

MySQL Installer Guide

Abstract

This document describes MySQL Installer, an application that simplifies the installation and updating process for a wide range of MySQL products, including [MySQL Workbench](#) and [MySQL Shell](#).

For notes detailing the changes in each release of MySQL Installer, see [MySQL Installer Release Notes](#).

For legal information, see the [Legal Notices](#).

For help with using MySQL, please visit the [MySQL Forums](#), where you can discuss your issues with other MySQL users.

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Preface and Legal Notices

This document describes MySQL Installer, an application that simplifies the installation and updating process for a wide range of MySQL products, including [MySQL Workbench](#) and [MySQL Shell](#).

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Chapter 1 MySQL Installer for Windows

MySQL Installer is a standalone application designed to ease the complexity of installing and configuring MySQL products that run on Microsoft Windows. It supports the following MySQL products:

- MySQL Servers

MySQL Installer can install and manage multiple, separate MySQL server instances on the same host at the same time. For example, MySQL Installer can install, configure, and upgrade a separate instance of MySQL 5.6, MySQL 5.7, and MySQL 8.0 on the same host. MySQL Installer does not permit server upgrades between major and minor version numbers, but does permit upgrades within a release series (such as 8.0.21 to 8.0.22).

Note

MySQL Installer cannot install both *Community* and *Commercial* releases of MySQL server on the same host. If you require both releases on the same host, consider using the [ZIP archive](#) distribution to install one of the releases.

- MySQL Applications

MySQL Workbench, MySQL Shell, MySQL Router, and MySQL for Visual Studio.

- MySQL Connectors

MySQL Connector/NET, MySQL Connector/Python, MySQL Connector/ODBC, MySQL Connector/J, and MySQL Connector/C++. To install MySQL Connector/Node.js, see <https://dev.mysql.com/downloads/connector/nodejs/>.

- Documentation and Samples

MySQL Reference Manuals (by version) in PDF format and MySQL database samples (by version).

Installation Requirements

MySQL Installer requires Microsoft .NET Framework 4.5.2 or later. If this version is not installed on the host computer, you can download it by visiting the [Microsoft website](#).

An internet connection is required to download a manifest containing metadata for the latest MySQL products that are not part of a full bundle. MySQL Installer attempts to download the manifest when you start the application for the first time and then periodically in configurable intervals (see [MySQL Installer options](#)). Alternatively, you can retrieve an updated manifest manually by clicking **Catalog** in the [MySQL Installer dashboard](#).

Note

If the first-time or subsequent manifest download is unsuccessful, an error is logged and you may have limited access to MySQL products during your session. MySQL Installer attempts to download the manifest with each startup until the initial manifest structure is updated. For help finding a product, see [Locating Products to Install](#).

MySQL Installer Community Release

Download software from <https://dev.mysql.com/downloads/installer/> to install the Community release of all MySQL products for Windows. Select one of the following MySQL Installer package options:

- *Web*: Contains MySQL Installer and configuration files only. The web package option downloads only the MySQL products you select to install, but it requires an internet connection for each download. The size of this file is approximately 2 MB. The file name has the form `mysql-installer-`

`community-web-VERSION.N.msi` in which `VERSION` is the MySQL server version number such as 8.0 and `N` is the package number, which begins at 0.

- *Full or Current Bundle*: Bundles all of the MySQL products for Windows (including the MySQL server). The file size is over 300 MB, and the name has the form `mysql-installer-community-VERSION.N.msi` in which `VERSION` is the MySQL Server version number such as 8.0 and `N` is the package number, which begins at 0.

MySQL Installer Commercial Release

Download software from <https://edelivery.oracle.com/> to install the Commercial release (Standard or Enterprise Edition) of MySQL products for Windows. If you are logged in to your My Oracle Support (MOS) account, the Commercial release includes all of the current and previous GA versions available in the Community release, but it excludes development-milestone versions. When you are not logged in, you see only the list of bundled products that you downloaded already.

The Commercial release also includes the following products:

- Workbench SE/EE
- MySQL Enterprise Backup
- MySQL Enterprise Firewall

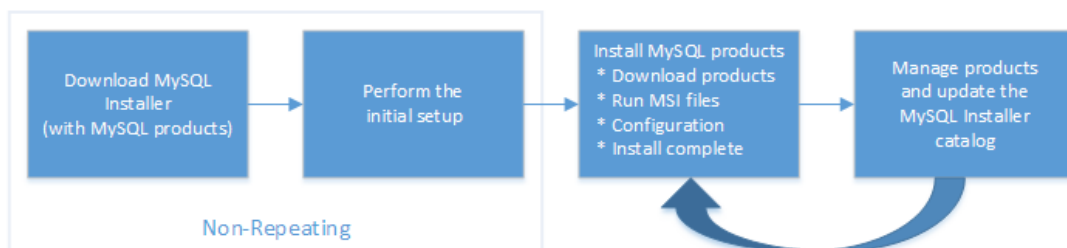
The Commercial release integrates with your MOS account. For knowledge-base content and patches, see [My Oracle Support](#).

Chapter 2 MySQL Installer Initial Setup

- [Choosing a Setup Type](#)
- [Path Conflicts](#)
- [Check Requirements](#)
- [MySQL Installer Configuration Files](#)

When you download MySQL Installer for the first time, a setup wizard guides you through the initial installation of MySQL products. As the following figure shows, the initial setup is a one-time activity in the overall process. MySQL Installer detects existing MySQL products installed on the host during its initial setup and adds them to the list of products to be managed.

Figure 2.1 MySQL Installer Process Overview



MySQL Installer extracts configuration files (described later) to the hard drive of the host during the initial setup. Although MySQL Installer is a 32-bit application, it can install both 32-bit and 64-bit binaries.

The initial setup adds a link to the Start menu under the **MySQL** group. Click **Start, All Programs, MySQL, MySQL Installer** to open MySQL Installer.

Choosing a Setup Type

During the initial setup, you are prompted to select the MySQL products to be installed on the host. One alternative is to use a predetermined setup type that matches your setup requirements. By default, both GA and pre-release products are included in the download and installation with the **Developer Default, Client only**, and **Full** setup types. Select the **Only install GA products** option to restrict the product set to include GA products only when using these setup types.

Note

Commercial-only MySQL products, such as MySQL Enterprise Backup, are available to select and install if you are using the Commercial version of MySQL Installer (see [MySQL Installer Commercial Release](#)).

Choosing one of the following setup types determines the initial installation only and does not limit your ability to install or update MySQL products for Windows later:

- **Developer Default:** Install the following products that compliment application development with MySQL:
 - [MySQL Server](#) (Installs the version that you selected when you downloaded MySQL Installer.)
 - [MySQL Shell](#)
 - [MySQL Router](#)

- [MySQL Workbench](#)
- [MySQL for Visual Studio](#)
- [MySQL Connectors](#) (for .NET, Python, ODBC, Java, and C++)
- [MySQL Documentation](#)
- [MySQL Samples and Examples](#)
- **Server only:** Only install the MySQL server. This setup type installs the general availability (GA) or development release server that you selected when you downloaded MySQL Installer. It uses the default installation and data paths.
- **Client only:** Only install the most recent MySQL applications and MySQL connectors. This setup type is similar to the [Developer Default](#) type, except that it does not include MySQL server or the client programs typically bundled with the server, such as `mysql` or `mysqladmin`.
- **Full:** Install all available MySQL products.
- **Custom:** The custom setup type enables you to filter and select individual MySQL products from the [MySQL Installer catalog](#).

Note

For MySQL Server versions 8.0.20 (and earlier), 5.7, and 5.6, the account you use to run MySQL Installer may not have adequate permission to install the server data files and this can interrupt the installation because the [ExecSecureObjects](#) MSI action cannot be executed. To proceed, deselect the **Server data files** feature before attempting to install the server again. For help, see [Product Features To Install](#)).

The **Server data files** check box was removed from the feature tree for MySQL Server 8.0.21 (and higher).

Use the [Custom](#) setup type to install:

- A product or product version that is not available from the usual download locations. The catalog contains all product releases, including the other releases between pre-release (or development) and GA.
- An instance of MySQL server using an alternative installation path, data path, or both. For instructions on how to adjust the paths, see [Chapter 3, Setting Alternative Server Paths with MySQL Installer](#).
- Two or more MySQL server versions on the same host at the same time (for example, 5.6, 5.7, and 8.0).
- A specific combination of products and features not offered as a predetermine setup type. For example, you can install a single product, such as MySQL Workbench, instead of installing all client applications for Windows.

Path Conflicts

When the default installation or data folder (required by MySQL server) for a product to be installed already exists on the host, the wizard displays the **Path Conflict** step to identify each conflict and enable you to take action to avoid having files in the existing folder overwritten by the new installation. You see this step in the initial setup only when MySQL Installer detects a conflict.

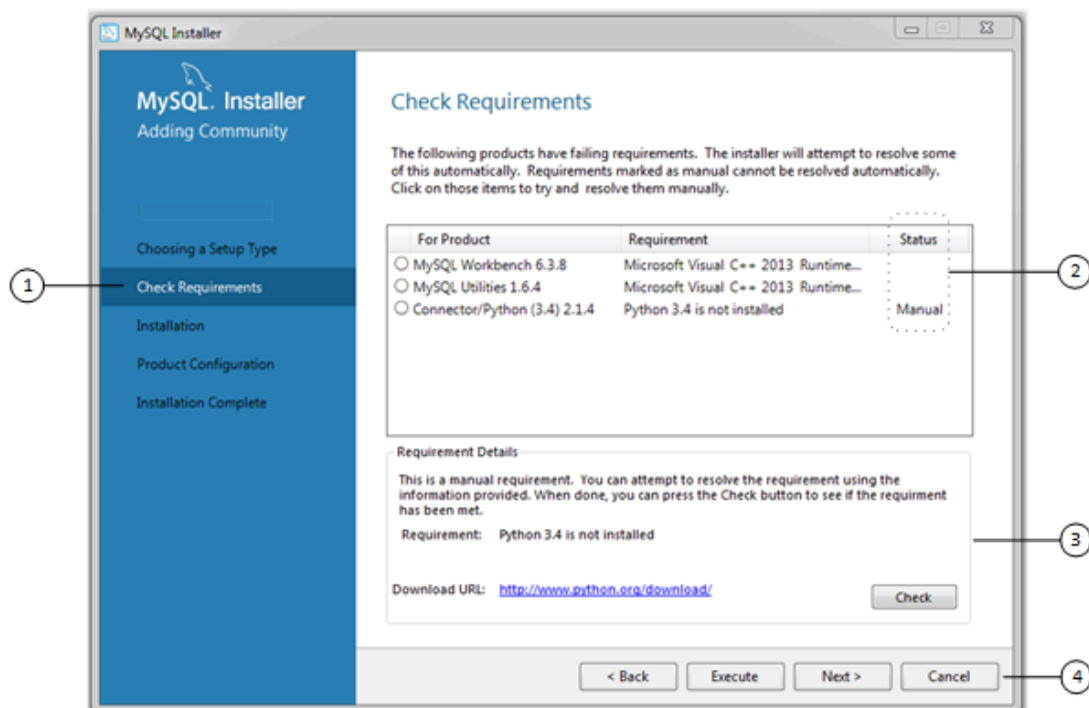
To resolve the path conflict, do one of the following:

- Select a product from the list to display the conflict options. A warning symbol indicates which path is in conflict. Use the browse button to choose a new path and then click **Next**.
- Click **Back** to choose a different setup type or product version, if applicable. The *Custom* setup type enables you to select individual product versions.
- Click **Next** to ignore the conflict and overwrite files in the existing folder.
- Delete the existing product. Click **Cancel** to stop the initial setup and close MySQL Installer. Open MySQL Installer again from the Start menu and delete the installed product from the host using the Delete operation from the [MySQL Installer dashboard](#).

Check Requirements

MySQL Installer uses entries in the `package-rules.xml` file to determine whether the prerequisite software for each product is installed on the host. When the requirements check fails, MySQL Installer displays the **Check Requirements** step to help you update the host. Requirements are evaluated each time you download a new product (or version) for installation. The following figure identifies and describes the key areas of this step.

Figure 2.2 Check Requirements



Description of Check Requirements Elements

1. Shows the current step in the initial setup. Steps in this list may change slightly depending on the products already installed on the host, the availability of prerequisite software, and the products to be installed on the host.
2. Lists all pending installation requirements by product and indicates the status as follows:
 - A blank space in the **Status** column means that MySQL Installer can attempt to download and install the required software for you.
 - The word *Manual* in the **Status** column means that you must satisfy the requirement manually. Select each product in the list to see its requirement details.

3. Describes the requirement in detail to assist you with each manual resolution. When possible, a download URL is provided. After you download and install the required software, click **Check** to verify that the requirement has been met.
4. Provides the following set operations to proceed:
 - **Back** – Return to the previous step. This action enables you to select a different the setup type.
 - **Execute** – Have MySQL Installer attempt to download and install the required software for all items without a manual status. Manual requirements are resolved by you and verified by clicking **Check**.
 - **Next** – Do not execute the request to apply the requirements automatically and proceed to the installation without including the products that fail the check requirements step.
 - **Cancel** – Stop the installation of MySQL products. Because MySQL Installer is already installed, the initial setup begins again when you open MySQL Installer from the Start menu and click **Add** from the dashboard. For a description of the available management operations, see [Product Catalog](#).

MySQL Installer Configuration Files

All MySQL Installer files are located within the `C:\Program Files (x86)` and `C:\ProgramData` folders. The following table describes the files and folders that define MySQL Installer as a standalone application.

Note

Installed MySQL products are neither altered nor removed when you update or uninstall MySQL Installer.

Table 2.1 MySQL Installer Configuration Files

File or Folder	Description	Folder Hierarchy
<code>MySQL Installer for Windows</code>	This folder contains all of the files needed to run MySQL Installer and <code>MySQLInstallerConsole.exe</code> , a command-line program with similar functionality.	<code>C:\Program Files (x86)</code>
<code>Templates</code>	The <code>Templates</code> folder has one file for each version of MySQL server. Template files contain keys and formulas to calculate some values dynamically.	<code>C:\ProgramData\MySQL\MySQL Installer for Windows\Manifest</code>
<code>package-rules.xml</code>	This file contains the prerequisites for every product to be installed.	<code>C:\ProgramData\MySQL\MySQL Installer for Windows\Manifest</code>
<code>products.xml</code>	The <code>products</code> file (or product catalog) contains a list of all products available for download.	<code>C:\ProgramData\MySQL\MySQL Installer for Windows\Manifest</code>
<code>Product Cache</code>	The <code>Product Cache</code> folder contains all standalone <code>.msi</code> files bundled with the full package or downloaded afterward.	<code>C:\ProgramData\MySQL\MySQL Installer for Windows</code>

Chapter 3 Setting Alternative Server Paths with MySQL Installer

You can change the default installation path, the data path, or both when you install MySQL server. After you have installed the server, the paths cannot be altered without removing and reinstalling the server instance.

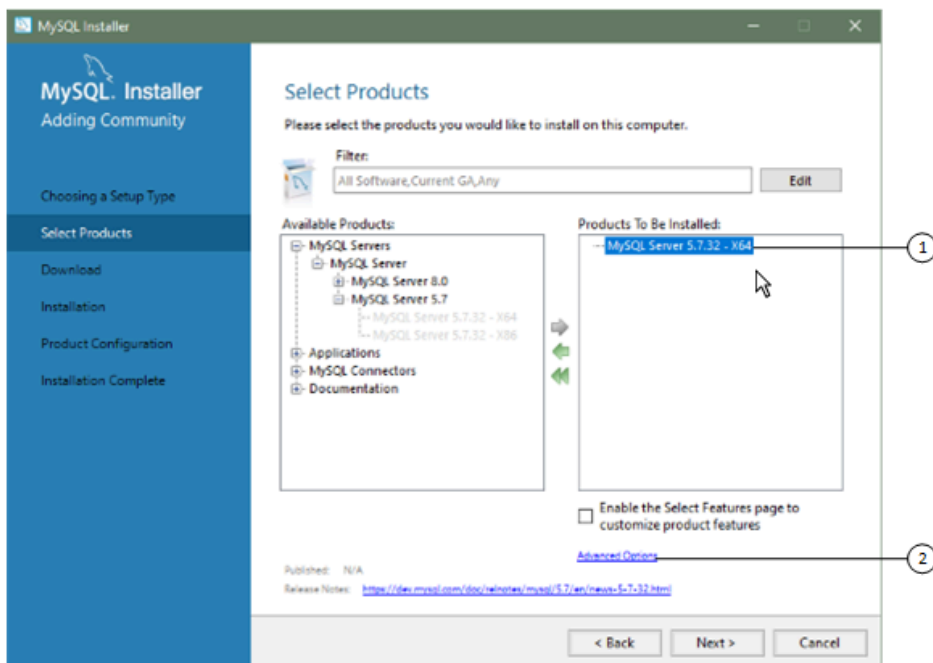
Note

Starting with MySQL Installer 1.4.39, if you move the data directory of an installed server manually, MySQL Installer identifies the change and can process a reconfiguration operation without errors.

To change paths for MySQL server

1. Identify the MySQL server to change and enable the **Advanced Options** link as follows:
 - a. Navigate to the **Select Products** page by doing one of the following:
 - i. If this is an **initial setup** of MySQL Installer, select the **Custom** setup type and click **Next**.
 - ii. If MySQL Installer is installed on your computer, click **Add** from the dashboard.
 - b. Click **Edit** to apply a filter on the product list shown in **Available Products** (see [Locating Products to Install](#)).
 - c. With the server instance selected, use the arrow to move the selected server to the **Products To Be Installed** list.
 - d. Click the server to select it. When you select the server, the **Advanced Options** link is enabled below the list of products to be installed (see the following figure).
2. Click **Advanced Options** to open a dialog box where you can enter alternative path names. After the path names are validated, click **Next** to continue with the configuration steps.

Figure 3.1 Change MySQL Server Path



Chapter 4 Installation Workflows with MySQL Installer

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MySQL Installer provides a wizard-like tool to install and configure new MySQL products for Windows. Unlike the initial setup, which runs only once, MySQL Installer invokes the wizard each time you download or install a new product. For first-time installations, the steps of the initial setup proceed directly into the steps of the installation. For assistance with product selection, see [Locating Products to Install](#).

Note

Full permissions are granted to the user executing MySQL Installer to all generated files, such as `my.ini`. This does not apply to files and directories for specific products, such as the MySQL server data directory in `%ProgramData%` that is owned by `SYSTEM`.

Products installed and configured on a host follow a general pattern that might require your input during the various steps. If you attempt to install a product that is incompatible with the existing MySQL server version (or a version selected for upgrade), you are alerted about the possible mismatch.

MySQL Installer provides the following sequence of actions that apply to different workflows:

- **Select Products.** If you selected the `Custom` setup type during the initial setup or clicked **Add** from the [MySQL Installer dashboard](#), MySQL Installer includes this action in the sidebar. From this page, you can apply a filter to modify the Available Products list and then select one or more products to move (using arrow keys) to the Products To Be Installed list.

Select the check box on this page to activate the Select Features action where you can customize the products features after the product is downloaded.
- **Download.** If you installed the full (not web) MySQL Installer package, all `.msi` files were loaded to the [Product Cache](#) folder during the initial setup and are not downloaded again. Otherwise, click **Execute** to begin the download. The status of each product changes from `Ready to Download`, to `Downloading`, and then to `Downloaded`.
- **Select Features To Install (disabled by default).** After MySQL Installer downloads a product's `.msi` file, you can customize the features if you enabled the optional check box previously during the Select Products action.

To customize product features after the installation, click **Modify** in the [MySQL Installer dashboard](#).

- **Installation.** The status of each product in the list changes from `Ready to Install`, to `Installing`, and lastly to `Complete`. During the process, click **Show Details** to view the installation actions.

If you cancel the installation at this point, the products are installed, but the server (if installed) is not yet configured. To restart the server configuration, open MySQL Installer from the Start menu and click **Reconfigure** next to the appropriate server in the dashboard.

- **Product configuration.** This step applies to MySQL Server, MySQL Router, and samples only. The status for each item in the list should indicate [Ready to Configure](#). Click **Next** to start the configuration wizard for all items in the list. The configuration options presented during this step are specific to the version of database or router that you selected to install.

Click **Execute** to begin applying the configuration options or click **Back** (repeatedly) to return to each configuration page.

- **Installation complete.** This step finalizes the installation for products that do not require configuration. It enables you to copy the log to a clipboard and to start certain applications, such as MySQL Workbench and MySQL Shell. Click **Finish** to open the [MySQL Installer dashboard](#).

4.1 MySQL Server Configuration with MySQL Installer

MySQL Installer performs the initial configuration of the MySQL server. For example:

- It creates the configuration file (`my.ini`) that is used to configure the MySQL server. The values written to this file are influenced by choices you make during the installation process. Some definitions are host dependent. For example, `query_cache` is enabled if the host has fewer than three cores.

Note

Query cache was deprecated in MySQL 5.7 and removed in MySQL 8.0 (and later).

- By default, a Windows service for the MySQL server is added.
- Provides default installation and data paths for MySQL server. For instructions on how to change the default paths, see [Chapter 3, Setting Alternative Server Paths with MySQL Installer](#).
- It can optionally create MySQL server user accounts with configurable permissions based on general roles, such as DB Administrator, DB Designer, and Backup Admin. It optionally creates a Windows user named `MysqlSys` with limited privileges, which would then run the MySQL Server.

User accounts may also be added and configured in MySQL Workbench.

- Checking **Show Advanced Options** enables additional **Logging Options** to be set. This includes defining custom file paths for the error log, general log, slow query log (including the configuration of seconds it requires to execute a query), and the binary log.

During the configuration process, click **Next** to proceed to the next step or **Back** to return to the previous step. Click **Execute** at the final step to apply the server configuration.

The sections that follow describe the server configuration options that apply to MySQL server on Windows. The server version you installed will determine which steps and options you can configure. Configuring MySQL server may include some or all of the steps.

4.1.1 Type and Networking

- Server Configuration Type


Choose the MySQL server configuration type that describes your setup. This setting defines the amount of system resources (memory) to assign to your MySQL server instance.

- **Development:** A computer that hosts many other applications, and typically this is your personal workstation. This setting configures MySQL to use the least amount of memory.
- **Server:** Several other applications are expected to run on this computer, such as a web server. The Server setting configures MySQL to use a medium amount of memory.

- **Dedicated:** A computer that is dedicated to running the MySQL server. Because no other major applications run on this server, this setting configures MySQL to use the majority of available memory.
- Connectivity

Connectivity options control how the connection to MySQL is made. Options include:

- **TCP/IP:** This option is selected by default. You may disable TCP/IP Networking to permit local host connections only. With the TCP/IP connection option selected, you can modify the following items:
 - **Port** for classic MySQL protocol connections. The default value is [3306](#).
 - **X Protocol Port** shown when configuring MySQL 8.0 server only. The default value is [33060](#)
 - **Open Windows Firewall port for network access**, which is selected by default for TCP/IP connections.

If a port number is in use already, you will see the information icon () next to the default value and **Next** is disabled until you provide a new port number.

- **Named Pipe:** Enable and define the pipe name, similar to setting the [named_pipe](#) system variable. The default name is [MySQL](#).
- **Shared Memory:** Enable and define the memory name, similar to setting the [shared_memory](#) system variable. The default name is [MySQL](#).
- Advanced Configuration

Check **Show Advanced and Logging Options** to set custom logging and advanced options in later steps. The Logging Options step enables you to define custom file paths for the error log, general log, slow query log (including the configuration of seconds it requires to execute a query), and the binary log. The Advanced Options step enables you to set the unique server ID required when binary logging is enabled in a replication topology.

- MySQL Enterprise Firewall (Enterprise Edition only)

The **Enable MySQL Enterprise Firewall** check box is deselected by default. Select this option to enable a security list that offers protection against certain types of attacks. Additional post-installation configuration is required (see [MySQL Enterprise Firewall](#)).

Important

There is an issue for MySQL 8.0.19 that prevents the server from starting if MySQL Enterprise Firewall is selected during the server configuration steps. If the server startup operation fails, click **Cancel** to end the configuration process and return to the dashboard. You must uninstall the server.

The workaround is to run MySQL Installer without MySQL Enterprise Firewall selected. (That is, do not select the **Enable MySQL Enterprise Firewall** check box.) Then install MySQL Enterprise Firewall afterward using the instructions for manual installation (see [Installing or Uninstalling MySQL Enterprise Firewall](#)).

4.1.2 Authentication Method

The **Authentication Method** step is visible only during the installation or upgrade of MySQL 8.0.4 or higher. It introduces a choice between two server-side authentication options. The MySQL user accounts that you create in the next step will use the authentication method that you select in this step.

MySQL 8.0 connectors and community drivers that use `libmysqlclient` 8.0 now support the `mysql_native_password` default authentication plugin. However, if you are unable to update your clients and applications to support this new authentication method, you can configure the MySQL server to use `mysql_native_password` for legacy authentication. For more information about the implications of this change, see [caching_sha2_password as the Preferred Authentication Plugin](#).

If you are installing or upgrading to MySQL 8.0.4 or higher, select one of the following authentication methods:

- Use Strong Password Encryption for Authentication (RECOMMENDED)

MySQL 8.0 supports a new authentication based on improved, stronger SHA256-based password methods. It is recommended that all new MySQL server installations use this method going forward.

Important

The `caching_sha2_password` authentication plugin on the server requires new versions of connectors and clients, which add support for the new MySQL 8.0 default authentication.

- Use Legacy Authentication Method (Retain MySQL 5.x Compatibility)


Using the old MySQL 5.x legacy authentication method should be considered only in the following cases:

- Applications cannot be updated to use MySQL 8.0 connectors and drivers.
- Recompilation of an existing application is not feasible.
- An updated, language-specific connector or driver is not available yet.

4.1.3 Accounts and Roles

- Root Account Password

Assigning a root password is required and you will be asked for it when performing other MySQL Installer operations. Password strength is evaluated when you repeat the password in the box provided. For descriptive information regarding password requirements or status, move your mouse

pointer over the information icon () when it appears.

- MySQL User Accounts (Optional)

Click **Add User** or **Edit User** to create or modify MySQL user accounts with predefined roles. Next, enter the required account credentials:

- **User Name:** MySQL user names can be up to 32 characters long.
- **Host:** Select `localhost` for local connections only or `<All Hosts (%)>` when remote connections to the server are required.
- **Role:** Each predefined role, such as `DB Admin`, is configured with its own set of privileges. For example, the `DB Admin` role has more privileges than the `DB Designer` role. The **Role** drop-down list contains a description of each role.
- **Password:** Password strength assessment is performed while you type the password. Passwords must be confirmed. MySQL permits a blank or empty password (considered to be insecure).

MySQL Installer Commercial Release Only: MySQL Enterprise Edition for Windows, a commercial product, also supports an authentication method that performs external authentication on Windows. Accounts authenticated by the Windows operating system can access the MySQL server without providing an additional password.

To create a new MySQL account that uses Windows authentication, enter the user name and then select a value for **Host** and **Role**. Click **Windows** authentication to enable the `authentication_windows` plugin. In the Windows Security Tokens area, enter a token for each Windows user (or group) who can authenticate with the MySQL user name. MySQL accounts can include security tokens for both local Windows users and Windows users that belong to a domain. Multiple security tokens are separated by the semicolon character (;) and use the following format for local and domain accounts:

- Local account

Enter the simple Windows user name as the security token for each local user or group; for example, `finley;jeffrey;admin`.

- Domain account

Use standard Windows syntax (`domain\domainuser`) or MySQL syntax (`domain\domainuser`) to enter Windows domain users and groups.

For domain accounts, you may need to use the credentials of an administrator within the domain if the account running MySQL Installer lacks the permissions to query the Active Directory. If this is the case, select **Validate Active Directory users with** to activate the domain administrator credentials.

Windows authentication permits you to test all of the security tokens each time you add or modify a token. Click **Test Security Tokens** to validate (or revalidate) each token. Invalid tokens generate a descriptive error message along with a red `x` icon and red token text. When all tokens resolve as valid (green text without an `x` icon), you can click **OK** to save the changes.

4.1.4 Windows Service

On the Windows platform, MySQL server can run as a named service managed by the operating system and be configured to start up automatically when Windows starts. Alternatively, you can configure MySQL server to run as an executable program that requires manual configuration.

- **Configure MySQL server as a Windows service** (Selected by default.)

When the default configuration option is selected, you can also select the following:

- **Start the MySQL Server at System Startup**

When selected (default), the service startup type is set to Automatic; otherwise, the startup type is set to Manual.

- **Run Windows Service as**

When **Standard System Account** is selected (default), the service logs on as Network Service.

The **Custom User** option must have privileges to log on to Microsoft Windows as a service. The **Next** button will be disabled until this user is configured with the required privileges.

A custom user account is configured in Windows by searching for "local security policy" in the Start menu. In the Local Security Policy window, select **Local Policies, User Rights Assignment**, and then **Log On As A Service** to open the property dialog. Click **Add User or Group** to add the custom user and then click **OK** in each dialog to save the changes.

- Deselect the Windows Service option

4.1.5 Logging Options

This step is available if the **Show Advanced Configuration** check box was selected during the **Type and Networking** step. To enable this step now, click **Back** to return to the **Type and Networking** step and select the check box.

Advanced configuration options are related to the following MySQL log files:

- [Error Log](#)
- [General Log](#)
- [Slow Query Log](#)
- [Bin Log](#)

Note

The binary log is enabled by default for MySQL 5.7 and higher.

4.1.6 Advanced Options

This step is available if the **Show Advanced Configuration** check box was selected during the **Type and Networking** step. To enable this step now, click **Back** to return to the **Type and Networking** step and select the check box.

The advanced-configuration options include:

- **Server ID**

Set the unique identifier used in a replication topology. If binary logging is enabled, you must specify a server ID. The default ID value depends on the server version. For more information, see the description of the `server_id` system variable.

- **Table Names Case**

You can set the following options during the initial and subsequent configuration the server. For the MySQL 8.0 release series, these options apply only to the initial configuration of the server.

- Lower Case

Sets the `lower_case_table_names` option value to 1 (default), in which table names are stored in lowercase on disk and comparisons are not case-sensitive.

- Preserve Given Case

Sets the `lower_case_table_names` option value to 2, in which table names are stored as given but compared in lowercase.

4.1.7 Apply Server Configuration

All configuration settings are applied to the MySQL server when you click **Execute**. Use the **Configuration Steps** tab to follow the progress of each action; the icon for each toggles from white to green (with a check mark) on success. Otherwise, the process stops and displays an error message if an individual action times out. Click the **Log** tab to view the log.

When the installation completes successfully and you click **Finish**, MySQL Installer and the installed MySQL products are added to the Microsoft Windows Start menu under the `MySQL` group. Opening MySQL Installer loads the `dashboard` where installed MySQL products are listed and other MySQL Installer operations are available.

4.2 MySQL Router Configuration with MySQL Installer

MySQL Installer downloads and installs a suite of tools for developing and managing business-critical applications on Windows. The suite consists of applications, connectors, documentation, and samples.

During the [initial setup](#), choose any predetermined setup type, except [Server only](#), to install the latest GA version of the tools. Use the [Custom](#) setup type to install an individual tool or specific version. If MySQL Installer is installed on the host already, use the **Add** operation to select and install tools from the MySQL Installer dashboard.

MySQL Router Configuration

MySQL Installer provides a configuration wizard that can bootstrap an installed instance of MySQL Router 8.0 to direct traffic between MySQL applications and an InnoDB Cluster. When configured, MySQL Router runs as a local Windows service.

Note

You are prompted to configure MySQL Router after the initial installation and when you reconfigure an installed router explicitly. In contrast, the upgrade operation does not require or prompt you to configure the upgraded product.

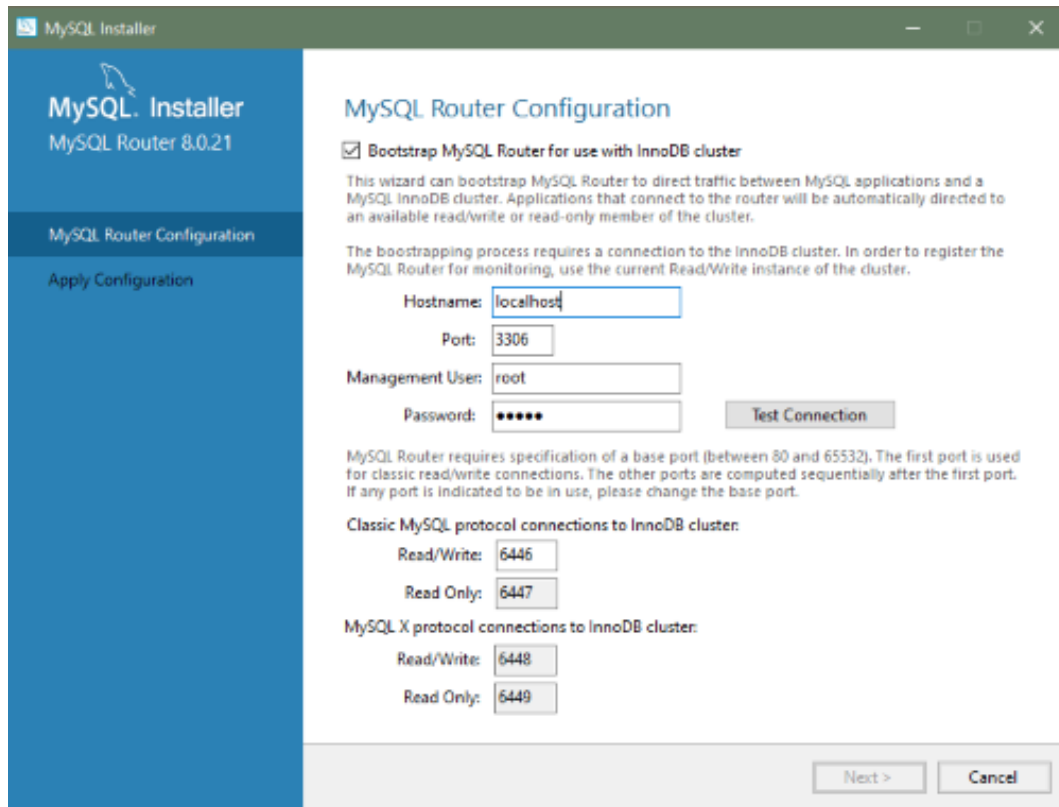
To configure MySQL Router, do the following:

1. Set up InnoDB Cluster.
2. Using MySQL Installer, download and install the MySQL Router application. After the installation finishes, the configuration wizard prompts you for information. Select the **Configure MySQL Router for InnoDB Cluster** check box to begin the configuration and provide the following configuration values:
 - **Hostname:** Host name of the primary (seed) server in the InnoDB Cluster ([localhost](#) by default).
 - **Port:** The port number of the primary (seed) server in the InnoDB Cluster ([3306](#) by default).
 - **Management User:** An administrative user with root-level privileges.
 - **Password:** The password for the management user.
 - **Classic MySQL protocol connections to InnoDB Cluster**

Read/Write: Set the first base port number to one that is unused (between 80 and 65532) and the wizard will select the remaining ports for you.

The figure that follows shows an example of the MySQL Router configuration page, with the first base port number specified as 6446 and the remaining ports set by the wizard to 6447, 6448, and 6449.

Figure 4.1 MySQL Router Configuration



3. Click **Next** and then **Execute** to apply the configuration. Click **Finish** to close MySQL Installer or return to the [MySQL Installer dashboard](#).

After configuring MySQL Router, the root account exists in the user table as `root@localhost` (local) only, instead of `root@%` (remote). Regardless of where the router and client are located, even if both are located on the same host as the seed server, any connection that passes through the router is viewed by server as being remote, not local. As a result, a connection made to the server using the local host (see the example that follows), does not authenticate.

```
$> \c root@localhost:6446
```

Chapter 5 MySQL Installer Product Catalog and Dashboard

This section describes the MySQL Installer product catalog, the dashboard, and other actions related to product selection and upgrades.

- [Product Catalog](#)
- [MySQL Installer Dashboard](#)
- [Locating Products to Install](#)
- [Upgrading MySQL Server](#)
- [Removing MySQL Server](#)
- [Upgrading MySQL Installer](#)

Product Catalog

The product catalog stores the complete list of released MySQL products for Microsoft Windows that are available to download from [MySQL Downloads](#). By default, and when an Internet connection is present, MySQL Installer attempts to update the catalog at startup every seven days. You can also update the catalog manually from the dashboard (described later).

An up-to-date catalog performs the following actions:

- Populates the **Available Products** pane of the Select Products page. This step appears when you select:
 - The **Custom** setup type during the [initial setup](#).
 - The **Add** operation from the dashboard.
- Identifies when product updates are available for the installed products listed in the dashboard.

The catalog includes all development releases (Pre-Release), general releases (Current GA), and minor releases (Other Releases). Products in the catalog will vary somewhat, depending on the MySQL Installer release that you download.

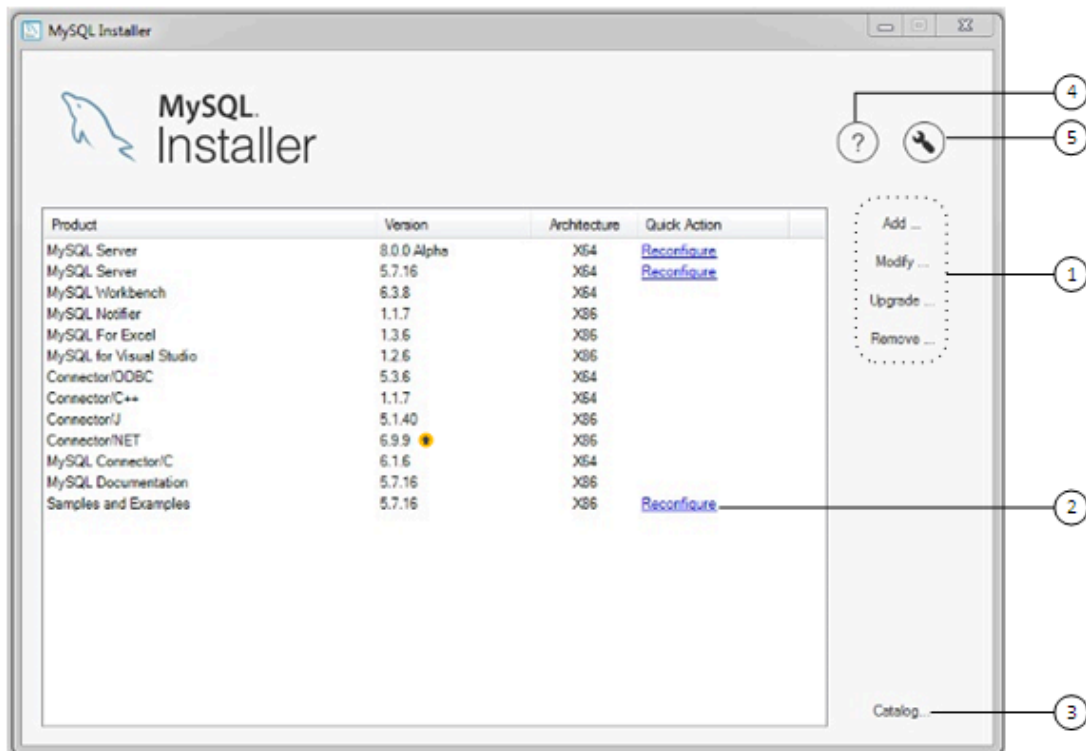
MySQL Installer Dashboard

The MySQL Installer dashboard is the default view that you see when you start MySQL Installer after the [initial setup](#) finishes. If you closed MySQL Installer before the setup was finished, MySQL Installer resumes the initial setup before it displays the dashboard.

Note

Products covered under Oracle Lifetime Sustaining Support, if installed, may appear in the dashboard. These products, such as MySQL for Excel and MySQL Notifier, can be modified or removed only.

Figure 5.1 MySQL Installer Dashboard Elements



Description of MySQL Installer Dashboard Elements

1. MySQL Installer dashboard operations provide a variety of actions that apply to installed products or products listed in the catalog. To initiate the following operations, first click the operation link and then select the product or products to manage:

- **Add:** This operation opens the Select Products page. From there you can adjust the filter, select one or more products to download (as needed), and begin the installation. For hints about using the filter, see [Locating Products to Install](#).

Use the directional arrows to move each product from the **Available Products** column to the **Products To Be Installed** column. To enable the Product Features page where you can customize features, click the related check box (disabled by default).

Note

For MySQL Server versions 8.0.20 (and earlier), 5.7, and 5.6, the account you use to run MySQL Installer may not have adequate permission to install the server data files and this can interrupt the installation because the `ExecSecureObjects` MSI action cannot be executed. To proceed, deselect the **Server data files** feature before attempting to install the server again.

The **Server data files** check box was removed from the feature tree for MySQL Server 8.0.21 (or higher).

- **Modify:** Use this operation to add or remove the features associated with installed products. Features that you can modify vary in complexity by product. When the **Program Shortcut** check box is selected, the product appears in the Start menu under the [MySQL](#) group.
- **Upgrade:** This operation loads the Select Products to Upgrade page and populates it with all the upgrade candidates. An installed product can have more than one upgrade version and

the operation requires a current product catalog. MySQL Installer upgrades all of the selected products in one action. Click **Show Details** to view the actions performed by MySQL Installer.

- **Remove:** This operation opens the Remove Products page and populates it with the MySQL products installed on the host. Select the MySQL products you want to remove (uninstall) and then click **Execute** to begin the removal process. During the operation, an indicator shows the number of steps that are executed as a percentage of all steps.


To select products to remove, do one of the following:

- Select the check box for one or more products.
 - Select the **Product** check box to select all products.
2. The **Reconfigure** link in the Quick Action column next to each installed server loads the current configuration values for the server and then cycles through all configuration steps enabling you to change the options and values. You must provide credentials with root privileges to reconfigure these items. Click the **Log** tab to show the output of each configuration step performed by MySQL Installer.

On completion, MySQL Installer stops the server, applies the configuration changes, and restarts the server for you. For a description of each configuration option, see [Section 4.1, “MySQL Server Configuration with MySQL Installer”](#). Installed [Samples and Examples](#) associated with a specific MySQL server version can be also be reconfigured to apply new feature settings, if any.


3. The **Catalog** link enables you to download the latest catalog of MySQL products manually and then to integrate those product changes with MySQL Installer. The catalog-download action does not perform an upgrade of the products already installed on the host. Instead, it returns to the dashboard and adds an arrow icon to the Version column for each installed product that has a newer version. Use the **Upgrade** operation to install the newer product version.

You can also use the **Catalog** link to display the current change history of each product without downloading the new catalog. Select the **Do not update at this time** check box to view the change history only.

4. The MySQL Installer About icon () shows the current version of MySQL Installer and general information about MySQL. The version number is located above the **Back** button.




Tip

Always include this version number when reporting a problem with MySQL Installer.

In addition to the About MySQL information () you can also select the following icons from the side panel:

- License icon () for MySQL Installer.

This product may include third-party software, used under license. If you are using a Commercial release of MySQL Installer, the icon opens the MySQL Installer Commercial License Information User Manual for licensing information, including licensing information relating to third-party software that may be included in this Commercial release. If you are using a Community release of MySQL Installer, the icon opens the MySQL Installer Community License Information User Manual for licensing information, including licensing information relating to third-party software that may be included in this Community release.

- Resource links icon () to the latest MySQL product documentation, blogs, webinars, and more.
5. The MySQL Installer Options icon () includes the following tabs:
- **Product Catalog:** Manages the automatic catalog updates. By default, MySQL Installer checks for catalog updates at startup every seven days. When new products or product versions are available, MySQL Installer adds them to the catalog and then inserts an arrow icon () next to the version number of installed products listed in the dashboard.

Use the product catalog option to enable or disable automatic updates and to reset the number of days between automatic catalog downloads. At startup, MySQL Installer uses the number of days you set to determine whether a download should be attempted. This action is repeated during next startup if MySQL Installer encounters an error downloading the catalog.
 - **Connectivity Settings:** Several operations performed by MySQL Installer require internet access. This option enables you to use a default value to validate the connection or to use a different URL, one selected from a list or added by you manually. With the **Manual** option selected, new URLs can be added and all URLs in the list can be moved or deleted. When the **Automatic** option is selected, MySQL Installer attempts to connect to each default URL in the list (in order) until a connection is made. If no connection can be made, it raises an error.

Locating Products to Install

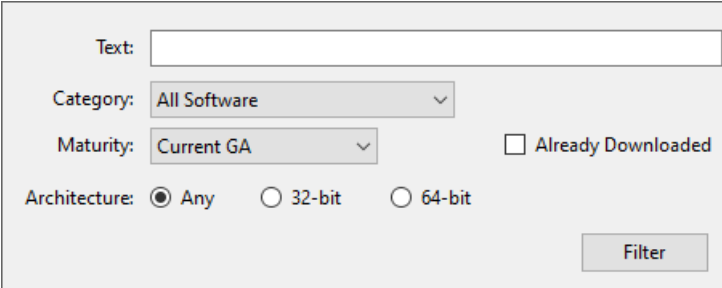
MySQL products in the catalog are listed by category: MySQL Servers, Applications, MySQL Connectors, and Documentation. Only the latest GA versions appear in the **Available Products** pane by default. If you are looking for a pre-release or older version of a product, it may not be visible in the default list.

Note

Keep the product catalog up-to-date. Click **Catalog** on the MySQL Installer dashboard to download the latest manifest.

To change the default product list, click **Add** in the dashboard to open the Select Products page, and then click **Edit** to open the dialog box shown in the figure that follows. Modify the settings and then click **Filter**.

Figure 5.2 Filter Available Products



Text:

Category: All Software ▾

Maturity: Current GA ▾ Already Downloaded

Architecture: Any 32-bit 64-bit

Reset one or more of the following fields to modify the list of available products:

- Text: Filter by text.
- Category: All Software (default), MySQL Servers, Applications, MySQL Connectors, or Documentation (for samples and documentation).

- **Maturity:** Current Bundle (appears initially with the full package only), Pre-Release, Current GA, or Other Releases. If you see a warning, confirm that you have the most recent product manifest by clicking **Catalog** on the MySQL Installer dashboard. If MySQL Installer is unable to download the manifest, the range of products you see is limited to bundled products, standalone product MSIs located in the [Product Cache](#) folder already, or both.

Note

The Commercial release of MySQL Installer does not display any MySQL products when you select the Pre-Release maturity filter. Products in development are available from the Community release of MySQL Installer only.

- **Already Downloaded** (the check box is deselected by default). Permits you to view and manage downloaded products only.
- **Architecture:** Any (default), 32-bit, or 64-bit.

Upgrading MySQL Server

Important server upgrade conditions:

- MySQL Installer does not permit server upgrades between major release versions or minor release versions, but does permit upgrades within a release series, such as an upgrade from 5.7.18 to 5.7.19.
- Upgrades between milestone releases (or from a milestone release to a GA release) are not supported. Significant development changes take place in milestone releases and you may encounter compatibility issues or problems starting the server.
- For upgrades to MySQL 8.0.16 server and higher, a check box enables you to skip the upgrade check and process for system tables, while checking and processing data dictionary tables normally. MySQL Installer does not prompt you with the check box when the previous server upgrade was skipped or when the server was configured as a sandbox InnoDB Cluster. This behavior represents a change in how MySQL Server performs an upgrade (see [What the MySQL Upgrade Process Upgrades](#)) and it alters the sequence of steps that MySQL Installer applies to the configuration process.

If you select **Skip system tables upgrade check and process. (Not recommended)**, MySQL Installer starts the upgraded server with the `--upgrade=MINIMAL` server option, which upgrades the data dictionary only. If you stop and then restart the server without the `--upgrade=MINIMAL` option, the server upgrades the system tables automatically, if needed.

The following information appears in the **Log** tab and log file after the upgrade configuration (with system tables skipped) is complete:

```
WARNING: The system tables upgrade was skipped after upgrading MySQL Server. The
server will be started now with the --upgrade=MINIMAL option, but then each
time the server is started it will attempt to upgrade the system tables, unless
you modify the Windows service (command line) to add --upgrade=MINIMAL to bypass
the upgrade.
FOR THE BEST RESULTS: Run mysqld.exe --upgrade=FORCE on the command line to upgrade
the system tables manually.
```

To choose a new server version:

1. Click **Upgrade**. Confirm that the check box next to product name in the **Upgradeable Products** pane has a check mark. Deselect the products that you do not intend to upgrade at this time.

Note

For server milestone releases in the same release series, MySQL Installer deselects the server upgrade and displays a warning to indicate that the

upgrade is not supported, identifies the risks of continuing, and provides a summary of the steps to perform a logical upgrade manually. You can reselect server upgrade at your own risk. For instructions on how to perform a logical upgrade with a milestone release, see [Logical Upgrade](#).

2. Click a product in the list to highlight it. This action populates the **Upgradeable Versions** pane with the details of each available version for the selected product: version number, published date, and a [Changes](#) link to open the release notes for that version.

Removing MySQL Server


To remove a local MySQL server:

1. Determine whether the local data directory should be removed. If you retain the data directory, another server installation can reuse the data. This option is enabled by default (removes the data directory).
2. Click **Execute** to begin uninstalling the local server. Note that all products that you selected to remove are also uninstalled at this time.
3. (Optional) Click the **Log** tab to display the current actions performed by MySQL Installer.

Upgrading MySQL Installer

MySQL Installer remains installed on your computer, and like other software, MySQL Installer can be upgraded from the previous version. In some cases, other MySQL software may require that you upgrade MySQL Installer for compatibility. This section describes how to identify the current version of MySQL Installer and how to upgrade MySQL Installer manually.

To locate the installed version of MySQL Installer:

1. Start MySQL Installer from the search menu. The MySQL Installer dashboard opens.
2. Click the MySQL Installer About icon (). The version number is located above the **Back** button.

To initiate an on-demand upgrade of MySQL Installer:

1. Connect the computer with MySQL Installer installed to the internet.
2. Start MySQL Installer from the search menu. The MySQL Installer dashboard opens.
3. Click **Catalog** on the bottom of the dashboard to open the Update Catalog window.
4. Click **Execute** to begin the process. If the installed version of MySQL Installer can be upgraded, you will be prompted to start the upgrade.
5. Click **Next** to review all changes to the catalog and then click **Finish** to return to the dashboard.
6. Verify the (new) installed version of MySQL Installer (see the previous procedure).

Chapter 6 MySQLInstallerConsole Reference

`MySQLInstallerConsole.exe` provides command-line functionality that is similar to MySQL Installer. It is installed when MySQL Installer is initially executed and then available within the `MySQL Installer for Windows` directory. By default, that is in `C:\Program Files (x86)\MySQL\MySQL Installer for Windows`, and the console must be executed with administrative privileges.

To use, invoke the command prompt with administrative privileges by choosing **Start, Accessories**, then right-click on **Command Prompt** and choose **Run as administrator**. And from the command line, optionally change the directory to where `MySQLInstallerConsole.exe` is located:

```
C:\> cd Program Files (x86)\MySQL\MySQL Installer for Windows
C:\Program Files (x86)\MySQL\MySQL Installer for Windows> MySQLInstallerConsole.exe help
===== Start Initialization =====
MySQL Installer is running in Community mode
Attempting to update manifest.
Initializing product requirements
Loading product catalog
Checking for product catalog snippets
Checking for product packages in the bundle
Categorizing product catalog
Finding all installed packages.
Your product catalog was last updated at 11/1/2016 4:10:38 PM
===== End Initialization =====
The following commands are available:
Configure - Configures one or more of your installed programs.
Help      - Provides list of available commands.
Install   - Install and configure one or more available MySQL programs.
List      - Provides an interactive way to list all products available.
Modify    - Modifies the features of installed products.
Remove    - Removes one or more products from your system.
Status    - Shows the status of all installed products.
Update    - Update the current product catalog.
Upgrade   - Upgrades one or more of your installed programs.
```

MySQL Product Names

Many of the `MySQLInstallerConsole` commands accept one or more keywords that represent a MySQL product (or products) in the catalog. The current set of valid keywords for use with commands is shown in the following table.

Table 6.1 MySQL Product Keywords for MySQLInstallerConsole

Keyword	MySQL Product
<code>server</code>	MySQL Server
<code>workbench</code>	MySQL Workbench
<code>shell</code>	MySQL Shell
<code>visual</code>	MySQL for Visual Studio
<code>router</code>	MySQL Router
<code>backup</code>	MySQL Enterprise Backup
<code>net</code>	MySQL Connector/NET
<code>odbc</code>	MySQL Connector/ODBC
<code>c++</code>	MySQL Connector/C++
<code>python</code>	MySQL Connector/Python
<code>j</code>	MySQL Connector/J
<code>documentation</code>	MySQL Server Documentation
<code>samples</code>	MySQL Samples (sakila and world databases)

MySQLInstallerConsole Command Options

MySQLInstallerConsole.exe supports the following command options:

Note

Configuration block values that contain a colon character (:) must be wrapped in quotation marks. For example, `installdir="C:\MySQL\MySQL Server 8.0"`.

- `configure [product1]:[setting]=[value]; [product2]:[setting]=[value]; [...]`

Configures one or more MySQL products on your system. Multiple setting=value pairs can be configured for each product.

Switches include:

`-showsettings` Displays the available options for the selected product, by passing in the product name after `-showsettings`.

`-silent` Disables confirmation prompts.

```
C:\> MySQLInstallerConsole configure -showsettings server
C:\> MySQLInstallerConsole configure server:port=3307
```

- `help [command]`

Displays a help message with usage examples and then exits. Pass in an additional command to receive help specific to that command.

```
C:\> MySQLInstallerConsole help
C:\> MySQLInstallerConsole help install
```

- `install [product]:[features]:[config block]:[config block]:[config block]; [...]`

Installs one or more MySQL products on your system. If pre-release products are available, both GA and pre-release products are installed when the value of the `-type` switch is `Developer`, `Client`, or `Full`. Use the `-only_ga_products` switch to restrict the product set to GA products only when using these setup types.

Switches and syntax options include:

`-only_ga_products` Restricts the product set to include GA products only.

`-type=[SetupType]` Installs a predefined set of software. The setup type can be one of the following:

- `Developer`: Installs a complete development environment.
- `Server`: Installs a single MySQL server
- `Client`: Installs client programs and libraries
- `Full`: Installs everything
- `Custom`: Installs user-selected products. This is the default option.

Note

Non-custom setup types are valid only when no other MySQL products are installed.

<code>-showsettings</code>	Displays the available options for the selected product, by passing in the product name after <code>-showsettings</code> .
<code>-silent</code>	Disable confirmation prompts.
<code>[product]</code>	Each product can be specified by a product keyword with or without a semicolon-separated version qualifier. Passing in a product keyword alone selects the latest version of the product. If multiple architectures are available for that version of the product, the command returns the first one in the manifest list for interactive confirmation. Alternatively, you can pass in the exact version and architecture (<code>x86</code> or <code>x64</code>) after the product keyword using the <code>-silent</code> switch.
<code>[features]</code>	All features associated with a MySQL product are installed by default. The feature block is a semicolon-separated list of features or an asterisk character (*) that selects all features. To remove a feature, use the <code>modify</code> command.
<code>[config block]</code>	One or more configuration blocks can be specified. Each configuration block is a semicolon-separated list of key-value pairs. A block can include either a <code>config</code> or <code>user</code> type key; <code>config</code> is the default type if one is not defined. Configuration block values that contain a colon character (:) must be wrapped in quotation marks. For example, <code>installdir="C:\MySQL\MySQL Server 8.0"</code> . Only one configuration type block can be defined for each product. A user block should be defined for each user to be created during the product installation.

Note

The `user` type key is not supported when a product is being reconfigured.

```
C:\> MySQLInstallerConsole install server;5.6.25:*:port=3307;serverid=2:type=user;username=foo;password=pass
C:\> MySQLInstallerConsole install server;5.6.25;x64 -silent
```

An example that passes in additional configuration blocks, separated by ^ to fit:

```
C:\> MySQLInstallerConsole install server;5.6.25;x64:*:type=config;openfirewall=true; ^
    generallog=true;binlog=true;serverid=3306;enable_tcpip=true;port=3306;rootpasswd=pass; ^
    installdir="C:\MySQL\MySQL Server 5.6":type=user;datadir="C:\MySQL\data";username=foo;password=pass
```

- `list`

Lists an interactive console where all of the available MySQL products can be searched. Execute `MySQLInstallerConsole list` to launch the console and enter in a substring to search.

```
C:\> MySQLInstallerConsole list
```

- `modify [product1:-removelist|+addlist] [product2:-removelist|+addlist] [...]`

Modifies or displays features of a previously installed MySQL product. To display the features of a product, append the product keyword to the command, for example:

```
C:\> MySQLInstallerConsole modify server
```

The syntax option for this command:

`-silent` Disable confirmation prompts.

```
C:\> MySQLInstallerConsole modify server:+documentation
```

```
C:\> MySQLInstallerConsole modify server:-debug
```

- `remove [product1] [product2] [...]`

Removes one or more products from your system. Switches and syntax options include:

* Pass in * to remove all of the MySQL products.

`-continue` Continue the operation even if an error occurs.

`-silent` Disable confirmation prompts.

```
C:\> MySQLInstallerConsole remove *
```

```
C:\> MySQLInstallerConsole remove server
```

- `status`

Provides a quick overview of the MySQL products that are installed on the system. Information includes product name and version, architecture, date installed, and install location.

```
C:\> MySQLInstallerConsole status
```

- `update`

Downloads the latest MySQL product catalog to your system. On success, the catalog is applied the next time either `MySQLInstaller` or `MySQLInstallerConsole.exe` is executed.

```
C:\> MySQLInstallerConsole update
```

Note

The **Automatic Catalog Update** GUI option executes this command from the Windows Task Scheduler.

- `upgrade [product1:version] [product2:version] [...]`

Upgrades one or more products on your system. Syntax options include:

* Pass in * to upgrade all products to the latest version, or pass in specific products.

! Pass in ! as a version number to upgrade the MySQL product to its latest version.

`-silent` Disable confirmation prompts.

```
C:\> MySQLInstallerConsole upgrade *
```

```
C:\> MySQLInstallerConsole upgrade workbench:8.0.21
```

```
C:\> MySQLInstallerConsole upgrade workbench:!
```

```
C:\> MySQLInstallerConsole upgrade workbench:8.0.21 visual:1.2.9
```