

# Appendix B

## How to set up macOS for this book

Before you begin reading this book, we recommend that you install MySQL Community Server and MySQL Workbench. Both of these software products are available for free from the MySQL website, and you can install them on your computer as described in this appendix.

After you install these products, we recommend that you download the files for this book that are available from the Murach website ([www.murach.com](http://www.murach.com)). Then, we recommend that you run the SQL script that creates the databases that are used throughout this book.

Once you create these databases, you're ready to gain valuable hands-on experience by running the SQL scripts for the examples presented in this book. In addition, you can get more practice by doing the exercises that are at the end of each chapter, starting with chapter 2.

How to install MySQL Community Server.....	602
How to start and stop the MySQL sever.....	602
How to install MySQL Workbench .....	604
How to download the files for this book.....	606
How to create the databases for this book.....	608
How to restore the databases .....	608

## How to install MySQL Community Server

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MySQL Community Server is a database server that's free and easy to use. Since it's designed to run on most modern computers, it's ideal for developers who want to install it on their computer so they can learn how to work with a MySQL database. That's why this book assumes that you have installed the Community Server on your computer.

In July 2023, Oracle announced a new versioning model for MySQL that provides two different release tracks. The releases that contain new features and improvements will be known as *Innovation versions*, and the releases that will only be updated with bug fixes after the initial release will be known as *Long Term Support (LTS) versions*. Oracle also released the first Innovation version, MySQL 8.1 Innovation. In addition, Oracle announced that MySQL 8.0.34 and later will only be updated with bug fixes, not with new features or improvements. As a result, MySQL 8.0 is now essentially an LTS version.

So, which version should you install? If you want to make sure the MySQL server works exactly as described in this book, we recommend installing MySQL 8.0. That's because all of the SQL statements presented in this book have been tested against MySQL 8.0.

On the other hand, if you want the latest features and improvements as they become available, you should install the newest Innovation version of MySQL. Or, if you only want access to the features included in an LTS version, you should install the newest LTS version. Oracle plans to release the first LTS version in 2024. Since MySQL is backwards compatible, the SQL statements presented in this book should also work with these releases of MySQL. For example, we tested all of the SQL statements in this book against MySQL 8.1, and they all worked correctly.

Once you decide on a version of the MySQL server, you can install it as described in figure B-1. As part of this procedure, you need to specify a password for the root user. When you do, *make sure to remember the password that you enter*.

## How to start and stop the MySQL sever

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To make sure the MySQL server has been installed correctly, you can start the MySQL preference pane and check whether the MySQL server is running. By default, the MySQL server starts automatically when you start your computer. However, there are times when you may want to stop this server. For example, you can stop this server if you aren't going to be using it and you want to free the resources on your computer. To do that, you can use the procedure shown in figure B-1. Then, when you're ready to start the server again, you can use this procedure to do that too.

## The MySQL Community Server downloads page

<http://dev.mysql.com/downloads/mysql/>

### How to install MySQL Community Server

1. Go to the MySQL Community Server downloads page. If necessary, you can find this page by searching the internet for “MySQL community server download”.
2. Select the version of the MySQL server, select macOS as the operating system, and select the operating system version for your processor (x86 or ARM).
3. Download the disk image (DMG) file by clicking on its Download button.
4. Find the downloaded DMG file and double-click it. This opens a window with a package (PKG) file.
5. Double-click the PKG file for MySQL, and respond to the resulting dialog boxes to install it. You can accept most of the default options and specify a password for the root user. *Make sure to remember the password that you enter.*

### How to start and stop the MySQL server

1. Use the Apple menu to select System Preferences.
2. Click the MySQL icon.
3. Use the buttons on the MySQL preference pane to start or stop the MySQL server. Or, use the check box on that page to control whether the MySQL server starts automatically when you start your computer.

### Description

- In July 2023, Oracle announced a new versioning model for MySQL that provides two different release tracks. The releases that contain new features and improvements will be known as *Innovation versions*, and the releases that will only be updated with bug fixes after the initial release will be known as *Long Term Support (LTS) versions*.
- Since July 2023, Oracle is only updating MySQL 8.0 with bug fixes, not new features or improvements. As a result, MySQL 8.0 is now essentially an LTS version.
- If you want to make sure that the MySQL server works exactly as described in this book, you should use the 8.0 version.
- If you want access to the latest features as they become available, you should use an Innovation version. The first Innovation version is 8.1.
- If you only want access to the features included in an LTS version, you can use that version. The first LTS version will become available in 2024.
- You can use the MySQL preference pane to start and stop the MySQL server and to control whether the MySQL server starts automatically when you start your computer.

## How to install MySQL Workbench

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MySQL Workbench is a free program that makes it easy to work with MySQL databases. To install MySQL Workbench, you can use the procedure shown in figure B-2.

If you install a newer version of MySQL server such as 8.1 Innovation, you may still need to install an older version of Workbench such as 8.0. That's because there may not yet be a newer version of Workbench that corresponds to your version of the MySQL server. In that case, you can install the older version of Workbench and use it until a new version becomes available.

All of the skills for working with MySQL Workbench presented in this book were tested against version 8.0. As a result, if you're using this version of MySQL Workbench, these skills should work exactly as described. If you're using a later version of MySQL Workbench, these skills may not work exactly as described, but they should work similarly.

## The MySQL Workbench downloads page

<http://dev.mysql.com/downloads/workbench/>

### How to install MySQL Workbench

1. Go to the MySQL Workbench downloads page. If necessary, you can find this page by searching the internet for “MySQL Workbench community download”.
2. Select macOS as the operating system.
3. Click the Download button to download the disk image (DMG) file for the latest version of MySQL Workbench that matches your processor (x86 or ARM).
4. Find the DMG file on your hard disk and double-click on it.
5. Respond to the resulting dialog boxes.

### Notes

- If you install a newer version of MySQL server such as 8.1 Innovation, you may need to install an older version of Workbench such as 8.0. That’s because there may not yet be a newer version of Workbench available.
- To make it easy to start MySQL Workbench, you may want to keep this application in your dock.

## How to download the files for this book

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Figure B-3 shows how to download the files for this book. This download includes a SQL script that you can use to create the databases that are used throughout this book. It includes SQL scripts for all of the examples in this book. And it includes SQL scripts for the solutions to the exercises that are at the end of each chapter.

The files for this book are in a zip file that you can download from [www.murach.com](http://www.murach.com). When you download this file, it contains a directory named `mysql` that stores the SQL script files for this book. Within this directory, you can find the subdirectories that contain the files shown in this figure.

After double-clicking on the zip file to unzip the `mysql` directory, we recommend moving this directory into a directory named `murach` that you can create in your Documents directory. That way, your system will store the files for this book in the directory shown at the top of this figure.

In this book, there are two figures (17-10 and 19-4) that show how to use the command line to work with files. To keep the path to the files short, these figures use a path of

```
/murach/mysql
```

However, to get these figures to work correctly on macOS, you need to substitute the following path:

```
/Users/yourname/Documents/murach/mysql
```

Here, you need to substitute your macOS username for *yourname*. For example, for a username of `johndoe`, you could use this path:

```
/Users/johndoe/Documents/murach/mysql
```

## The recommended directory for the files

`Documents/murach/mysql`

## The files for this book

Directory	Contains
<b>db_setup</b>	The SQL script that creates the three databases for this book.
<b>book_scripts</b>	The SQL scripts for all of the examples presented in this book.
<b>ex_solutions</b>	The SQL scripts for the solutions to the exercises at the end of each chapter.
<b>diagrams</b>	The MySQL Workbench file for the diagram that's presented in chapter 10.

## The databases for this book

Database	Description
<b>ap</b>	The AP (Accounts Payable) database. This database is used by most examples in this book.
<b>om</b>	The OM (Order Management) database. This database is used by a few examples in this book.
<b>ex</b>	The EX (Examples) database. This database contains several tables that are used for short examples.

## How to download the files

1. Go to [www.murach.com](http://www.murach.com).
2. Find the page for *Murach's MySQL (4<sup>th</sup> Edition)*.
3. Scroll down to the "FREE downloads" tab and click it.
4. Click the Download Now button for the zip file to download a setup file named `msq4_allfiles.zip`.
5. Find the downloaded zip file and double-click on it to unzip it. This creates the `mysql` directory and its subdirectories.
6. If necessary, use the Finder to create the `murach` directory in the Documents directory.
7. Use the Finder to move the `mysql` directory into the `murach` directory.

## Description

- All of the source files described in this book are in a zip file that can be downloaded from [www.murach.com](http://www.murach.com).

## A note about right-clicking

- This book often instructs you to right-click, because that's common in Windows. On macOS, right-clicking is not enabled by default. Instead, you can use Ctrl-click instead of right-click. Or, if you prefer, you can enable right-clicking by editing the system preferences for your mouse.

## How to create the databases for this book

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Before you can run the SQL statements presented in this book, you need to create the three databases used by this book. To do that, you can use MySQL Workbench to run the SQL script that's stored in the `create_databases.sql` file as described in figure B-4.

To determine if the SQL script ran successfully, you can review the results in the Output window. In this figure, for example, the Output window shows a series of statements that have executed successfully. In addition, the Schemas tab of the Navigator window shows that the three databases have been created. The other database, named `sys`, is a database that comes with MySQL.

If the script encounters problems, MySQL Workbench displays one or more errors in the Output window. Then, you can read these errors to figure out why the script isn't executing correctly.

Before you can run the `create_databases.sql` script, the database server must be running. By default, the database server starts automatically when you start your computer, so this usually isn't a problem. However, if it isn't running on your system, you can start it as described in figure B-1.

## How to restore the databases

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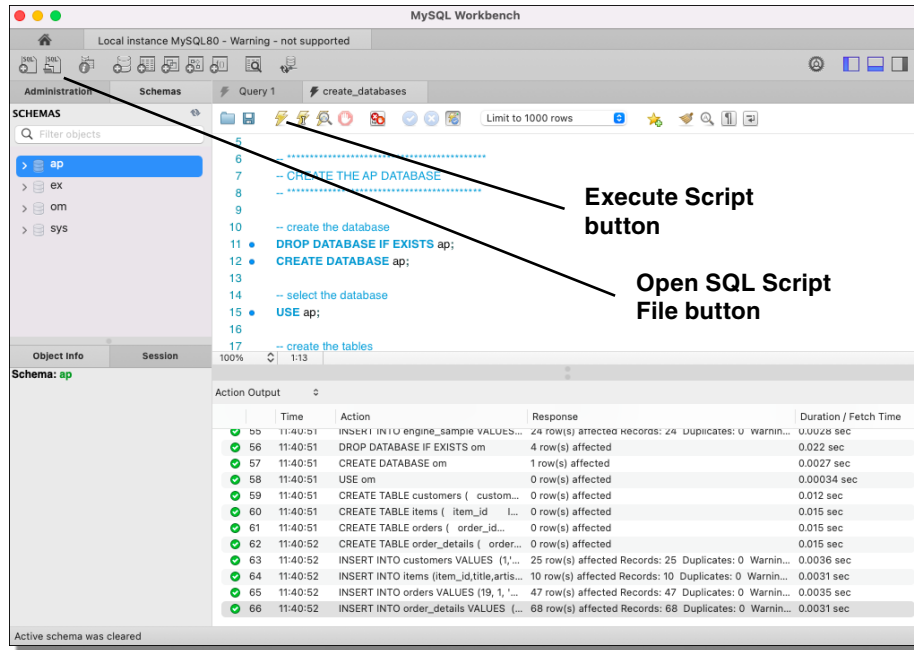
As you work with the code that's presented in this book, you may make changes to the databases that you don't intend to make. In that case, you may want to restore the databases to their original state so your results match the results shown in this book. To do that, you can run the `create_databases.sql` file again. This deletes the three databases described in this appendix and recreates them.



## The directory that contains the create\_databases.sql file

Documents/murach/mysql/db\_setup

## MySQL Workbench after executing the create\_databases.sql file



## How to create the databases

1. Start MySQL Workbench.
2. Click on the stored connection named “Local instance MySQL” and enter the password for the root user if prompted. *This is the password that you created when installing the MySQL server in figure B-1.* This connects you as the root user to the local instance of MySQL.
3. If Workbench doesn’t display a connection, you can create one. To do that, click the ⊕ icon to the right of MySQL Connections, enter “Local instance MySQL” for the connection name, and click the OK button.
4. If you get a warning that MySQL Workbench is incompatible with the server version and that some features may not work properly, don’t be alarmed. You can click Continue Anyway and the features described in this book should still work.
5. Open the create\_databases.sql file by clicking the Open SQL Script File button. Then, use the resulting dialog box to locate and open the file. When you do, MySQL Workbench displays this script in a SQL Editor tab.
6. Execute the script by clicking the Execute Script button. When you do, the Output window displays messages that indicate whether the script executed successfully.

## How to restore the databases

- Run the create\_databases.sql script again to drop the databases and recreate them.

Figure B-4 How to create and restore the databases for this book