boot script, you must replace the word *username* that is used as an argument to the /etc/lmboot_TMW command in the script (highlighted below) with an actual user name (login name). Do not specify the name associated with superuser. For security reasons the license manager daemons cannot be owned by superuser.

```
#!/bin/sh
case "$1" in
   start)
        if [ -f /etc/lmboot TMW ]; then
            /etc/lmboot TMW -u username && echo 'MATLAB lmgrd'
        fi
   stop)
        if
             -f /etc/lmdown_TMW ]; then
                 /etc/lmdown TMW > /dev/null 2>&1
        fi
        ;;
       echo "Usage: $0 {start|stop}"
       exit 1
       ;;
esac
exit 0
```

The following sections describe how to insert these Bourne shell code fragments for all supported platforms:

- "Editing the Boot Script on Linux Systems" on page 1-53
- "Editing the Boot Script on Solaris Systems" on page 1-55

Editing the Boot Script on Linux Systems. To create the boot script on Linux systems, make a copy of the flexnet.boot.linux file and edit the copy as described in the following procedure. You can use the same procedure to create the boot script on both 32-bit and 64-bit Linux systems.

- 1 Log in as root.
- **2** Create the following links, if they do not already exist.

```
ln -s matlabroot/etc/lmboot /etc/lmboot_TMW
ln -s matlabroot/etc/lmdown /etc/lmdown TMW
```

3 Make a copy of the appropriate boot script file.

The following table lists the appropriate commands for supported Linux distributions for both 32-bit and 64-bit systems.

Distribution	Command
Debian or SUSE	<pre>cp matlabroot/etc/flexnet.boot.linux /etc/init.d/flexnet</pre>
Red Hat or Fedora Core	<pre>cp matlabroot/etc/flexnet.boot.linux /etc/rc.d/init.d/flexnet</pre>

- **4** Edit the copy you made of the boot script file, flexnet, replacing the *username* argument to the lmboot_TMW script in the code with a valid user name, other than root. For security reasons the license manager daemons cannot be owned by superuser.
- 5 Look in /etc/inittab for the default run level.
- **6** Create a link in the rc folder associated with the default run level. The following table lists the appropriate commands for supported Linux distributions for both 32-bit and 64-bit systems, using run level 5 to illustrate.

Distribution	Command
Debian	cd /etc/rc5.d; ln -s/init.d/flexnet S90flexnet
Red Hat or Fedora Core	cd /etc/rc.d/rc5.d; ln -s/init.d/flexnet S90flexnet
SUSE	cd /etc/init.d/rc5.d; ln -s/flexnet S90flexnet

Editing the Boot Script on Solaris™ Systems.

- 1 Log in as root.
- **2** Create the following links, if they do not already exist.

```
ln -s matlabroot/etc/lmboot /etc/lmboot_TMW
ln -s matlabroot/etc/lmdown /etc/lmdown TMW
```

3 Copy the boot script code from *matlabroot*/etc/flexnet.boot.sol2 and paste it at the beginning of the file /etc/init.d/lmgrd.

If /etc/init.d/lmgrd does not exist, create it, using these commands.

```
cd matlabroot/etc
cp flexnet.boot.sol2 /etc/init.d/lmgrd
chmod 555 /etc/init.d/lmgrd
```

- 4 Edit the copy you made of the boot script file, /etc/init.d/lmgrd, replacing the username argument to the lmboot_TMW script in the code with a valid user name, other than root.
- 5 Create the file (link) /etc/rc3.d/S171mgrd, if it does not exist, using this code.

```
cd /etc/rc3.d
ln -s ../init.d/lmgrd S17lmgrd
```

Starting the MATLAB Program

Start the MATLAB program by entering the matlab command at the system prompt.

If you did not set up symbolic links during the installation procedure ("Step 9: Specify the Location of Symbolic Links" on page 1-11), you must enter the full pathname, <code>matlabroot/bin/matlab</code>, where <code>matlabroot</code> is the name of your MATLAB installation folder.

If you have trouble starting the software, see "Problems Starting the MATLAB Program After an Installation" on page 2-7 for some troubleshooting tips.

Specifying Print Options

MATLAB software includes default settings for the various options to the print command. If you want to change the site-wide default settings for printing device type and location, you can edit the M-file printopt.m, located in the folder matlabroot/toolbox/local. This file contains options used by the MATLAB print command.

Specifying Documentation Viewing Options

You can specify the Web browser to use with MATLAB software by editing the docopt.m M-file, located in the matlabroot/toolbox/local folder. The MATLAB web function uses the docopt.m file when you specify the -Browser option. It also specifies the browser to use for links to external Web sites from the MATLAB Help browser and from Web menu items.

Specifying MATLAB Startup Options

To specify startup welcome messages, default definitions, or any MATLAB expressions that you want executed each time a user starts MATLAB software, edit the matlabro.m M-file in matlabroot/toolbox/local. The MATLAB software executes this file automatically each time it starts.

If you do not have write access to matlabrc.m, you can include startup messages, definitions, and MATLAB expressions in a file called startup.m and store this file in the top-level MATLAB installation folder. Use this file to specify the startup behavior of your own MATLAB installation.

Updating Your Licenses

Throughout the term of your license, your MATLAB installation periodically contacts The MathWorks to verify that your license is up-to-date. If your license is up-to-date, the validation process is transparent. If it determines that you need to update your license, the validation process displays a dialog box giving you the option to update your license. Validation updates expiring licenses and License Files with product configuration changes. (You can also check for License File updates at any time by selecting **Help > Update Current Licenses** from the MATLAB desktop.)

The administrator contact on a license can modify validation settings for the license at the License Center at the MathWorks Web site. See the License Center Help for more information.

Deactivating and Removing a MATLAB Installation

In this section...

"Deactivating a License" on page 1-58

"Removing a MATLAB Installation" on page 1-63

Deactivating a License

Deactivating a license renders the MathWorks software unusable on a particular computer. Deactivation can be a useful way to manage usage of the software on multiple computers. For example, if you want to install and activate the software on a new computer, and you've already performed all the activations allowed by your license, you can deactivate one of your existing installations to enable activation on your new computer.

The deactivation process has two parts: the license must be deactivated on your computer and must also be deactivated in MathWorks systems. If you have Internet connectivity, the MathWorks deactivation application can take care of both parts of the process. If you do not have Internet connectivity, the deactivation application disables the software on your computer and gives you a *deactivation string*. To complete the deactivation process, you must visit the MathWorks Web site and enter the deactivation string. When you deactivate a license, you deactivate all the installations of that license on a particular computer.

Note Deactivating a license and removing the software are separate activities. You can deactivate a license without removing the software from your computer. When you remove a MATLAB installation, you remove the deactivation application, so it is best to deactivate before removing your installation. For more information about removing an installation, see "Removing a MATLAB Installation" on page 1-63.

To deactivate a license on your computer, follow this procedure:

1 Start the deactivation application. Navigate to the matlabroot/bin folder and run the deactivate_matlab.sh script, where matlabroot represents your MATLAB installation folder.

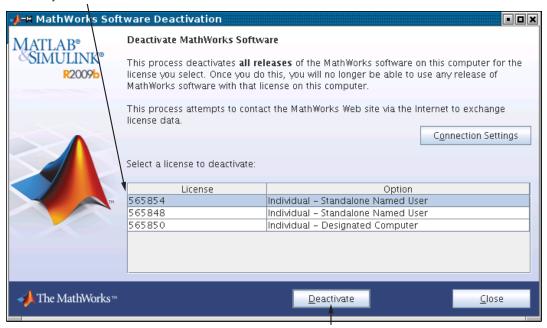
```
cd matlabroot/bin
./deactivate matlab.sh
```

You can also deactivate a MATLAB installation by selecting **Help > Licensing > Deactivate Software** on the MATLAB desktop.

2 Select the license that you want to deactivate and click **Deactivate**.

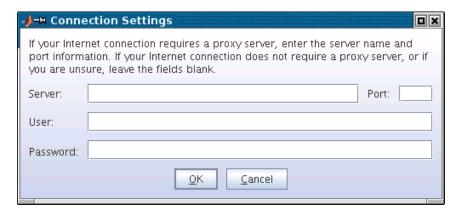
When the deactivation application starts, it displays the licenses you currently have installed and activated on your system. If you start this from within MATLAB, the license you are using is preselected.

Select the license that you want to deactivate.

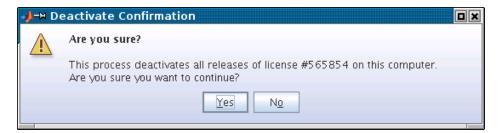


Click Deactivate.

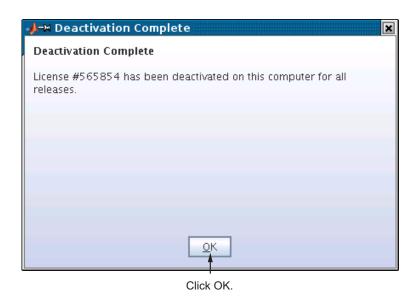
If your Internet connection requires a proxy server, click the **Connection Settings** button and enter the server name and port information. Click **OK** to return to the MathWorks Software Deactivation dialog box.



3 Confirm the deactivation and click **Yes**.



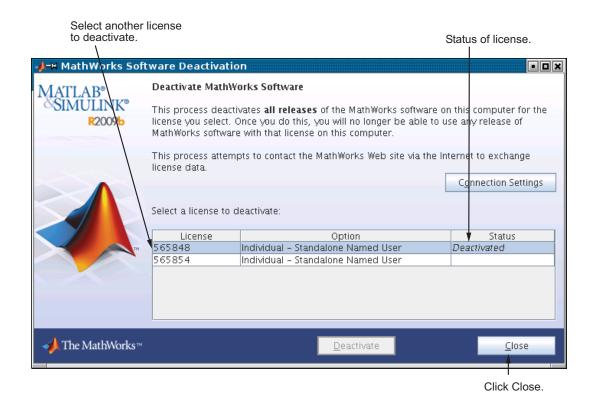
4 If the deactivation application can deactivate the license on your computer and in MathWorks systems, it displays the Deactivation Complete dialog box. Click **OK** to return to the MathWorks Software Deactivation dialog box, where you can choose to deactivate other licenses.



If the deactivation application can deactivate the license on your computer but not in MathWorks systems, it displays the Deactivation Next Steps dialog box. This dialog box contains the deactivation string. To complete deactivation, you must go to the MathWorks Web site, log in to your account, and enter the deactivation string. See the License Center help for more information. Click **OK** to return to the MathWorks Software Deactivation dialog box.



5 Select another license to deactivate and click **Deactivate**, and repeat the deactivation procedure. After you deactivate a license, the MathWorks Software Deactivation dialog box displays an additional column listing the status of the license. If you do not want to deactivate another license, click **Close** to exit the deactivation application.



Removing a MATLAB Installation

Note Removing the software and deactivating a license are separate activities. You can deactivate a license without removing the software from your computer. When you remove a MATLAB installation, you remove the deactivation application, so it is best to deactivate before removing your installation. For more information about deactivating software, see "Deactivating a License" on page 1-58.

To remove a MATLAB installation from your computer, enter this command

rm -rf matlabroot

where <code>matlabroot</code> represents the name of your top-level MATLAB installation folder. Make sure to exit the MATLAB program and stop the license manager before removing a MATLAB installation. You can use the <code>lmdown</code> command to stop the license manager. You can find <code>lmdown</code>, and other license management utilities, in the <code>matlabroot/etc</code> folder.

System Requirements

In this section...

"Solaris" on page 1-65

"Linux" on page 1-66

Note For the most up-to-date information, view the system requirements page at the MathWorks Web site, www.mathworks.com.

Solaris

The following system configurations are supported.

64-Bit MathWorks Products

Operating System	Processors	Disk Space	RAM
Solaris 10	UltraSPARC	$700~\mathrm{MB}$	1024 MB
Requires all recommended patches.		(MATLAB only)	(At least 2048 MB recommended)

Graphics

• 24-bit graphics display for Sun Solaris

License Management

- Some license types require a license server running FLEXnet 11.6, which is provided by the MathWorks installer.
- TCP/IP is required on all platforms when using a license server.

Linux

32-Bit MathWorks Products

Operating System	Processors	Disk Space	RAM
Debian 4.0 and above	Intel® Pentium 4 and above	500 MB	$512~\mathrm{MB}$
Red Hat Enterprise Linux, V.4 and above	Intel Celeron **	(MATLAB only)	(At least 1024 MB recommended)
OpenSuSE 9.3 and	Intel Xeon		,
above	Intel Core		
Ubuntu 8 and above	AMD Athlon™ 64**		
Other distributions*	AMD® Opteron		
	AMD Sempron**		

64-Bit MathWorks Products

Operating System	Processors	Disk Space	RAM
Debian 4.0 and above	Intel Pentium (Pentium 4	500 MB	1024 MB
Red Hat Enterprise	and above)	(MATLAB only)	(At least 2048 MB recommended)
Linux, V.4 and above	Intel Celeron **		
OpenSuSE 9.3 and above	Intel Xeon		
	Intel Core		
Ubuntu 8 and above	AMD64		
Other distributions*			

^{*} For any other 32-bit or 64-bit Linux distribution not explicitly listed above, R2009b requires the distribution to be built using Kernel 2.4.x or 2.6.x and glibc (glibc6) 2.3.4 and above.

^{**} Processor must support SSE2 instruction set.

Graphics

- (SunTM) 24-bit graphics display for Sun Solaris
- (Linux) 16-, 24-, 32-bit OpenGL® cable graphics adaptor

License Management

- Some license types require a license server running FLEXnet® 11.6.1, which is provided by the MathWorks installer.
- $\bullet\,$ TCP/IP, on all platforms when using a license server.

Troubleshooting

This topic provides information that can help you solve common problems that you might encounter installing MathWorks software on a UNIX system.

- "Problems During Installation" on page 2-2
- "Problems Starting the MATLAB Program After an Installation" on page 2-7
- "Getting Help with License Manager Error Messages" on page 2-12

If you cannot find a description here that matches your problem, check the Release Notes documentation that you received with your products. Release notes contain the most up-to-date information available about products and installation procedures. To get additional installation troubleshooting information, visit the Support page at the MathWorks Web site and click **Activation and Installation Troubleshooting**.

Problems During Installation

In this section...

"Problems with File Permissions" on page 2-2

"Problems Opening the Display" on page 2-3

"Problems with a Host ID Mismatch" on page 2-3

"Problems with Your DVD Drive" on page 2-3

"Accessing Activation Options" on page 2-4

Note If you can't find an answer to your problem here, go to the Support page at the MathWorks Web site and click **Installation Troubleshooting**. There you can search for solutions and technical notes that might help.

Problems with File Permissions

The installer must have write access to the installation directory. If the installer cannot write to the installation directory, it displays an error message.

To continue with the installation, dismiss the error message dialog box and use the chmod command at the UNIX prompt to change the permission setting of the installation directory. Your file mode creation mask (also known as your user mask) controls the default permissions assigned to new files and directories. You can use the umask command to change this default.

The suggested file permissions are read, write, and execute permission for the user, and read and execute permission for the group and the world (other), represented in a UNIX directory listing as

drwxr-xr-x

The following example uses chmod to set these permissions on a directory.

chmod 755 matlab

To provide complete access to users, group, and the world, specify the value 777.

Problems Opening the Display

If, after starting OpenWindows or Motif, the installation program outputs the Can't open display error message, enter the following command at the UNIX prompt:

xhost +x

Then restart the installer.

Problems with a Host ID Mismatch

If the host ID in the comment line of your License File does not match the host ID of the system on which you are performing the installation, the installer displays the following error message on your screen:

Host ID in License File Doesn't Match Host ID of System

This typically indicates that you are using the wrong License File for this system. You can continue with the installation, but you will not be able to start the MATLAB program.

Problems with Your DVD Drive

To diagnose a problem with a DVD drive:

- Verify that the device is mounted correctly.
- Verify that the DVD device file has the correct read and execute permissions. For example, on Linux systems, DVD drives have read-only permission by default. To check a device's permissions, use the UNIX command:

ls -1 device

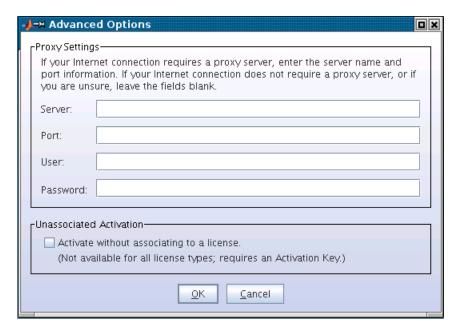
where *device* is the device name for your DVD drive. To change permissions, log in as superuser and run the UNIX command:

chmod 555 device

Accessing Activation Options

Specifying Proxy Server Connection Settings

If your Internet connection requires a proxy server, click the **Advanced Options** button on the first dialog box of the activation application. You can enter the server name, port, and password in the Advanced Options dialog box. The MathWorks supports several types of proxy configurations: Basic authentication, Digest authentication, and NTLM authentication.

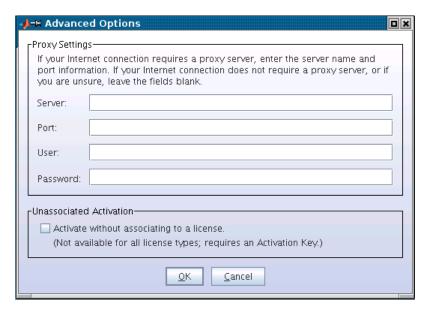


Activating Without a MathWorks Account

While every user can benefit from having a MathWorks Account, it is possible to install and run MathWorks software without one. For example, at some sites, some users may not be able to create an account for security reasons.

To activate without providing MathWorks Account information, follow this procedure.

- 1 Start the installer. On the first dialog box, select the install manually without using the Internet option. You will need a File Installation Key. (See "Installing and Activating Without an Internet Connection" on page 1-24 for complete instructions.)
- **2** When the installer finishes installation and displays the Installation Complete dialog box, leave the **Activate MATLAB** option selected and click **Next**.
- **3** On the first dialog box displayed by the activation application:
 - Choose **Activate automatically using the Internet**. To install and activate without associating with a MathWorks Account, you must use the Internet.
 - Click **Advanced Options**. In the Advanced Options dialog box, select the **Activate without associating to a license** option and click **OK**.



• When you return to the first activation dialog box, click **Next**.

4 Enter an Activation Key in the Activation Key dialog box and click Next. Because you are not logged into a MathWorks Account, you must enter an Activation Key to identify a license.

Note The only activation type available for unassociated activation is Designated Computer.

5 Click Activate.

Problems Starting the MATLAB Program After an Installation

After a successful installation, you may encounter problems starting the MATLAB program. Many of these problems involve the license manager used by the MathWorks products.

To resolve this type of problem, follow these suggestions, in the order specified:

- 1 Take note of the error message that is displayed. The error message text can often provide information that can help you resolve the problem. (See "Getting Help with License Manager Error Messages" on page 2-12 to learn how to get information about possible solutions for each error message.)
- 2 Check the license manager log file for error messages and take appropriate corrective action. See "Viewing the License Manager Log File" on page 2-8 for more information. The installer also creates a log file each time it is run. The installer names the file install_matlab.out and puts the file in your top-level installation directory.
- **3** Make sure that the license manager daemons are running, if your installation requires the license manager. See "Checking the Status of the License Manager Daemons" on page 2-8.
- **4** Verify that your client workstation can connect to the license manager over the network, if your installation requires the license manager. See "Checking the Network Connection" on page 2-9.
- **5** Check the other common startup problems described in "Checking Other Startup Problems" on page 2-10.

If these troubleshooting steps do not resolve the problem you are experiencing, execute the script lmdebug in the <code>matlabroot/etc</code> directory and send its diagnostic results to the MathWorks Technical Support department. If you do not have e-mail access, fax the results to The MathWorks at the number listed below. For fax reports, it is also helpful to include

- The exact error message(s) received
- A copy of your License File

To contact MathWorks Technical Support, use this form: http://www.mathworks.com/contact TS.html.

Viewing the License Manager Log File

The file /var/tmp/lm_TMW.log contains a log of all license activity. The license manager appends a new entry to the log each time a license transaction occurs. For help interpreting error messages and suggested remedies to common errors, refer to the section "Getting Help with License Manager Error Messages" on page 2-12. The following sections cover these additional log file topics:

- "Specifying the Name of the License Manager Log File" on page 2-8
- "Monitoring the Growth of the License Manager Log File" on page 2-8

Specifying the Name of the License Manager Log File

To change the default directory where the log file is stored, specify the -1 option with the lmstart script, as follows:

lmstart -1 /home/username/lmlogs/mylogfile.log

Monitoring the Growth of the License Manager Log File

The license manager log file can grow to be quite large. To conserve disk space, check the size of the log file periodically and delete information from the file to reduce its size. You can also schedule a job (using the UNIX cron command) that regularly compresses or deletes log files older than a specified date (a process called rotating log files).

Checking the Status of the License Manager Daemons

The license manager must be running before you can start the MATLAB program. To determine whether the license manager daemons are operating, run the lmstat command on the license server.

```
cd matlabroot/etc
lmstat -a
```

You can also run the following UNIX command

```
ps -ef | grep lm
```

Check the output of these commands to determine if both the license manager daemon (lmgrd or lm_TMW.ld) and the vendor daemon (MLM) are running.

Starting the License Manager Daemons

If either the license manager or vendor daemon is not running, restart the daemons by running the lmstart script, located in the matlabroot/etc directory.

Removing Duplicate Daemons

You can only run one MLM daemon. To remove duplicate MLM daemons, log in as superuser, and then execute the following command:

```
kill pid of daemon
```

where pid of daemon is the process ID of the daemon.

Checking the Network Connection

If either the license server daemon or vendor daemon is not running on your local computer, but is running correctly on the license server, the problem is usually caused by network software. The network software is either not running correctly or is not configured correctly. Verify that your client workstation can connect to the license manager daemons by executing the following commands on your client workstation (not the server).

```
cd matlabroot/etc
lmstat -a
```

To learn how to get help with a particular error message, see "Getting Help with License Manager Error Messages" on page 2-12. In addition, you may need to contact your system administrator or system vendor to resolve the problem.

Checking Other Startup Problems

- "Changes to License File Unread by License Manager" on page 2-10
- "Can't Find License File" on page 2-10
- "The MATLAB Program Is Slow Starting" on page 2-10
- "License Key Unusable on Crashed Node" on page 2-11

Changes to License File Unread by License Manager

If you change the License File, you must restart the license manager using matlabroot/etc/lmstart.

The lmstart script calls the lmdown script to shut down the license manager daemon. Sometimes the lmdown script does not succeed at its task. An effective way to shut down the license manager daemons is to use the UNIX ps command to check for running processes, and then terminate them manually using the UNIX kill command. See "Checking the Status of the License Manager Daemons" on page 2-8 for more information.

Can't Find License File

The MATLAB program will fail at startup if it cannot find the License File. The installer looks for the License File in the matlabroot/etc directory or at the location specified in the environment variable LM_LICENSE_FILE or MLM LICENSE FILE.

The MATLAB Program Is Slow Starting

The MATLAB program can take several minutes to start up if one of the entries in the LM_LICENSE_FILE environment variable on your system is set to a nonexistent license server or a license server that does not have a license manager running on it.

To work around this issue, try any of the following:

- \bullet Remove the faulty entries from the value of the LM_LICENSE_FILE variable.
- Add the location of your License File at the beginning of the list of paths in the LM LICENSE FILE environment variable.

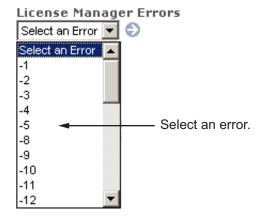
- Clear the LM_LICENSE_FILE variable. Note, however, that this option could impact other applications running on your system. MATLAB software does not require this variable, but other applications that use FLEXnet licensing often set it.
- Remove the LM_LICENSE_FILE variable and use the vendor-specific version environment variable for the MathWorks vendor daemon,
 MLM_LICENSE_FILE, and for other vendor daemons used at your site. The MATLAB vendor-specific environment variable only affects products from The MathWorks.
- Specify the name of the License File when starting MATLAB software by using the -c option to the matlab command. MATLAB software ignores the LM_LICENSE_FILE variable when this option is specified.

License Key Unusable on Crashed Node

When the node on which the MATLAB program is running crashes, the license manager should release the license key after about 2 hours. If the key is not released, use <code>matlabroot/etc/lmremove</code> to release it manually. The <code>lmremove</code> script allows you to remove a single user's license for a specified feature and return the license to the pool of available licenses without having to restart the license manager.

Getting Help with License Manager Error Messages

When a problem occurs, the license manager displays an error message in a window on your display and also writes the message to the FLEXNET licensing log file, /var/tmp/lm_TMW.log. Read the error message carefully; it provides information that can help solve the problem. For more complete diagnostic information about an error message, visit the Support page at the MathWorks Web site (www.mathworks.com) and click Installation Troubleshooting. On this page, you can search the support database for solutions by license manager error number or you can select the error number from the License Manager Errors list.



You can also get information about license manager error messages in the *FLEXnet Licensing End User Manual*, available in PDF format in *matlabroot*/etc/enduser.pdf or at the Acresso Corporation Web site, www.acresso.com.

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