

Installation and Licensing

License Administration Guide



MATLAB® & SIMULINK®

R2021b



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License Administration Guide

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Licensing Overview

- “Audience” on page 1-2
- “Master Licenses” on page 1-3

Audience

This guide contains instructions for performing tasks concerning the installation and licensing of MathWorks® products. For some procedures, you must be an administrator on the license. To learn if you are an administrator on a license, go to License Center on the MathWorks website.

See Also

Related Examples

- “Master Licenses” on page 1-3
- “Administering Individual Licenses”
- “Administering Designated Computer Licenses”
- “Administering Network Named User Licenses”
- “Borrow Licenses” on page 7-2

Master Licenses

What Is a Master License?

In MathWorks software licensing, all your licenses fall under a single Master License. A Master License enables you to organize MathWorks licenses for easy administration and renewal. A Master License has these characteristics:

- Can have one or multiple licenses, each of which can have different license options.
- Can have one administrator or multiple administrators, each of whom can centrally manage all licenses within a Master License.

Benefits of a Master License

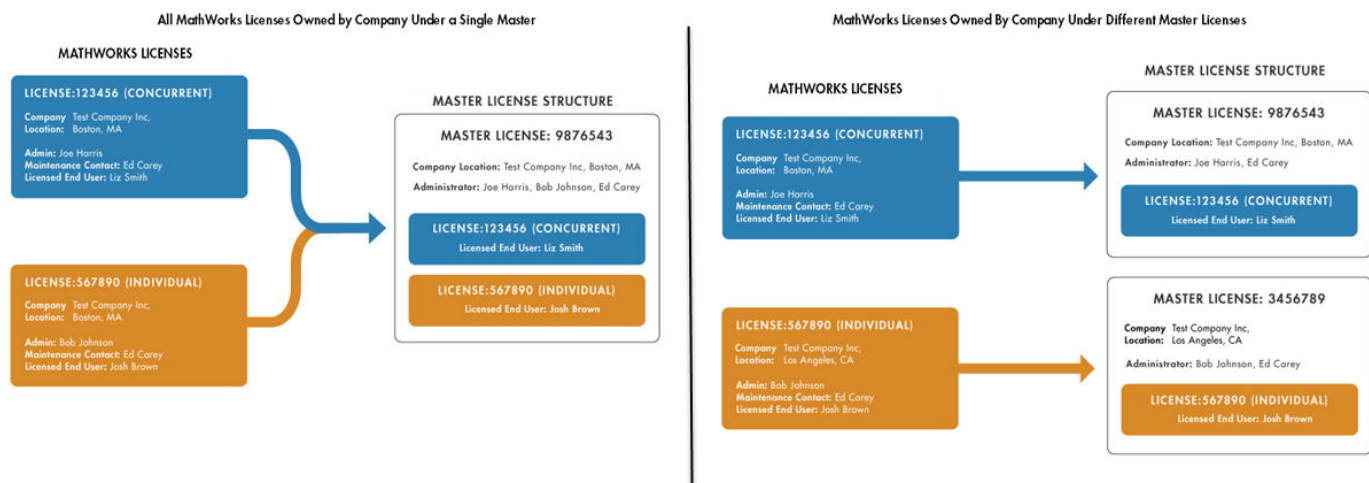
A Master License:

- Presents a summarized view of all products across multiple licenses.
- Provides a single Software Maintenance Service renewal for all licenses within the Master License.
- Offers flexibility for how you prefer to organize your licenses.

Master License Organization

You can choose to organize all your licenses under a single Master License or have multiple separate Master Licenses (some restrictions may apply; contact Customer Support to find out more about your Master License). Your choice depends on your preference for centralized administration, purchasing, and renewal cycle.

- A Master License provides a single Software Maintenance Service renewal for all licenses within the Master License. If you want to receive a single renewal quote, put all your licenses in one Master License.
- Multiple Master Licenses can accommodate multiple budgetary or purchasing cycles, confine administrators access to only their licenses, and distinguish between groups of licenses such as those for different departments.



To access your Master License, go to the License Center.

See Also

More About

- “Individual License Administration” on page 2-2
- “Designated Computer License Administration” on page 3-2
- “Network Named User License Administration” on page 4-2
- “Concurrent License Administration” on page 5-2

Administering Individual Licenses

Individual License Administration

You can install and run the software on multiple computers. Each installation is restricted for use by a particular computer and a particular user name.

You can install MathWorks products on individual computers in one of two ways:

- **Standard installation** — You will need a MathWorks Account for standard online installation. Follow the instructions in “Install Products Using Internet Connection” .
- **Offline installation (install with a File Installation Key)**— You will need the following:
 - A MathWorks Account to retrieve the license file and File Installation Key associated with the license from the License Center, and
 - An Internet connection to download the installer and product installation files, which you will then take to the offline machine.

Follow the instructions at “Download Products Without Installing” and “Install Products Using File Installation Key”.

See Also

Related Examples

- “Install Products”
- “Manage Products”
- “Update Your License”

External Websites

- License Center

Administering Designated Computer Licenses

Designated Computer License Administration

A Designated Computer License authorizes you to install and run MathWorks software on only one computer. The installation is restricted for use to a host ID that identifies a particular computer, but not a particular user. Any number of people can log in and use the software, but not simultaneously.

To install MathWorks products on an Designated Computer License, run the MathWorks product installer. During installation, you log in to your MathWorks Account, select the license that you want to install, and provide the information requested by the other installer dialog boxes. The installer determines which products to install based on the license you specify.

You can install MathWorks products on individual computers in one of two ways:

- **Standard installation** — You will need a MathWorks Account for standard online installation. Follow the instructions in “Install Products Using Internet Connection” .
- **Offline installation (install with a File Installation Key)**— You will need the following:
 - A MathWorks Account to retrieve the license file and the File Installation Key associated with the license. The File Installation Key identifies the products you can install. The Administrator on the license can retrieve the File Installation Key from the License Center.
 - An Internet connection to download the installer and product installation files, which you will then take to the offline machine.

Follow the instructions at “Download Products Without Installing” and “Install Products Using File Installation Key”.

See Also

Related Examples

- “Update Your License”
- “Install Products”
- “Manage Products”

External Websites

- License Center

Administering Network Named User Licenses

Network Named User License Administration

Network Named User Licensing

A Network Named User license authorizes a specified number of Named Users to install and run MathWorks products over a network, administered under a single license. The list of authorized users must be specified by their MathWorks user name. A Network Named User license can include multiple products, each with the same or different licensed user count. This type of license requires a license server.

As the Administrator of a Network Named User license, you have two primary goals:

- Setting up an installation that optimizes accessibility to the products. See “Install License Manager on License Server”.
- Ensuring that only authorized users have access to the products. See “Set Up Named User Licensing” on page 4-2.

Set Up Named User Licensing

How to Specify Authorized Users

With Network Named User licenses, MathWorks uses an options file for the network license manager to identify the specific Named Users to whom you have assigned right-to-use privileges. The options file is a text file that contains option statements. An option statement begins with a keyword that identifies the option, such as `RESERVE`, `INCLUDE`, `EXCLUDE`, `GROUP`, or `HOST_GROUP`.

Note Do not confuse your license file with your network license manager options file. The license file contains the encrypted passcodes for each product you are licensed to install and run. The network license manager options file is a text file that contains license manager option statements.

If you have a Network Named User license, after you install your products, you might need to:

- Check that the network license manager options file includes all licensed users — see “Check the Options File” on page 4-2.
- Check that the `DAEMON` line in your license file includes the options file location — see “Make Sure Your `DAEMON` Line Includes Your Options File” on page 4-3.

For more detailed information about creating network license manager options files, see the *License Administration Guide*, available in PDF form in `matlabroot/etc/LicenseAdministration.pdf`, where `matlabroot` represents your installation folder. This file is available only after you have installed the network license manager.

Check the Options File

As part of the installation process, the MathWorks installer creates a network license manager options template file, named `MLM.opt`, in the `etc` subfolder of your top-level MATLAB® installation folder. In this options template, the installer puts an `INCLUDE` line for each product you are licensed to install and run. By default, the installer puts the user name of the person who performed the installation in these `INCLUDE` lines. If you performed your own installation, the options file might not need editing. However, if you performed the installation for another user, or if your license server is

installed on Linux® and you had root privileges when you performed the installation, you will need to edit this options template.

For example, if your user name is `sysadmin`, the options file would look like this.

```
INCLUDE MATLAB USER sysadmin
INCLUDE Signal_Toolbox USER sysadmin
INCLUDE Optimization_Toolbox USER sysadmin
```

You must replace `sysadmin` in these `INCLUDE` statements with the user names of the licensed users. Because the installer includes the `GROUPCASEINSENSITIVE` option in the options file and sets it to `ON`, login names are not case sensitive. If multiple users are licensed for the same product, you must create a separate `INCLUDE` line for each user or collect the users into a group, using the `GROUP` syntax, and specify the name of the group in an `INCLUDE` line. The number of users must not exceed the number of license keys available for that product. This example shows both methods.

Note If you edit the options file, make certain that there are no extra space characters at the end of each `INCLUDE` line.

```
GROUPCASEINSENSITIVE ON
GROUP matlab_users tom judy mike jean brad
GROUP signal_users tom mike brad
INCLUDE MATLAB GROUP matlab_users
INCLUDE Signal_Toolbox GROUP signal_users
INCLUDE Optimization_Toolbox USER mike
INCLUDE Optimization_Toolbox USER jean
```

Make Sure Your DAEMON Line Includes Your Options File

When the installer creates an options file during installation, it also adds the `Options=` syntax to the `DAEMON` line in your license file. This syntax specifies the pathname of the options file.

For example, if your server is named `thunderball` and its IP address is `144.212.111.103`, the `SERVER` and `DAEMON` lines in your license file would look like this:

```
SERVER thunderball INTERNET=144.212.111.103 27000
DAEMON MLM "C:\Program Files\MATLAB\R2021b\etc\win64\MLM.exe" \
options="C:\Program Files\MATLAB\R2021b\etc\mlm.opt"
```

See Also

Related Examples

- “Update Network License”
- “Borrow Licenses” on page 7-2

External Websites

- License Center

Administering Concurrent Licenses

This topic describes how to administer a Concurrent User license.

Concurrent License Administration

Key Administrative Tasks

A Concurrent license enables you to make MathWorks products available to anyone with access to your network. Access is not limited to specific named users, as it is with a Network Named User license. Rather, Concurrent licenses use license keys to control access. Users check out a license key when they start MATLAB or use functions in other products. When all the keys for a particular product are checked out, the network license manager denies further requests.

As Administrator for a Concurrent license, your primary goal is to set up an installation that optimizes accessibility to the products. The fundamental tasks required to administer a Concurrent license are:

- 1 **Determine how you want to configure the products for users** — There are several possible configurations. Decide whether users will install MATLAB on their computers or access MATLAB over a network. See “Install Products on Client Machines”.
- 2 **Install the software on the computers required by the configuration** — You must install the network license manager on a file server and, depending on your configuration, either install MathWorks products on a file server or install the products on client computers. You can use the MathWorks installer to perform all of these installations. See “Install Products on Client Machines”.

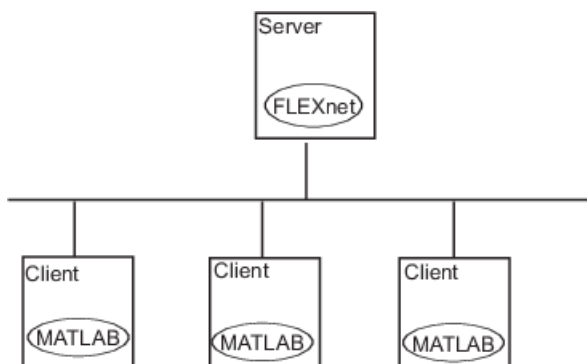
Design Your Network Configuration

For network installations, MathWorks uses a network license manager program, from Flexera Software, Inc. To set up a network installation, you must install the license manager and install MathWorks products. You use the MathWorks installer to perform both installations. If you want to integrate MathWorks products into an already established license management scheme, you can copy the MathWorks license management daemons onto your computer.

Before you install MATLAB in a network installation, decide what type of configuration you want to set up. This decision determines how many installations you need to perform. This topic describes these options.

Set Up Local Client Access Configuration

In a local client access configuration, you install the network license manager on a server and you install MATLAB on each client computer. When users on client computers start MATLAB, it contacts the license manager over the network to check out a license key. This figure shows one possible configuration.



You use the same basic network installation procedure to install MathWorks products on a client computer. The installation documentation notes any differences between the installations.

Set Up a Remote Client Access Configuration

For assistance in setting up a remote client access configuration, contact Customer Support.

Network Concurrent User Installation

You, as Administrator, are responsible for installing the network license manager on a central server on your network. This system is referred to as your *license server*. Users run MATLAB on their own computers, called *client systems*, that are connected to the license server over a network. A computer running Windows® can act as a license server for Linux or macOS clients, and conversely. For instructions about installing MATLAB products on a license server, see the network license manager installation instructions in the installation documentation.

In Network Concurrent User installations, you can set up a remote access configuration by installing MATLAB and other products on a file server and have client computers access products over the network, or you can setup a local access configuration by installing products on each client computer. In this scenario, clients communicate with the server only when they check out a license key.

Note You must activate the license for the installation before you run the installer. To retrieve the license file needed for your configuration, go to the License Center at the MathWorks website.

You must provide the host ID of the computer on which you intend to run the network license manager when requesting a license file. You specify the location of your license file during installation.

To install MATLAB on client computers in your network, follow the instructions in the installation documentation. The following topics highlight some additional information about these installations.

Use Timeouts for Idle License Keys

Overview

If you have a Concurrent license, you can use the licensing timeout option to automatically return idle license keys at your site. With license timeouts, the network license manager automatically frees license keys that sit idle for a specified period of time, returning the licenses to the pool of available license keys.

For example, when you start MATLAB and other products, such as toolboxes, you check out license keys for these products. If you go home without exiting your MATLAB session, these licenses remain checked out and are not available to other users. With timeouts enabled, after your licenses sit idle for a specified period, the network license manager releases the license keys for all the products you had been using and these keys become available to other users.

Enable License Timeouts

To take advantage of timeouts, you must specify the `TIMEOUT` option in the options file for the network license manager. This options file is a text file that contains license manager options statements, such as `INCLUDE`, `EXCLUDE`, and `GROUP` statements.

To enable timeouts:

- 1 Create an options file, if one does not exist, using any text editor. Name the options file `MLM.opt` and put the file in the `matlabroot/etc/$ARCH` folder, where `matlabroot` represents your installation folder and `$ARCH` represents a platform-specific folder. For example, on a Windows computer, you might create the file

```
C:\Program Files\MATLAB\R2021b\etc\win64\MLM.opt
```

- 2 Add the `TIMEOUT` option to the options file, using the following syntax:

```
TIMEOUT feature seconds
```

For `feature`, specify `MATLAB`. You cannot specify separate timeout values for individual MathWorks products, such as toolboxes.

For `seconds`, specify the amount of idle time you want to allow. The minimum value is 4 hours (14,400 seconds). If you specify a timeout value that is smaller, the minimum value is used. For example, to specify a five-hour time-

out, enter the following in your options file.

```
TIMEOUT MATLAB 18000
```

- 3 Make sure the `DAEMON` line in your license file specifies the location of your options file. The license file `DAEMON` line must include the `options=` syntax. For example, your `DAEMON` line might look like the following:

```
DAEMON MLM "C:\Program Files\MATLAB\R2021b\etc\win64\MLM.exe" \  
options="C:\Program Files\MATLAB\R2021b\etc\win64\mlm.opt"
```

- 4 Stop the network license manager and restart it. Whenever you change the license file, or change the time-out value in the options file, you must restart the license manager.

Experiencing a License Timeout

You may experience a license timeout when:

- Timeout is enabled, and
- You leave a MATLAB session inactive for an extended period of time.

Under these conditions, the network license key(s) are returned but MATLAB remains open.

The timeout is recorded in the network license manager log file, as follows:

```
Idle session. Returning keys for <user>@<machine>
```

To resume a MATLAB session that has timed out, start using MATLAB again. If a license key is available, MATLAB checks it out automatically. If a license key is not available, MATLAB issues a warning and tries again. MATLAB will make 10 attempts before exiting.

Note If you return to a Simulink® session that has timed out, and no licenses are available, you cannot run or modify a currently open model. These menu options are disabled until a Simulink license key becomes available. You can, however, save a model in a Simulink session that has timed out.

See Also

Related Examples

- “Borrow Licenses” on page 7-2
- “Install Products”

Licensing for MATLAB Running on the Cloud

Confirm Licensing for MathWorks Products Running on the Cloud

Licensed users can run MATLAB and most other MathWorks products packaged in containers for use in a cloud environment or on public cloud platforms, such as Azure® and AWS®. Eligibility and configuration requirements for using MathWorks products in containers or public clouds depend on the license type.

If you do not know what type of license you have or what products you are licensed for, you can look in your MathWorks Account:

- 1 Sign in to your MathWorks Account.
- 2 Under **My Software**, view the license (or licenses).

Under **Options**, note the license type.

- 3 Under **License**, click the license number to see the products on that license.

If you do not have a MathWorks Account, you can create an account at <https://www.mathworks.com/mwaccount/register>. You can then link the license you are using to your MathWorks Account or purchase a license if you do not have one.

To determine eligibility for running MathWorks products on the Cloud, consult the following table.

Product	License Conditions
MATLAB Online	All licensed MATLAB users can use MATLAB Online™ without additional configuration.
MATLAB <ul style="list-style-type: none"> • On public clouds • In containers 	Your license must be: <ul style="list-style-type: none"> • Current on Software Maintenance Service (SMS). • Linked to a MathWorks Account. • Configured for cloud use. Individual and Campus-Wide licenses are already configured. For other license types, contact your license administrator. • For containers: <ul style="list-style-type: none"> • Valid for all MathWorks products in the container. • If you have a Concurrent license type, you must supply the port number and DNS address of the network license manager when you run the container. For instance: <pre>docker run -it --rm --shm-size=512M -e MLM_LICENSE_FILE=27000@MyLicenseServer mathworks/matlab:</pre>

Product	License Conditions
<p>MATLAB Parallel Server™</p> <ul style="list-style-type: none"> On public clouds In Cloud Center In containers 	<p>Your license must be:</p> <ul style="list-style-type: none"> One of the following types: <ul style="list-style-type: none"> Individual (a license that only you use that is in your name, not a Home or Student license) Campus-Wide license (a license you use that belongs to your academic institution). Network license (Network Named User or Concurrent) Current on Software Maintenance Service (SMS). Linked to a MathWorks Account. Configured for cloud use. Individual and Campus-Wide licenses are already configured. For other license types, contact your license administrator. For containers: <ul style="list-style-type: none"> Valid for all MathWorks products in the container. If you have a Concurrent license type, you must supply the port number and DNS address of the network license manager when you run the container. For example: <pre>docker run -it --rm --shm-size=512M -e MLM_LICENSE_FILE=27000@MyLicenseServer mathworks/matlab:</pre>
<p>MATLAB Production Server™</p> <ul style="list-style-type: none"> On public clouds 	<p>Your license must be:</p> <ul style="list-style-type: none"> Concurrent license type. Current on Software Maintenance Service (SMS). Configured to use a network license manager on the virtual network. By default, the deployment of MATLAB Production Server includes a network license manager, but you can also use an existing license manager. In either case, activate or move the license after deployment. <p>If you do not have a MATLAB Production Server license, you can use MATLAB Production Server Pay-As-You-Go on Azure.</p>

See Also

Related Examples

- Use MATLAB in the Cloud

Borrow Network Licenses

This topic describes how to borrow a Concurrent User or Named User license.

Borrow Licenses

License Borrowing Overview

To provide license mobility, MathWorks supports license borrowing.

- This capability lets you use MathWorks products on computers that do not have a continuous connection to the license server.

After you borrow a license, you can disconnect your computer from the network and continue to use the products you have checked out until the borrow period expires.

You can also return a borrowed license early.

- Commercial Concurrent and Network Named User licenses can use license borrowing.
- The maximum borrow period is 30 days (720 hours).
- MathWorks products must be installed on client computers where the borrowed license will be used.

Note Campus-Wide licenses, including Concurrent licenses, cannot use license borrowing.

Enable License Borrowing

You must be an Administrator of the license to enable license borrowing.

- 1 Request that borrowing be enabled on your license from MathWorks. To request this change, go to the MathWorks website at <https://www.mathworks.com> and click **Support**. On the support page, click **Contact support**.

Notes

- In license files with borrowing, the INCREMENT lines for products include the keyword `BORROW=720`, where 720 is the maximum number of hours in the borrow period (you cannot change this value). For example:

```
INCREMENT MATLAB MLM 17 01-jan-2020 5 52FCH63184G5 BORROW=720 \  
DUP_GROUP=UH SN=220668
```

- The maximum borrow period of 720 hours is equal to 30 days.
-

After your license is enabled for borrowing, you will download a new license file.

- 2 On your license server, stop the network license manager.
- 3 On your license server, copy the `SERVER` and `DAEMON` lines from the existing license file, `matlabroot/etc/license.dat`, where *matlabroot* represents your MATLAB installation folder. For example, here are the `SERVER` and `DAEMON` lines from a license file:

```
SERVER mysystem 0012110gbc86 27000  
DAEMON MLM C:\Program Files\MATLAB\R2021b\etc\win64\MLM.exe
```

- 4 Paste the `SERVER` and `DAEMON` lines that you copied from your existing license file at the top of the new license file that includes the license borrowing capability.

- 5 On your license server, replace the existing license file with the new license file.
- 6 Restart the network license manager.

Turn on Borrow Products Menu Option

Note Ensure that the client computer has a network connection to the license server.

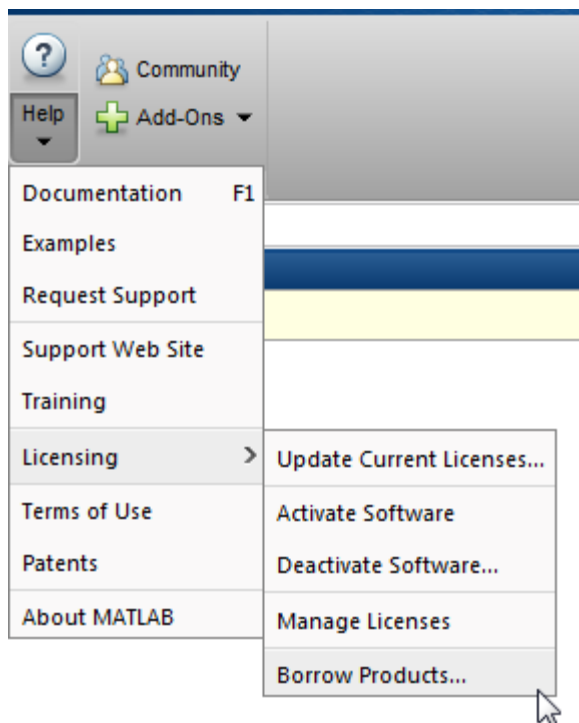
To turn on the menu option for Borrow Products in the Licensing menu:

- 1 On the client computer, start MATLAB and enter this command:

```
matlab.internal.licensing.enableBorrowUI(true)
```

After you turn on the menu option for License Borrowing the first time, it remains available any time you start MATLAB.

- 2 Restart MATLAB.
- 3 Locate the Borrow Products option in the Licensing menu.
 - a On the **Home** tab, in the **Resources** section, click **Help**.
 - b Under **Licensing**, look for **Borrow Products**.



Borrow Product Licenses by Selecting Products

To borrow licenses by product name:

- 1 Start MATLAB.

- 2 On the **Home** tab, in the **Resources** section, click **Help**.
- 3 Under **Licensing**, click **Borrow Products**.
- 4 Select **Borrow selected products by choosing from a list**. The dialog box displays the products that can be borrowed.
- 5 Specify the borrow period: from 1 day (default) to 30 days.
- 6 Click the check box next to each product that you want to borrow.
- 7 Click **Borrow**.
- 8 Close MATLAB.
- 9 Disconnect your computer from the network.

When you reopen MATLAB, your borrowed products can be used away from your network.

Continue using the borrowed products until the borrow period expires. If you reconnect to your network before the end of the borrowing period, see “Return Borrowed Licenses Early” on page 7-4.

Borrow Product Licenses Automatically

To borrow product licenses automatically:

- 1 Start MATLAB.
- 2 On the **Home** tab, in the **Resources** section, click **Help**.
- 3 Under **Licensing**, click **Borrow Products**.
- 4 Select **Borrow products automatically as you work with them**.
- 5 Specify the borrow period: from 1 day (default) to 30 days.
- 6 Click **Turn On Borrow Auto**.
- 7 Work in MATLAB as you would normally, performing the tasks you want to perform when you are disconnected from the network. As you use products, MATLAB borrows the licenses for them automatically.

When you have finished working with all the products you want to borrow, click **Turn Off Borrow Auto**.

- 8 Close MATLAB.
- 9 Disconnect your computer from the network.

When you reopen MATLAB, your borrowed products can be used away from your network.

Continue using the borrowed products until the borrow period expires. If you reconnect to your network before the end of the borrowing period, see Return Borrowed Licenses Early in the next section.

Return Borrowed Licenses Early

To return a borrowed license early:

- 1 Connect your computer to your network.
- 2 On the **Home** tab, in the **Resources** section, click **Help**.

- 3 Under **Licensing**, click **Borrow Products**.

MathWorks License Borrowing

Borrow | **View Status**

Borrow products automatically as you work with them.
Borrows all products currently in use, plus continues to borrow products automatically as you work with them.

Borrow selected products by choosing from a list.
You select products to borrow. Only products you select will be borrowed.

Return borrowed products early.
Returns selected products. If you are currently using the products, they are not checked in until you quit MATLAB.

Products to Return

	Product Name	Return Date
<input checked="" type="checkbox"/>	Simulink	January 23, 2021

Return

Close | **Help**

- 4 Select **Return borrowed products early**. The dialog box displays a list of currently borrowed products.
- 5 Specify the product licenses you want to return early. By default, all borrowed product licenses are selected. Deselect any products you do not want to return.
- 6 Click **Return**.

Note You cannot borrow licenses and then return them in the same MATLAB session. You must quit MATLAB and restart it before you can return the licenses.

Manage License Borrowing

Use an options file to control license borrowing behavior. Use the network license manager tools to monitor which licenses are borrowed.

Determine Which Licenses Are Currently Borrowed

The network licensing manager provides tools that you can use to monitor the status of borrowed licenses in your network configuration. You can use the LMTOOLS application or the `lmstat` command.

Use LMTOOLS Application on Windows Systems

- 1 Log in to your license server.
- 2 Navigate to the `matlabroot\etc\win64` folder, where `matlabroot` represents the name of your MATLAB installation.
- 3 Start the LMTOOLS application by double-clicking the `lmtools.exe` executable file.
- 4 Select the **Server Status** tab in the LMTOOLS dialog box.
- 5 Click the **Perform Status Enquiry** button. LMTOOLS displays the status information in the output window. In the status information, each entry in the list for a product shows the total number of licenses for the product and tells how many licenses are currently checked out. For borrowed licenses, the entry for the product includes the keyword (`linger:XXX`), where `XXX` specifies the borrow period in seconds.

```
-----  
Status  
-----  
Flexible License Manager status on Wed 10/7/2020 10:04  
[Detecting lmgrd processes...]  
License server status: 27000@myserver  
License file(s) on myservers: C:\Program Files\MATLAB\R2021b\etc\license.dat:  
  
myservers: license server UP (MASTER) v11.9  
  
Vendor daemon status (on myservers):  
MLM: UP v11.9  
Feature usage info:  
Users of TMW_Archive: (Uncounted, node-locked)  
Users of MATLAB: (Total of 5 licenses issued; Total of 1 license in use)  
"MATLAB" v14, vendor: MLM  
floating license  
myservers myservers (v14) (myservers/27000 101), start Wed 10/5 14:37  
(linger: 121500)  
Users of SIMULINK: (Total of 5 licenses issued; Total of 0 licenses in use)  
Users of Control_Toolbox: (Total of 5 licenses issued; Total of 1 license in use)  
"Control_Toolbox" v14, vendor: MLM  
floating license  
anyuser myservers myservers (v14) (myservers/27000 201), start Wed 10/7 14:37  
(linger: 121500)
```

Note MATLAB Compiler™: License status information may contain `linger` even when MATLAB Compiler is not being borrowed.

Use `lmstat` Utility on Windows Systems

- 1 Log in to your license server and open a DOS command window. One way to open the DOS command window is to select the **Run** option from the **Start** menu, type `cmd` in the text entry field, and then click **OK**.

- 2 Navigate to the `matlabroot\etc\${ARCH}` folder, where `matlabroot` represents the name of your MATLAB installation and `${ARCH}` represents a platform-specific folder.
- 3 Run the `lmutil` command specifying `lmstat` as an argument. (On Windows computers, FlexNet® packages all its license management utilities into one program, `lmutil`.)

The following example uses the `-a` option to display all the information returned by `lmstat`. Note that you must also use the `-c` option to specify the name of your license file. For more information about `lmstat`, see the *FlexNet End User's Guide*.

```
lmutil lmstat -a -c "C:\Program Files\MATLAB\R2021b\etc\license.dat"
```

In the status information returned by `lmstat`, each entry in the list for a product shows the total number of licenses for the product and tells how many licenses are currently checked out. For borrowed licenses, the entry for the product includes the keyword (`linger:XXX`), where `XXX` specifies the borrow period in seconds.

```
lmutil - Copyright (c) 1989-2018 by Flexera Software, Inc.
All Rights Reserved.
```

```
Flexible License Manager status on Wed 10/7/2020 10:04
[Detecting lmgrd processes...]
License server status: 27000@myserver
License file(s) on myservers: C:\Program Files\MATLAB\R2021b\etc\license.dat:
myservers: license server UP (MASTER) v11.99
Vendor daemon status (on myservers):
MLM: UP v11.9
Feature usage info:
Users of TMW_Archive: (Uncounted, node-locked)
Users of MATLAB: (Total of 5 licenses issued; Total of 1 license in use)
"MATLAB" v14, vendor: MLM
floating license
myservers myservers (v14) (myservers/27000 101), start Wed 10/7 14:37
(linger: 121500)
Users of SIMULINK: (Total of 5 licenses issued; Total of 0 licenses in use)
Users of Control_Toolbox: (Total of 5 licenses issued; Total of 1 license in use)
"Control_Toolbox" v14, vendor: MLM
floating license
anyuser myservers myservers (v14) (myservers/27000 201), start Wed 10/7 14:37
(linger: 121500)
```

Note MATLAB Compiler: License status information may contain `linger` even when MATLAB Compiler is not being borrowed.

Use `lmstat` on Linux Systems

- 1 Log in to your license server.
- 2 Navigate to the `matlabroot/etc` directory, where `matlabroot` is your MATLAB installation folder.
- 3 Run the `lmstat` utility.

```
lmstat -a -c /usr/local/MATLAB/R2021b/etc/license.dat
```

Control License Borrowing with Options Files

You can control various aspects of license borrowing behavior using an options file for the network license manager. An options file is a text file that contains option statements. Each option statement begins with a keyword that identifies the option. The following table lists the options you use to control aspects of license borrowing. For more information about these options, see the *FlexNet End User's Guide*. To see an example of an options file, see the example in the next topic.

Task	Option to Specify
Reserve a specific number of licenses that cannot be borrowed.	Use the <code>BORROW_LOWWATER</code> option. For example, to make sure that three MATLAB licenses can never be borrowed, use this syntax: <code>BORROW_LOWWATER MATLAB 3</code>
Specify which users can borrow licenses for a particular product.	Use the <code>INCLUDE_BORROW</code> option. For example, to allow the user Fred to borrow a license for the Image Processing Toolbox™, use this syntax: <code>INCLUDE_BORROW Image_Toolbox USER fred</code> Note: When you specify that a particular user can borrow licenses, you exclude all other users.
Specify which users cannot borrow licenses for a particular product.	Use the <code>EXCLUDE_BORROW</code> option. For example, to prevent the user Donna from borrowing a license for the Image Processing Toolbox, use this syntax: <code>EXCLUDE_BORROW image_toolbox USER donna</code>
Specify the maximum amount of time a user can borrow a license.	Use the <code>MAX_BORROW_HOURS</code> option. For example, to limit users of the Image Processing Toolbox to a three day borrow period, use this syntax: <code>MAX_BORROW_HOURS image_toolbox 72</code> The borrow period you specify must be less than 30 days, which is the borrow period specified in borrow-enabled licenses from MathWorks.

Example: Exclude a User from Borrowing a License

To illustrate using an options file to control license borrowing behavior, this example uses an options file to exclude a user from borrowing a license for a specific product:

- 1 Create the options file.

An options file is a text file that contains options statements. Using any text editor, create a file that contains the following line. You can give the options file any name and store it in any convenient folder.

```
EXCLUDE_BORROW SIMULINK USER fred
```

- 2 Specify the name of the options file on the `DAEMON` line in your license file.

On your license server, use any simple text editor to edit your license file, adding the `options=` keyword to the `DAEMON` line, as follows. Be sure to use the line continuation character (`\`) if the `DAEMON` line extends beyond a single line.

```
DAEMON MLM C:\Program Files\MATLAB\R2021b\etc\win64\MLM.exe \  
options=C:\myborrowoptions.opt
```

- 3 Start (or restart) the network license manager so that it processes the options file.

After setting up this options file, test it:

- 1 Log in as the user Fred.
- 2 Start MATLAB.
- 3 Use the Borrow Products menu to select Simulink for borrowing.

You should get the following error:

```
License Manager Error -38.  
User/host on EXCLUDE list for feature  
Feature: SIMULINK  
License path: C:\Program Files\MATLAB\bin\win64\license.dat;  
C:\Program Files\MATLAB\bin\win64\*.lic
```

See Also

More About

- “Network Named User License Administration” on page 4-2
- “Concurrent License Administration” on page 5-2

