

MySQL and macOS

Abstract

This is the MySQL macOS extract from the MySQL 5.6 Reference Manual.

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Table of Contents

Preface and Legal Notices	v
1 Installing MySQL on macOS	1
2 Installing MySQL on macOS Using Native Packages	3
3 Installing a MySQL Launch Daemon	9
4 Installing and Using the MySQL Preference Pane	13
5 General Notes on Installing MySQL on macOS	19

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Chapter 1 Installing MySQL on macOS

For a list of macOS versions that the MySQL server supports, see <https://www.mysql.com/support/supportedplatforms/database.html>.

MySQL for macOS is available in a number of different forms:

- Native Package Installer, which uses the native macOS installer (DMG) to walk you through the installation of MySQL. For more information, see [Chapter 2, *Installing MySQL on macOS Using Native Packages*](#). You can use the package installer with macOS. The user you use to perform the installation must have administrator privileges.
- Compressed TAR archive, which uses a file packaged using the Unix `tar` and `gzip` commands. To use this method, you must open a `Terminal` window. You do not need administrator privileges using this method, as you can install the MySQL server anywhere using this method. For more information on using this method, you can use the generic instructions for using a tarball, [Installing MySQL on Unix/Linux Using Generic Binaries](#).

In addition to the core installation, the Package Installer also includes [Chapter 3, *Installing a MySQL Launch Daemon*](#) and [Chapter 4, *Installing and Using the MySQL Preference Pane*](#), both of which simplify the management of your installation.

For additional information on using MySQL on macOS, see [Chapter 5, *General Notes on Installing MySQL on macOS*](#).

Chapter 2 Installing MySQL on macOS Using Native Packages

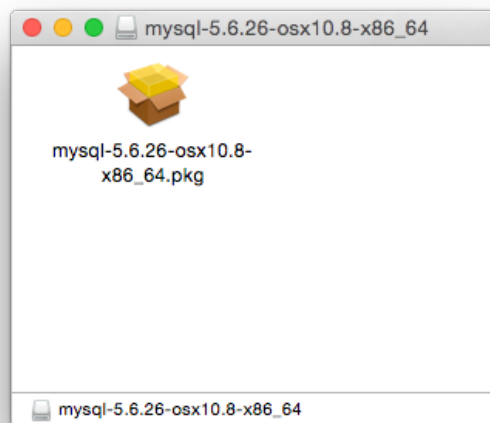
Note

Before proceeding with the installation, be sure to stop all running MySQL server instances by using either the MySQL Manager Application (on macOS Server), the preference pane, or `mysqladmin shutdown` on the command line.

To install MySQL using the package installer:

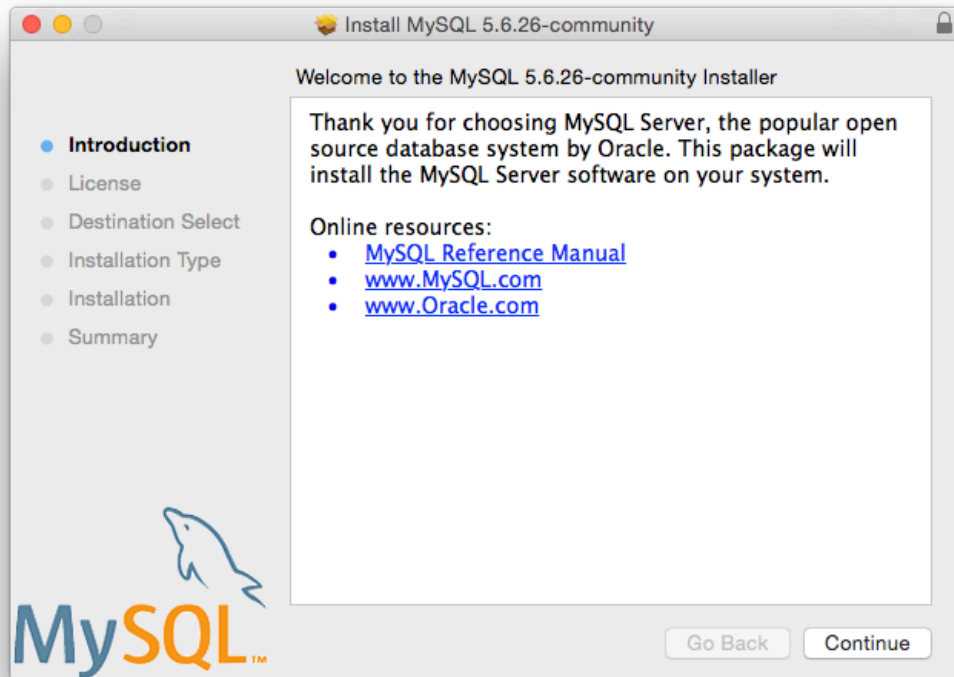
1. Download the disk image (`.dmg`) file (the community version is available [here](#)) that contains the MySQL package installer. Double-click the file to mount the disk image and see its contents.

Figure 2.1 MySQL Package Installer: DMG Contents



2. Double-click the MySQL installer package. It is named according to the MySQL version and the macOS version you have chosen. For example, if you have downloaded the package for MySQL 5.6.51 and macOS 10.8, double-click `mysql-5.6.51-macos-10.8-x86_64.pkg`.
3. You are presented with the opening installer dialog. Click **Continue** to begin installation.

Figure 2.2 MySQL Package Installer: Introduction



4. If you have downloaded the community version of MySQL, you are shown a copy of the relevant GNU General Public License. Click **Continue** and then **Agree** to continue.

- From the **Installation Type** page you can either click **Install** to execute the installation wizard using all defaults, click **Customize** to alter which components to install (MySQL server, Preference Pane, Launchd Support -- all enabled by default).

Note

Although the **Change Install Location** option is visible, the installation location cannot be changed.

Figure 2.3 MySQL Package Installer: Installation Type

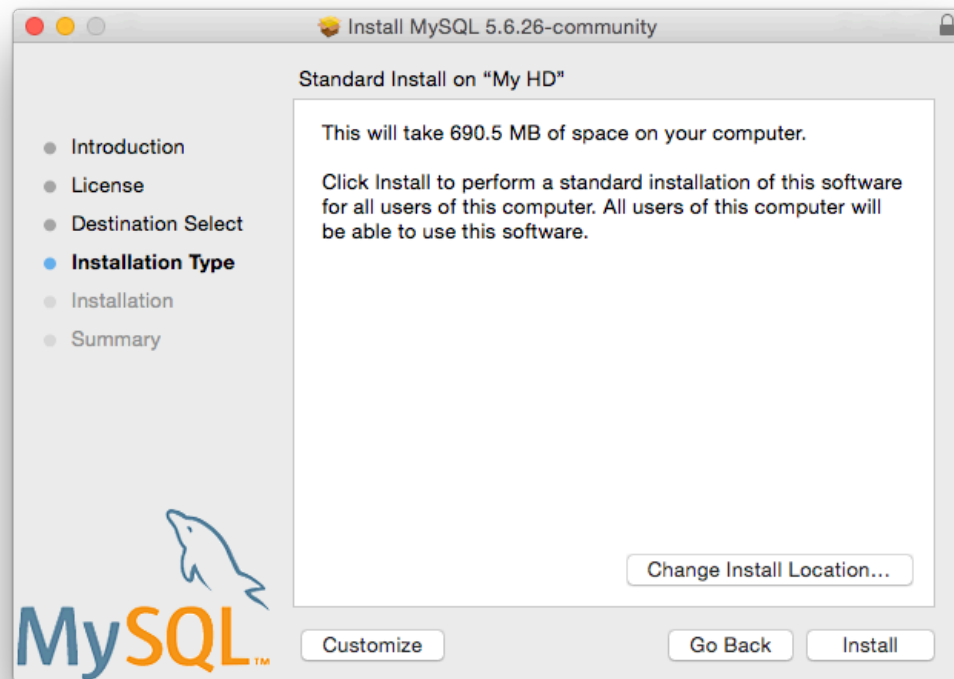
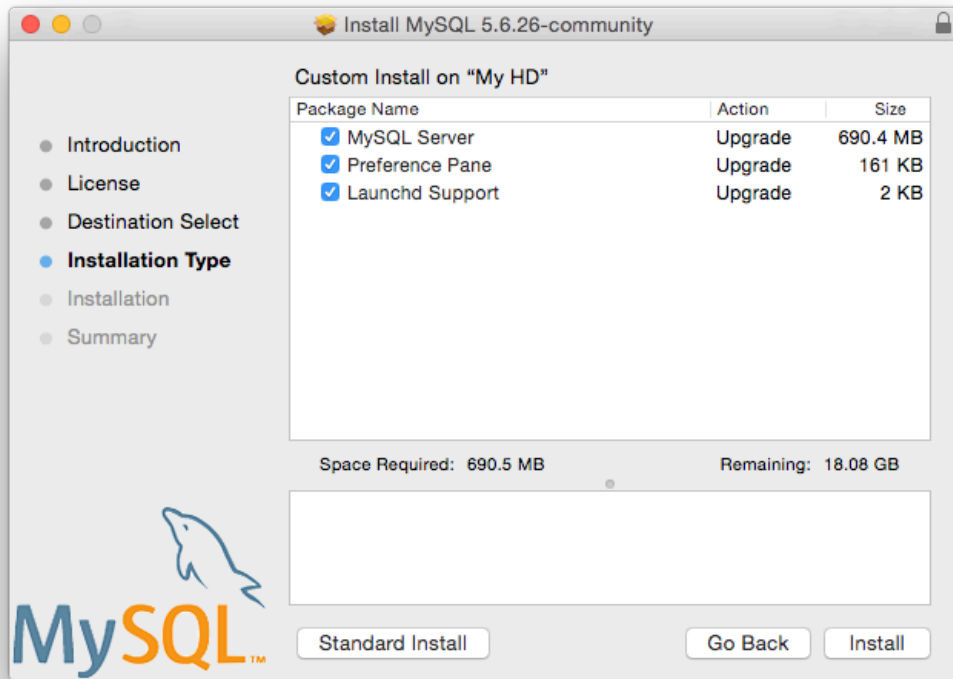


Figure 2.4 MySQL Package Installer: Customize



6. Click **Install** to begin the installation process.

7. Once the installation has been completed successfully, you are shown an **Install Succeeded** message with a short summary. Now, **Close** the wizard and begin using the MySQL server.

Figure 2.5 MySQL Package Installer: Summary



MySQL server is now installed, but it is not loaded (or started) by default. Use either `launchctl` from the command line, or start MySQL by clicking "Start" using the MySQL preference pane. For additional information, see [Chapter 3, Installing a MySQL Launch Daemon](#), and [Chapter 4, Installing and Using the MySQL Preference Pane](#). Use the MySQL Preference Pane or `launchd` to configure MySQL to automatically start at bootup.

When installing using the package installer, the files are installed into a directory within `/usr/local` matching the name of the installation version and platform. For example, the installer file `mysql-5.6.51-macos10.12-x86_64.dmg` installs MySQL into `/usr/local/mysql-5.6.51-macos10.12-x86_64/`. The following table shows the layout of the installation directory.

Table 2.1 MySQL Installation Layout on macOS

Directory	Contents of Directory
<code>bin, scripts</code>	<code>mysqld</code> server, client and utility programs
<code>data</code>	Log files, databases
<code>docs</code>	Helper documents, like the Release Notes and build information
<code>include</code>	Include (header) files
<code>lib</code>	Libraries

Directory	Contents of Directory
<code>man</code>	Unix manual pages
<code>mysql-test</code>	MySQL test suite
<code>share</code>	Miscellaneous support files, including error messages, sample configuration files, SQL for database installation
<code>sql-bench</code>	Benchmarks
<code>support-files</code>	Scripts and sample configuration files
<code>/tmp/mysql.sock</code>	Location of the MySQL Unix socket

During the package installer process, a symbolic link from `/usr/local/mysql` to the version/platform specific directory created during installation is created automatically.

Chapter 3 Installing a MySQL Launch Daemon

macOS uses launch daemons to automatically start, stop, and manage processes and applications such as MySQL.

Note

Before MySQL 5.6.26, the macOS builds installed startup items instead of launchd daemons. However, startup items do not function as of OS X 10.10 (Yosemite). The macOS builds now install launchd daemons.

By default, the installation package (DMG) on macOS installs a launchd file named `/Library/LaunchDaemons/com.oracle.oss.mysql.mysqld.plist` that contains a plist definition similar to:

```
<?xml version="1.0" encoding="utf-8"?>
<!DOCTYPE plist PUBLIC "-//Apple Computer//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyList-1.0.>
<plist version="1.0">
<dict>
  <key>Label</key>          <string>com.oracle.oss.mysql.mysqld</string>
  <key>ProcessType</key>   <string>Interactive</string>
  <key>Disabled</key>      <false/>
  <key>RunAtLoad</key>     <true/>
  <key>KeepAlive</key>     <true/>
  <key>SessionCreate</key> <true/>
  <key>LaunchOnlyOnce</key> <false/>
  <key>UserName</key>      <string>_mysql</string>
  <key>GroupName</key>     <string>_mysql</string>
  <key>ExitTimeOut</key>   <integer>600</integer>
  <key>Program</key>       <string>/usr/local/mysql/bin/mysqld</string>
  <key>ProgramArguments</key>
    <array>
      <string>/usr/local/mysql/bin/mysqld</string>
      <string>--user=_mysql</string>
      <string>--basedir=/usr/local/mysql</string>
      <string>--datadir=/usr/local/mysql/data</string>
      <string>--plugin-dir=/usr/local/mysql/lib/plugin</string>
      <string>--log-error=/usr/local/mysql/data/mysqld.local.err</string>
      <string>--pid-file=/usr/local/mysql/data/mysqld.local.pid</string>
    </array>
  <key>WorkingDirectory</key> <string>/usr/local/mysql</string>
</dict>
</plist>
```

Note

Some users report that adding a plist DOCTYPE declaration causes the launchd operation to fail, despite it passing the lint check. We suspect it's a copy-n-paste error. The md5 checksum of a file containing the above snippet is 60d7963a0bb2994b69b8b9c123db09df.

To enable the launchd service, you can either:

- Click **Start MySQL Server** from the MySQL preference pane.

Figure 3.1 MySQL Preference Pane: Location

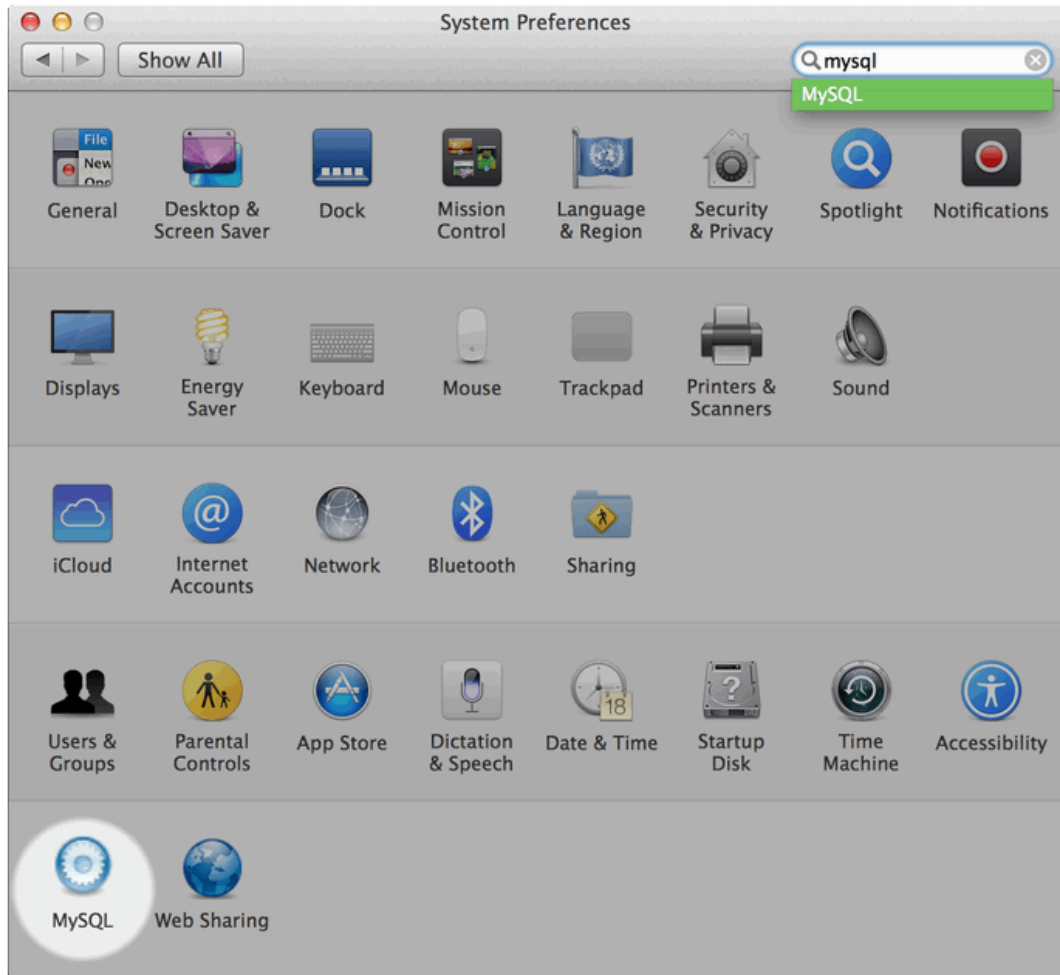
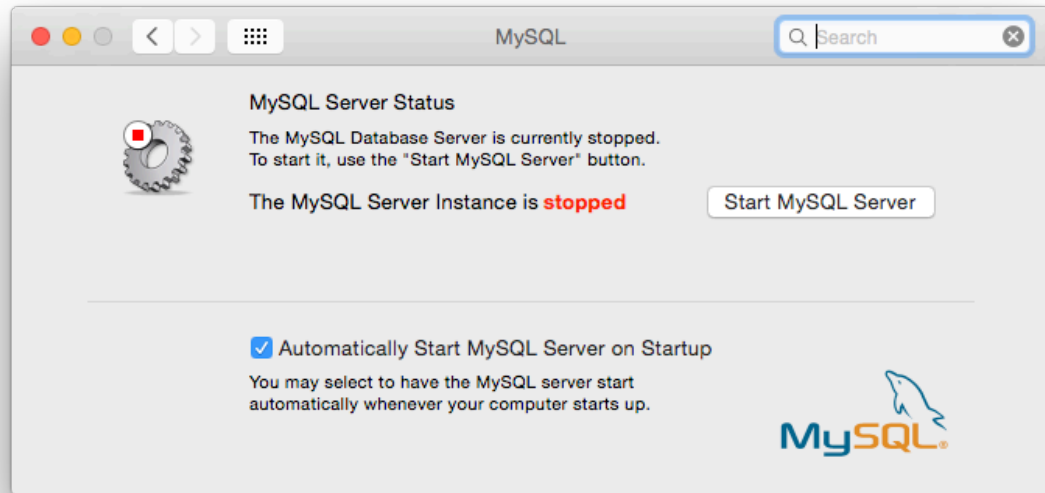


Figure 3.2 MySQL Preference Pane: Usage



- Or, manually load the launchd file.

```
shell> cd /Library/LaunchDaemons
shell> sudo launchctl load -F com.oracle.oss.mysql.mysql_d.plist
```

- To configure MySQL to automatically start at bootup, you can:

```
shell> sudo launchctl load -w com.oracle.oss.mysql.mysql_d.plist
```

Note

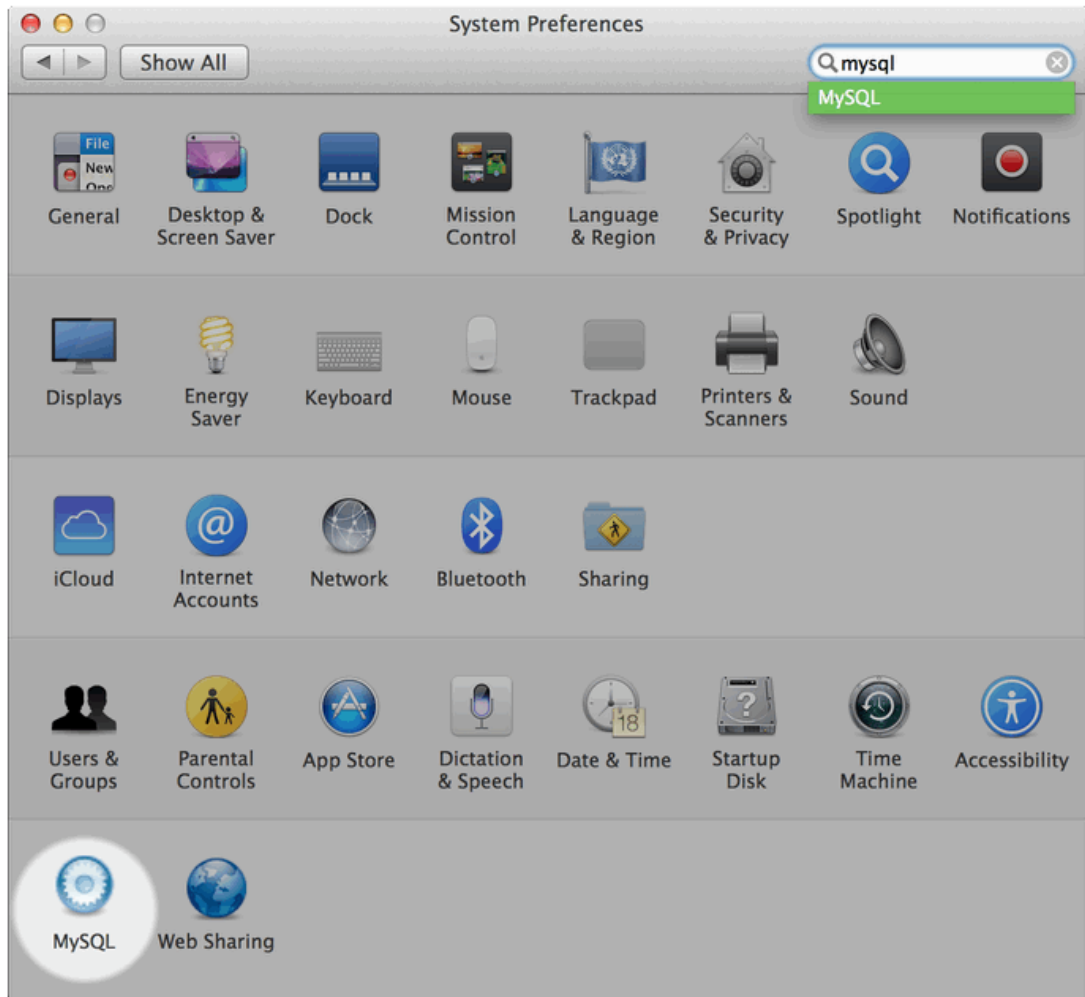
When upgrading MySQL server, the launchd installation process removes the old startup items that were installed with MySQL server 5.6.25 and earlier.

Chapter 4 Installing and Using the MySQL Preference Pane

The MySQL Installation Package includes a MySQL preference pane that enables you to start, stop, and control automated startup during boot of your MySQL installation.

This preference pane is installed by default, and is listed under your system's *System Preferences* window.

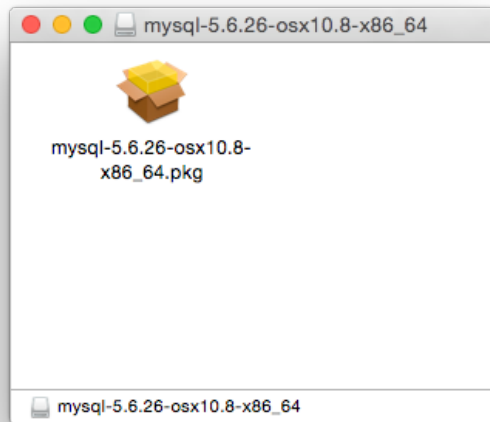
Figure 4.1 MySQL Preference Pane: Location



To install the MySQL Preference Pane:

1. Download the disk image (.dmg) file (the community version is available [here](#)) that contains the MySQL package installer. Double-click the file to mount the disk image and see its contents.

Figure 4.2 MySQL Package Installer: DMG Contents



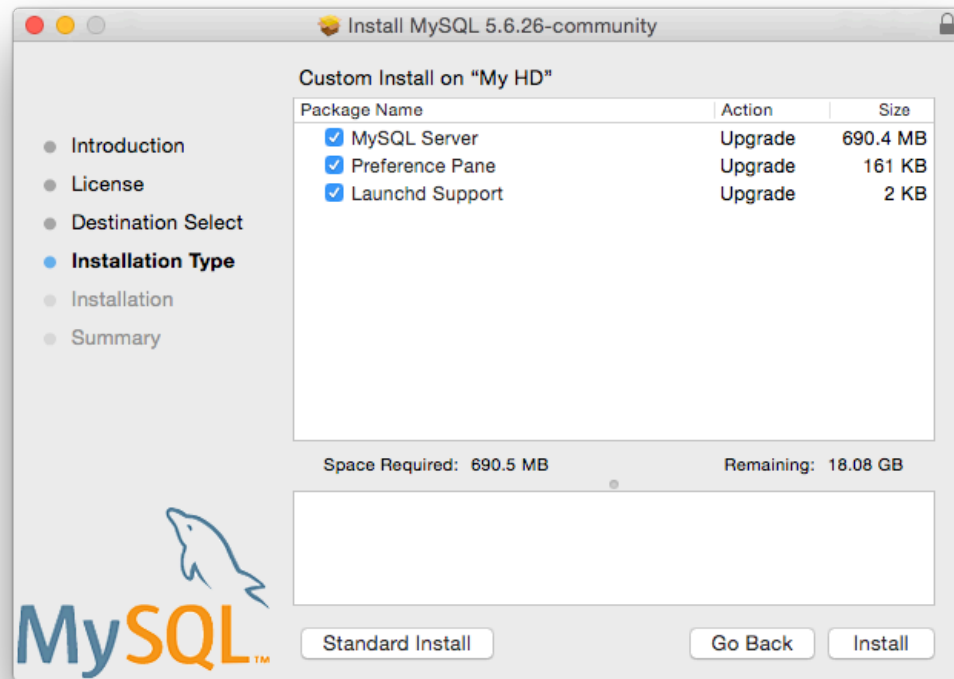
Note

Before MySQL 5.6.26, macOS packages included the deprecated startup items instead of launchd daemons, and the preference pane managed that instead of launchd.

2. Go through the process of installing the MySQL server, as described in the documentation at [Chapter 2, *Installing MySQL on macOS Using Native Packages*](#).

3. Click **Customize** at the **Installation Type** step. The "Preference Pane" option is listed there and enabled by default; make sure it is not deselected.

Figure 4.3 MySQL Installer on macOS: Customize



4. Complete the MySQL server installation process.

Note

The MySQL preference pane only starts and stops MySQL installation installed from the MySQL package installation that have been installed in the default location.

Once the MySQL preference pane has been installed, you can control your MySQL server instance using the preference pane. To use the preference pane, open the **System Preferences...** from the Apple menu. Select the MySQL preference pane by clicking the MySQL icon within the preference panes list.

Figure 4.4 MySQL Preference Pane: Location

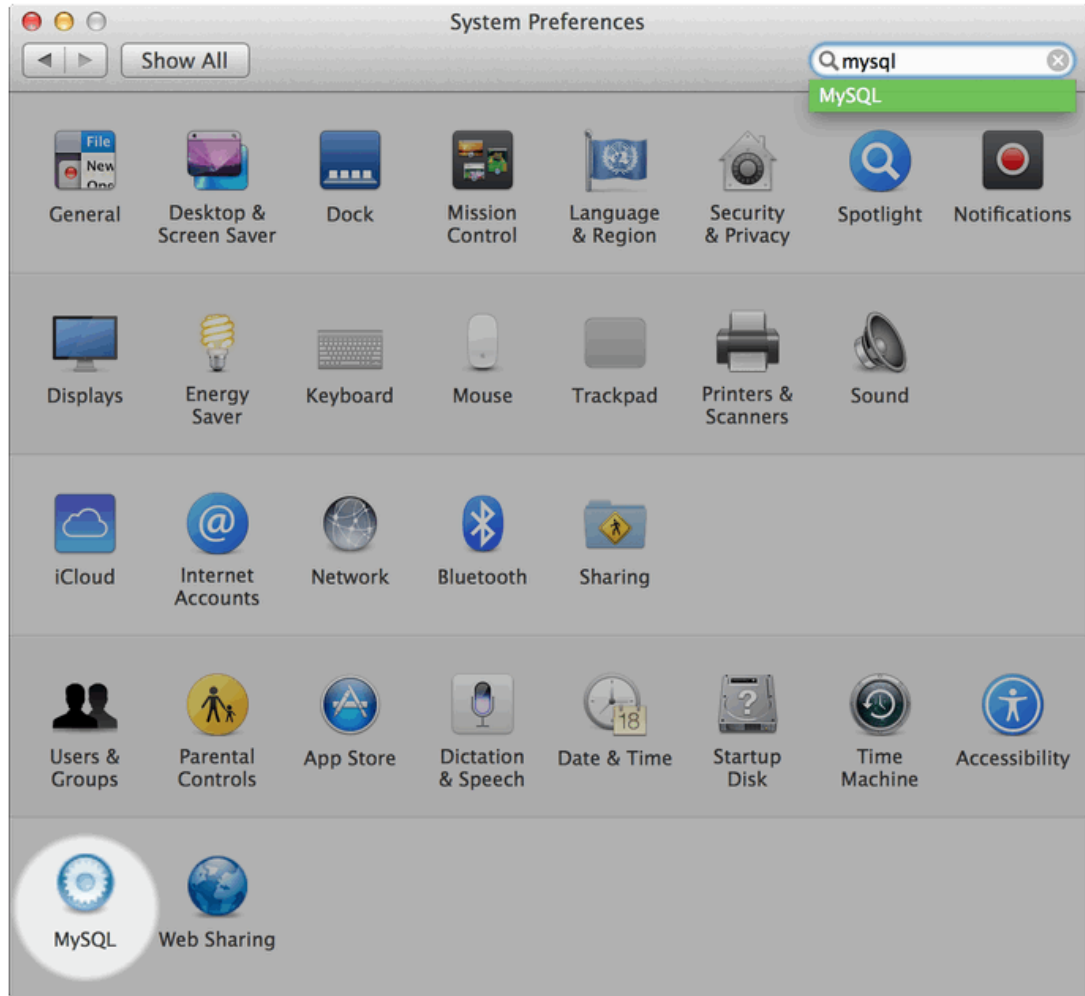


Figure 4.5 MySQL Preference Pane: Usage



The MySQL Preference Pane shows the current status of the MySQL server, showing **stopped** (in red) if the server is not running and **running** (in green) if the server has already been started. The preference pane also shows the current setting for whether the MySQL server has been set to start automatically.

- **To start the MySQL server using the preference pane:**

Click **Start MySQL Server**. You may be prompted for the username and password of a user with administrator privileges to start the MySQL server.

- **To stop the MySQL server using the preference pane:**

Click **Stop MySQL Server**. You may be prompted for the username and password of a user with administrator privileges to stop the MySQL server.

- **To automatically start the MySQL server when the system boots:**

Check the check box next to **Automatically Start MySQL Server on Startup**.

- **To disable automatic MySQL server startup when the system boots:**

Uncheck the check box next to **Automatically Start MySQL Server on Startup**.

You can close the [System Preferences...](#) window once you have completed your settings.

Chapter 5 General Notes on Installing MySQL on macOS

You should keep the following issues and notes in mind:

- As of MySQL server 5.6.26, the DMG bundles a `launchd` daemon instead of the deprecated startup item. Startup items do not function as of macOS 10.10 (Yosemite), so using `launchd` is preferred. The available MySQL preference pane under macOS **System Preferences** was also updated to use `launchd`.
- You may need (or want) to create a specific `mysql` user to own the MySQL directory and data. You can do this through the [Directory Utility](#), and the `mysql` user should already exist. For use in single user mode, an entry for `_mysql` (note the underscore prefix) should already exist within the system `/etc/passwd` file.
- Because the MySQL package installer installs the MySQL contents into a version and platform specific directory, you can use this to upgrade and migrate your database between versions. You must either copy the `data` directory from the old version to the new version, or alternatively specify an alternative `datadir` value to set location of the data directory. By default, the MySQL directories are installed under `/usr/local/`.
- You might want to add aliases to your shell's resource file to make it easier to access commonly used programs such as `mysql` and `mysqladmin` from the command line. The syntax for `bash` is:

```
alias mysql=/usr/local/mysql/bin/mysql
alias mysqladmin=/usr/local/mysql/bin/mysqladmin
```

For `tcsh`, use:

```
alias mysql /usr/local/mysql/bin/mysql
alias mysqladmin /usr/local/mysql/bin/mysqladmin
```

Even better, add `/usr/local/mysql/bin` to your `PATH` environment variable. You can do this by modifying the appropriate startup file for your shell. For more information, see [Invoking MySQL Programs](#).

- After you have copied over the MySQL database files from the previous installation and have successfully started the new server, you should consider removing the old installation files to save disk space. Additionally, you should also remove older versions of the Package Receipt directories located in `/Library/Receipts/mysql-VERSION.pkg`.

