Using the MySQL Yum Repository

Abstract

This document provides some basic instructions for using the MySQL Yum Repository to install and upgrade MySQL. It is excerpted from the MySQL 5.6 Reference Manual.

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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Chapter 1 Installing MySQL on Linux Using the MySQL Yum Repository

The MySQL Yum repository for Oracle Linux, Red Hat Enterprise Linux, and CentOS provides RPM packages for installing the MySQL server, client, MySQL Workbench, MySQL Utilities, MySQL Router, MySQL Shell, Connector/ODBC, Connector/Python and so on (not all packages are available for all the distributions; see Installing Additional MySQL Products and Components with Yum for details).

Before You Start

As a popular, open-source software, MySQL, in its original or re-packaged form, is widely installed on many systems from various sources, including different software download sites, software repositories, and so on. The following instructions assume that MySQL is not already installed on your system using a third-party-distributed RPM package; if that is not the case, follow the instructions given in Chapter 3, *Upgrading MySQL with the MySQL Yum Repository* or Chapter 2, *Replacing a Third-Party Distribution of MySQL Using the MySQL Yum Repository*.

Steps for a Fresh Installation of MySQL

Follow the steps below to install the latest GA release of MySQL (from the MySQL 5.7 series currently) with the MySQL Yum repository:

Adding[1] the MySQL Yum Repository

First, add the MySQL Yum repository to your system's repository list. This is a one-time operation, which can be performed by installing an RPM provided by MySQL. Follow these steps:

a. Go to the Download MySQL Yum Repository page (https://dev.mysql.com/downloads/repo/yum/) in the MySQL Developer Zone.

b. Select and download the release package for your platform.

c. Install the downloaded release package with the following command, replacing `platform-and-version-specific-package-name` with the name of the downloaded RPM package:

```
shell> sudo yum localinstall platform-and-version-specific-package-name.rpm
```

For an EL6-based system, the command is in the form of:

```
shell> sudo yum localinstall mysql57-community-release-el6-{version-number}.noarch.rpm
```

For an EL7-based system:

```
shell> sudo yum localinstall mysql57-community-release-el7-{version-number}.noarch.rpm
```

The installation command adds the MySQL Yum repository to your system's repository list and downloads the GnuPG key to check the integrity of the software packages. See Signature Checking Using GnuPG for details on GnuPG key checking.

You can check that the MySQL Yum repository has been successfully added by the following command:

```
shell> yum repolist enabled | grep "mysql.*-community.*"
```

> **Note**
>
> Once the MySQL Yum repository is enabled on your system, any system-wide update by the `yum update` command upgrades MySQL packages on your system and also replace any native third-party packages, if Yum finds replacements for them in the MySQL Yum repository; see Chapter 3,

> *Upgrading MySQL with the MySQL Yum Repository* and, for a discussion
> on some possible effects of that on your system, see Upgrading the Shared
> Client Libraries.

Selecting a Release Series

When using the MySQL Yum repository, the latest GA series (currently MySQL 5.7) is selected for installation by default. If this is what you want, you can skip to the next step, Installing MySQL.

Within the MySQL Yum repository, different release series of the MySQL Community Server are hosted in different subrepositories. The subrepository for the latest GA series (currently MySQL 5.7) is enabled by default, and the subrepositories for all other series (for example, the MySQL 5.6 series) are disabled by default. Use this command to see all the subrepositories in the MySQL Yum repository, and see which of them are enabled or disabled:

```
shell> yum repolist all | grep mysql
```

To install the latest release from the latest GA series, no configuration is needed. To install the latest release from a specific series other than the latest GA series, disable the subrepository for the latest GA series and enable the subrepository for the specific series before running the installation command. If your platform supports `yum-config-manager`, you can do that by issuing these commands, which disable the subrepository for the 5.7 series and enable the one for the 5.6 series:

```
shell> sudo yum-config-manager --disable mysql57-community
shell> sudo yum-config-manager --enable mysql56-community
```

Besides using `yum-config-manager` command, you can also select a release series by editing manually the `/etc/yum.repos.d/mysql-community.repo` file. This is a typical entry for a release series' subrepository in the file:

```
[mysql57-community]
name=MySQL 5.7 Community Server
baseurl=http://repo.mysql.com/yum/mysql-5.7-community/el/6/$basearch/
enabled=1
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-mysql
```

Find the entry for the subrepository you want to configure, and edit the `enabled` option. Specify `enabled=0` to disable a subrepository, or `enabled=1` to enable a subrepository. For example, to install MySQL 5.6, make sure you have `enabled=0` for the above subrepository entry for MySQL 5.7, and have `enabled=1` for the entry for the 5.6 series:

```
# Enable to use MySQL 5.6
[mysql56-community]
name=MySQL 5.6 Community Server
baseurl=http://repo.mysql.com/yum/mysql-5.6-community/el/6/$basearch/
enabled=1
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-mysql
```

You should only enable subrepository for one release series at any time. When subrepositories for more than one release series are enabled, the latest series is used by Yum.

Verify that the correct subrepositories have been enabled and disabled by running the following command and checking its output:

```
shell> yum repolist enabled | grep mysql
```

Disabling the Default MySQL Module

(EL8 systems only) EL8-based systems such as RHEL8 and Oracle Linux 8 include a MySQL module that is enabled by default. Unless this module is disabled, it masks packages provided by

MySQL repositories. To disable the included module and make the MySQL repository packages visible, use the following command (for dnf-enabled systems, replace `yum` in the command with `dnf`):

```
shell> sudo yum module disable mysql
```

Installing MySQL

Install MySQL by the following command:

```
shell> sudo yum install mysql-community-server
```

This installs the package for MySQL server (`mysql-community-server`) and also packages for the components required to run the server, including packages for the client (`mysql-community-client`), the common error messages and character sets for client and server (`mysql-community-common`), and the shared client libraries (`mysql-community-libs`).

Starting the MySQL Server

Start the MySQL server with the following command:

```
shell> sudo service mysqld start
```

This is a sample output of the above command:

```
Starting mysqld:[ OK ]
```

You can check the status of the MySQL server with the following command:

```
shell> sudo service mysqld status
```

This is a sample output of the above command:

```
mysqld (pid 3066) is running.
```

Securing the MySQL Installation

The program `mysql_secure_installation` allows you to perform important operations like setting the root password, removing anonymous users, and so on. Always run it to secure your MySQL installation:

```
shell> mysql_secure_installation
```

It is important to remember the root password you set. See mysql_secure_installation — Improve MySQL Installation Security for details.

For more information on the postinstallation procedures, see Postinstallation Setup and Testing.

> **Note**
>
> *Compatibility Information for EL7-based platforms:* The following RPM packages from the native software repositories of the platforms are incompatible with the package from the MySQL Yum repository that installs the MySQL server. Once you have installed MySQL using the MySQL Yum repository, you cannot install these packages (and vice versa).
>
> • akonadi-mysql

Installing Additional MySQL Products and Components with Yum

You can use Yum to install and manage individual components of MySQL. Some of these components are hosted in sub-repositories of the MySQL Yum repository: for example, the MySQL Connectors

are to be found in the MySQL Connectors Community sub-repository, and the MySQL Workbench in MySQL Tools Community. You can use the following command to list the packages for all the MySQL components available for your platform from the MySQL Yum repository:

```
shell> sudo yum --disablerepo=\* --enablerepo='mysql*-community*' list available
```

Install any packages of your choice with the following command, replacing *package-name* with name of the package:

```
shell> sudo yum install package-name
```

For example, to install MySQL Workbench:

```
shell> sudo yum install mysql-workbench-community
```

To install the shared client libraries:

```
shell> sudo yum install mysql-community-libs
```

Updating MySQL with Yum

Besides installation, you can also perform updates for MySQL products and components using the MySQL Yum repository. See Chapter 3, *Upgrading MySQL with the MySQL Yum Repository* for details.

Chapter 2 Replacing a Third-Party Distribution of MySQL Using the MySQL Yum Repository

For supported Yum-based platforms (see Chapter 1, *Installing MySQL on Linux Using the MySQL Yum Repository*, for a list), you can replace a third-party distribution of MySQL with the latest GA release (from the MySQL 5.7 series currently) from the MySQL Yum repository. According to how your third-party distribution of MySQL was installed, there are different steps to follow:

Replacing a Native Third-Party Distribution of MySQL

If you have installed a third-party distribution of MySQL from a native software repository (that is, a software repository provided by your own Linux distribution), follow these steps:

Backing Up Your Database

To avoid loss of data, always back up your database before trying to replace your MySQL installation using the MySQL Yum repository. See Backup and Recovery, on how to back up your database.

Adding the MySQL Yum Repository

Add the MySQL Yum repository to your system's repository list by following the instructions given in Adding the MySQL Yum Repository.

Replacing the Native Third-Party Distribution by a Yum Update

By design, the MySQL Yum repository replaces your native third-party MySQL with the latest GA release (from the MySQL 5.7 series currently) from the MySQL Yum repository when you perform a `yum update` command on the system, or a `yum update mysql-server`.

After updating MySQL using the Yum repository, applications compiled with older versions of the shared client libraries should continue to work. However, *if you want to recompile applications and dynamically link them with the updated libraries*, see Upgrading the Shared Client Libraries, for some special considerations.

Replacing a Nonnative Third-Party Distribution of MySQL

If you have installed a third-party distribution of MySQL from a nonnative software repository (that is, a software repository not provided by your own Linux distribution), follow these steps:

Backing Up Your Database

To avoid loss of data, always back up your database before trying to replace your MySQL installation using the MySQL Yum repository. See Backup and Recovery, on how to back up your database.

Stopping Yum from Receiving MySQL Packages from Third-Party, Nonnative Repositories

Before you can use the MySQL Yum repository for installing MySQL, you must stop your system from receiving MySQL packages from any third-party, nonnative Yum repositories.

For example, if you have installed MariaDB using their own software repository, get a list of the installed MariaDB packages using the following command:

```
shell> yum list installed mariadb\*
```

This is a sample output for the command:

```
MariaDB-common.i686                    10.0.4-1                    @mariadb
MariaDB-compat.i686                    10.0.4-1                    @mariadb
MariaDB-server.i686                    10.0.4-1                    @mariadb
```

From the command output, we can identify the installed packages (`MariaDB-common`, `MariaDB-compat`, and `MariaDB-server`) and the source of them (a nonnative software repository named `mariadb`).

As another example, if you have installed Percona using their own software repository, get a list of the installed Percona packages using the following command:

```
shell> yum list installed Percona\*
```

This is a sample output for the command:

```
Percona-Server-client-55.i686    5.5.39-rel36.0.el6    @percona-release-i386
Percona-Server-server-55.i686    5.5.39-rel36.0.el6    @percona-release-i386
Percona-Server-shared-55.i686    5.5.39-rel36.0.el6    @percona-release-i386
percona-release.noarch           0.1-3                 @/percona-release-0.1-3.noarch
```

From the command output, we can identify the installed packages (`Percona-Server-client`, `Percona-Server-server`, `Percona-Server-shared`, and `percona-release.noarch`) and the source of them (a nonnative software repository named `percona-release`).

If you are not sure which third-party MySQL fork you have installed, this command should reveal it and list the RPM packages installed for it, as well as the third-party repository that supplies the packages:

```
shell> yum --disablerepo=\* provides mysql\*
```

The next step is to stop Yum from receiving packages from the nonnative repository. If the `yum-config-manager` utility is supported on your platform, you can, for example, use this command for stopping delivery from MariaDB:

```
shell> sudo yum-config-manager --disable mariadb
```

And use this command for stopping delivery from Percona:

```
shell> sudo yum-config-manager --disable percona-release
```

You can perform the same task by removing the entry for the software repository existing in one of the repository files under the `/etc/yum.repos.d/` directory. This is how the entry typically looks like for MariaDB:

```
[mariadb] name = MariaDB
 baseurl = [base URL for repository]
 gpgkey = [URL for GPG key]
 gpgcheck =1
```

The entry is usually found in the file `/etc/yum.repos.d/MariaDB.repo` for MariaDB—delete the file, or remove entry from it (or from the file in which you find the entry).

> **Note**
>
> This step is not necessary for an installation that was configured with a Yum repository release package (like Percona) if you are going to remove the release package (`percona-release.noarch` for Percona), as shown in the uninstall command for Percona in Step 3 below.

Uninstalling the Nonnative Third-Party MySQL Distribution of MySQL

The nonnative third-party MySQL distribution must first be uninstalled before you can use the MySQL Yum repository to install MySQL. For the MariaDB packages found in Step 2 above, uninstall them with the following command:

```
shell> sudo yum remove MariaDB-common MariaDB-compat MariaDB-server
```

For the Percona packages we found in Step 2 above:

```
shell> sudo yum remove Percona-Server-client-55 Percona-Server-server-55 \
  Percona-Server-shared-55.i686 percona-release
```

Installing MySQL with the MySQL Yum Repository

Then, install MySQL with the MySQL Yum repository by following the instructions given in Chapter 1, *Installing MySQL on Linux Using the MySQL Yum Repository*: .

> **Important**
>
> - If you have chosen to replace your third-party MySQL distribution with a newer version of MySQL from the MySQL Yum repository, remember to run `mysql_upgrade` after the server starts, to check and possibly resolve any incompatibities between the old data and the upgraded software. `mysql_upgrade` also performs other functions; see `mysql_upgrade` — Check and Upgrade MySQL Tables for details.
>
> - *For EL7-based platforms:* See Compatibility Information for EL7-based platforms [3].

Chapter 3 Upgrading MySQL with the MySQL Yum Repository

For supported Yum-based platforms (see Chapter 1, *Installing MySQL on Linux Using the MySQL Yum Repository*, for a list), you can perform an in-place upgrade for MySQL (that is, replacing the old version and then running the new version using the old data files) with the MySQL Yum repository.

> **Notes**
>
> - Before performing any update to MySQL, follow carefully the instructions in Upgrading MySQL. Among other instructions discussed there, it is especially important to back up your database before the update.
>
> - The following instructions assume you have installed MySQL with the MySQL Yum repository or with an RPM package directly downloaded from MySQL Developer Zone's MySQL Download page; if that is not the case, following the instructions in Chapter 2, *Replacing a Third-Party Distribution of MySQL Using the MySQL Yum Repository*.

Selecting a Target Series

By default, the MySQL Yum repository updates MySQL to the latest version in the release series you have chosen during installation (see Selecting a Release Series for details), which means, for example, a 5.6.x installation is *not* be updated to a 5.7.x release automatically. To update to another release series, you need to first disable the subrepository for the series that has been selected (by default, or by yourself) and enable the subrepository for your target series. To do that, see the general instructions given in Selecting a Release Series. For upgrading from MySQL 5.6 to 5.7, perform the *reverse* of the steps illustrated in Selecting a Release Series, disabling the subrepository for the MySQL 5.6 series and enabling that for the MySQL 5.7 series.

As a general rule, to upgrade from one release series to another, go to the next series rather than skipping a series. For example, if you are currently running MySQL 5.5 and wish to upgrade to 5.7, upgrade to MySQL 5.6 first before upgrading to 5.7.

> **Important**
>
> For important information about upgrading from MySQL 5.6 to 5.7, see Upgrading from MySQL 5.6 to 5.7.

Upgrading MySQL

Upgrade MySQL and its components by the following command, for platforms that are not dnf-enabled:

```
sudo yum update mysql-server
```

For platforms that are dnf-enabled:

```
sudo dnf upgrade mysql-server
```

Alternatively, you can update MySQL by telling Yum to update everything on your system, which might take considerably more time. For platforms that are not dnf-enabled:

```
sudo yum update
```

For platforms that are dnf-enabled:

```
sudo dnf upgrade
```

Restarting MySQL

The MySQL server always restarts after an update by Yum. Once the server restarts, run `mysql_upgrade` to check and possibly resolve any incompatibilities between the old data and the upgraded software. `mysql_upgrade` also performs other functions; see [mysql_upgrade — Check and Upgrade MySQL Tables](#) for details.

You can also update only a specific component. Use the following command to list all the installed packages for the MySQL components (for dnf-enabled systems, replace `yum` in the command with `dnf`):

```
sudo yum list installed | grep "^mysql"
```

After identifying the package name of the component of your choice, update the package with the following command, replacing `package-name` with the name of the package. For platforms that are not dnf-enabled:

```
sudo yum update package-name
```

For dnf-enabled platforms:

```
sudo dnf upgrade package-name
```

Upgrading the Shared Client Libraries

After updating MySQL using the Yum repository, applications compiled with older versions of the shared client libraries should continue to work.

If you recompile applications and dynamically link them with the updated libraries: As typical with new versions of shared libraries where there are differences or additions in symbol versioning between the newer and older libraries (for example, between the newer, standard 5.6 shared client libraries and some older—prior or variant—versions of the shared libraries shipped natively by the Linux distributions' software repositories, or from some other sources), any applications compiled using the updated, newer shared libraries require those updated libraries on systems where the applications are deployed. And, as expected, if those libraries are not in place, the applications requiring the shared libraries fail. So, be sure to deploy the packages for the shared libraries from MySQL on those systems. To do this, add the MySQL Yum repository to the systems (see [Adding the MySQL Yum Repository](#)) and install the latest shared libraries using the instructions given in [Installing Additional MySQL Products and Components with Yum](#).