

CSE 4020/5260

Database Systems

Instructor: Fitzroy Nembhard, Ph.D.

Installing and Setting up MySQL and Python



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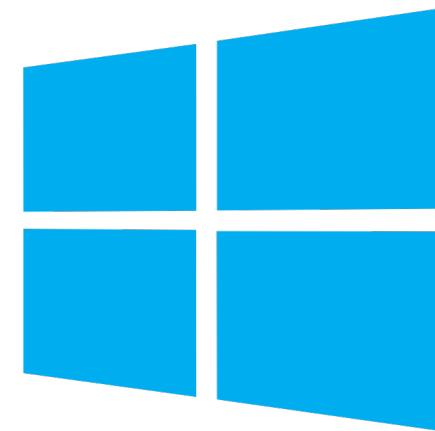
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[Installing MySQL on MacOS](#)

Installing Python on Windows

- The following slides will show you how to install Python on a Windows Computer



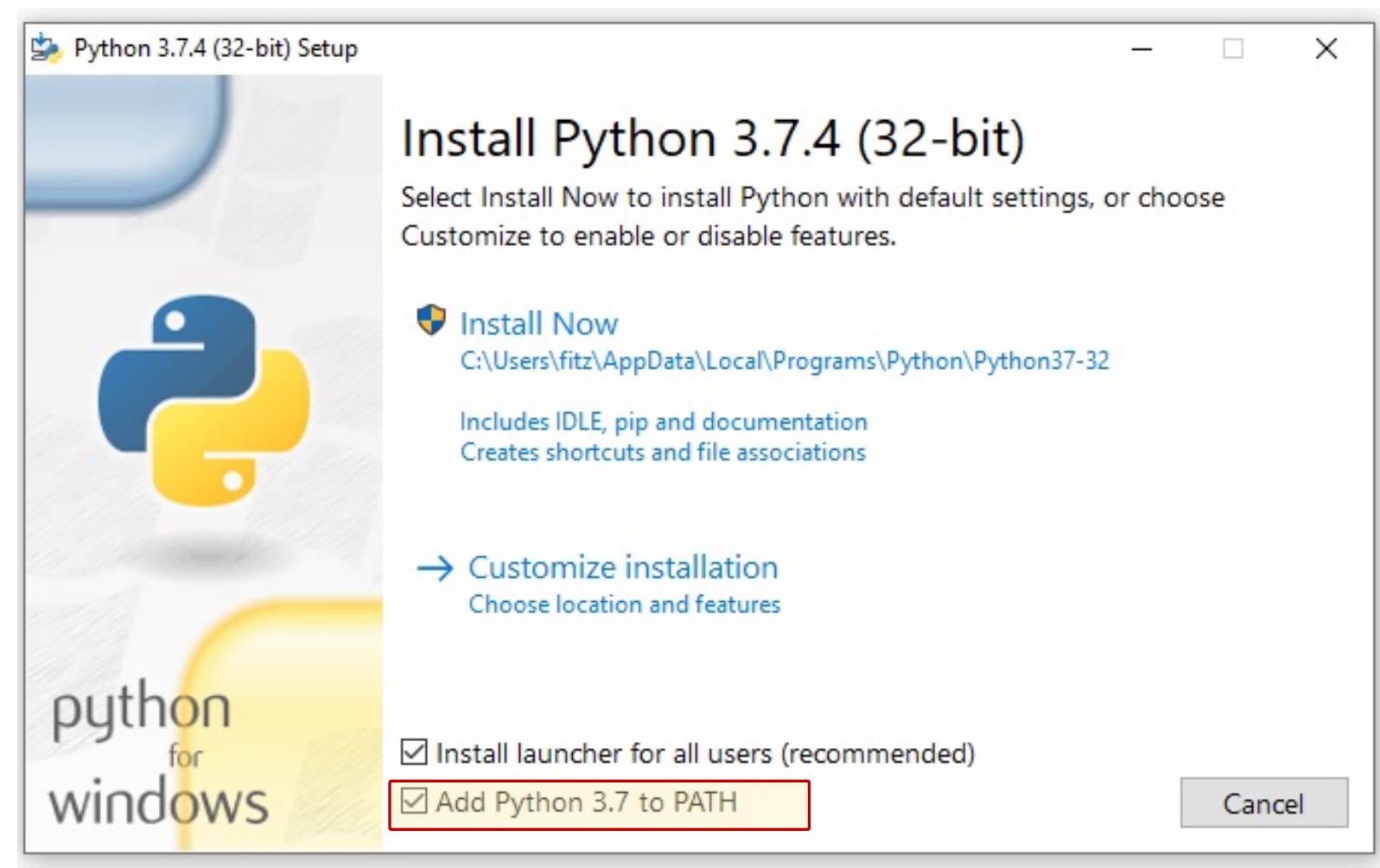
Install Python

Go to python.org/downloads and choose the latest version based on your operating system.

The screenshot shows the Python Software Foundation website at python.org/downloads/. The page features a dark blue header with the Python logo and navigation links for Python, PSF, Docs, PyPI, Jobs, and Community. Below the header is a search bar and a "Download" button. The main content area has a blue background with white text. It features a large call-to-action button labeled "Download Python 3.7.4" which is highlighted with a red border. To the right of the button is a graphic of two boxes descending from the sky on yellow and white striped parachutes. Text on the page includes "Download the latest version for Windows", "Looking for Python with a different OS? Python for [Windows](#), [Linux/UNIX](#), [Mac OS X](#), [Other](#)", "Want to help test development versions of Python? [Pre-releases](#), [Docker images](#)", and "Looking for Python 2.7? See below for specific releases". At the bottom, there's a link to "Looking for a specific release? Python releases by version number: [Python releases](#)".

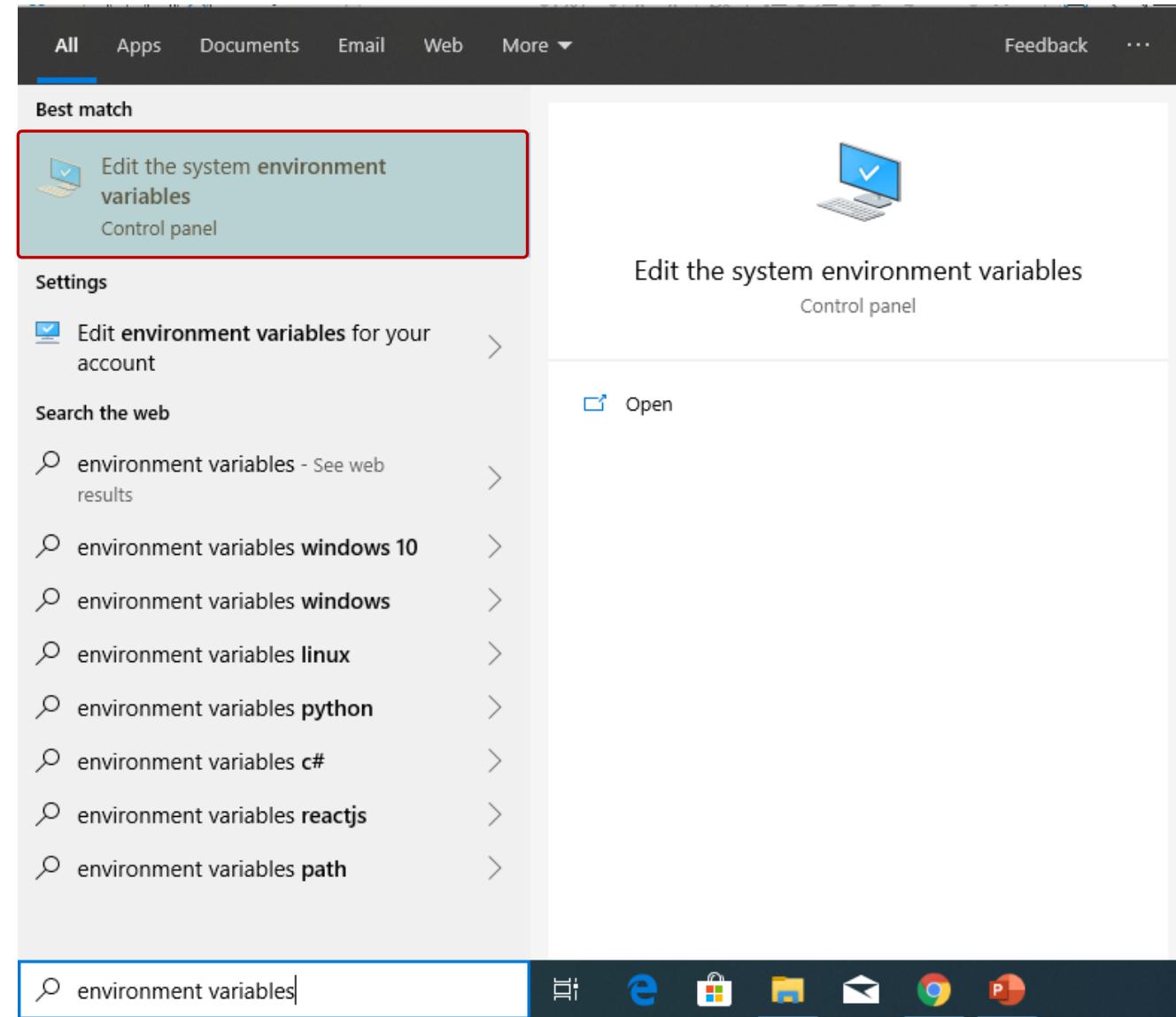
Add Python to PATH

Make sure to check **Add Python 3.X to PATH**. This will allow you invoke python from your command line.



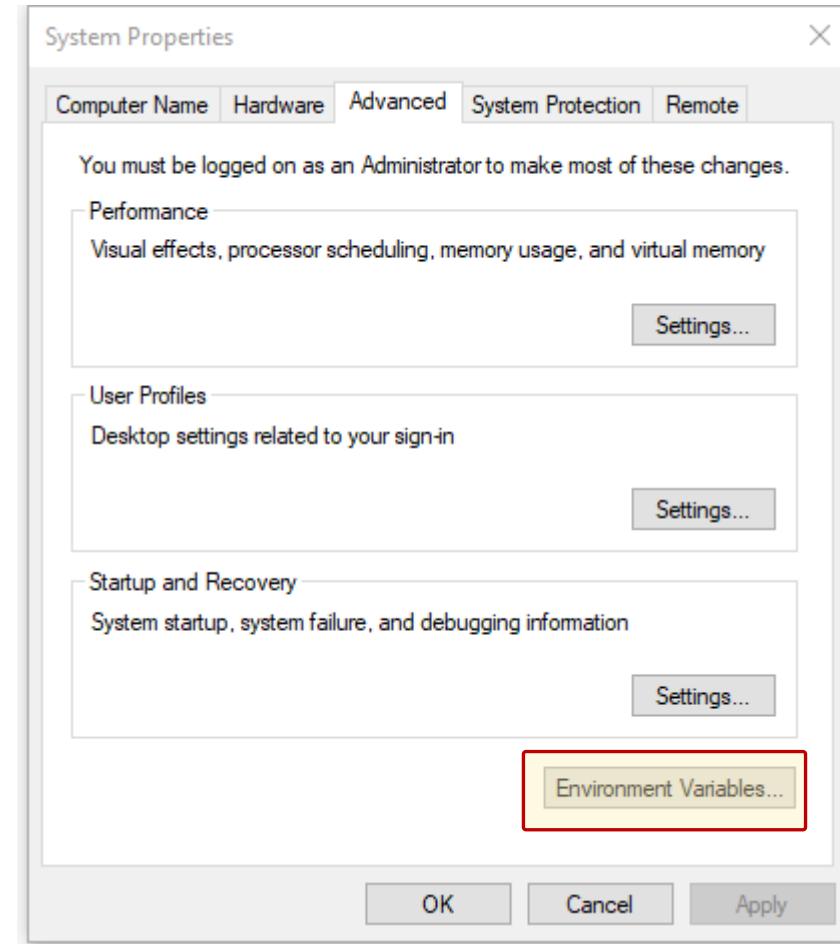
I forgot to Add Python to PATH

If you forgot to add Python to your PATH variable, enter **environment variables** in your Windows Search bar. Then open the **Edit the system environment variables** window.



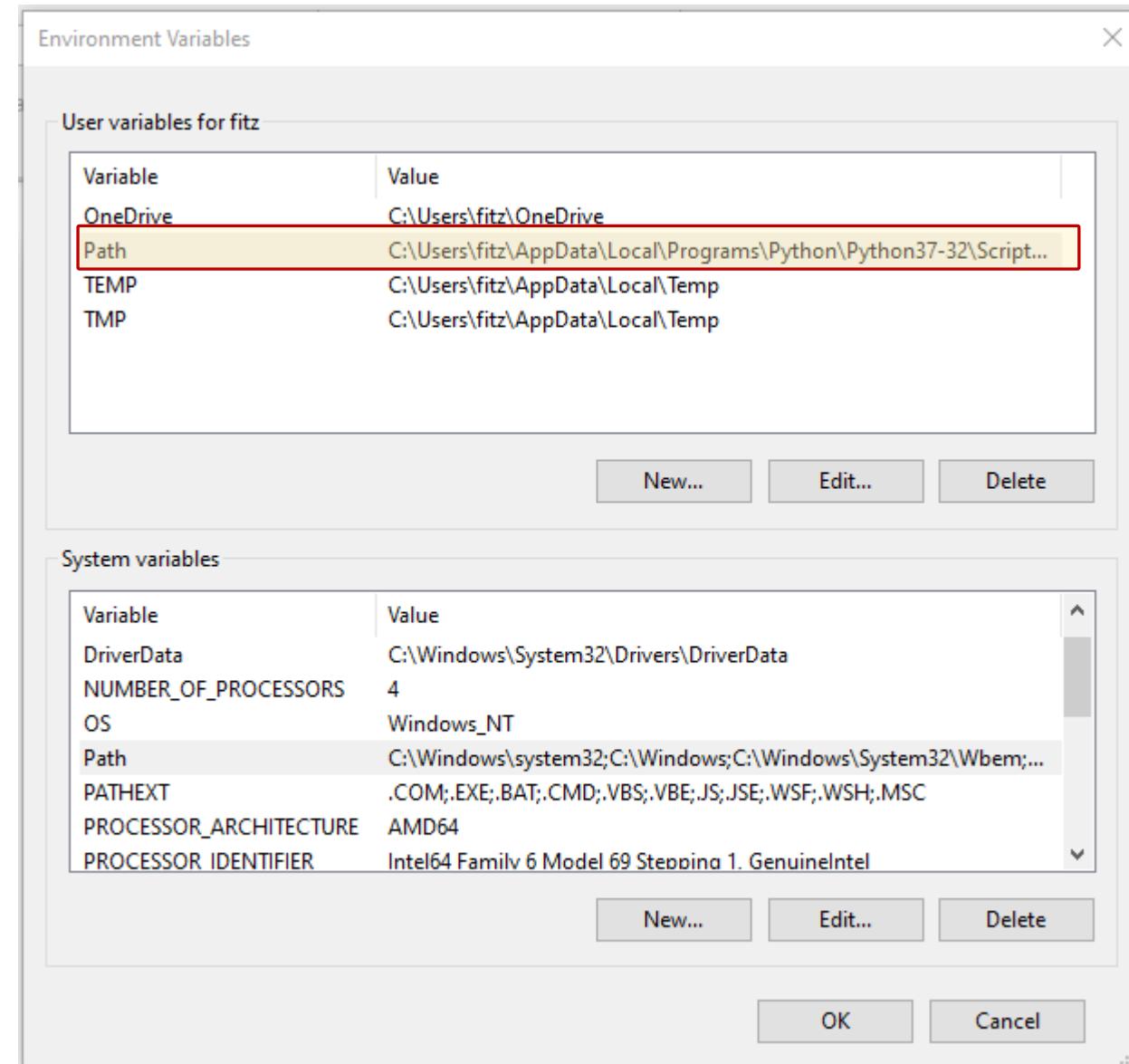
Edit Environment Variables

Click [Environment Variables](#)



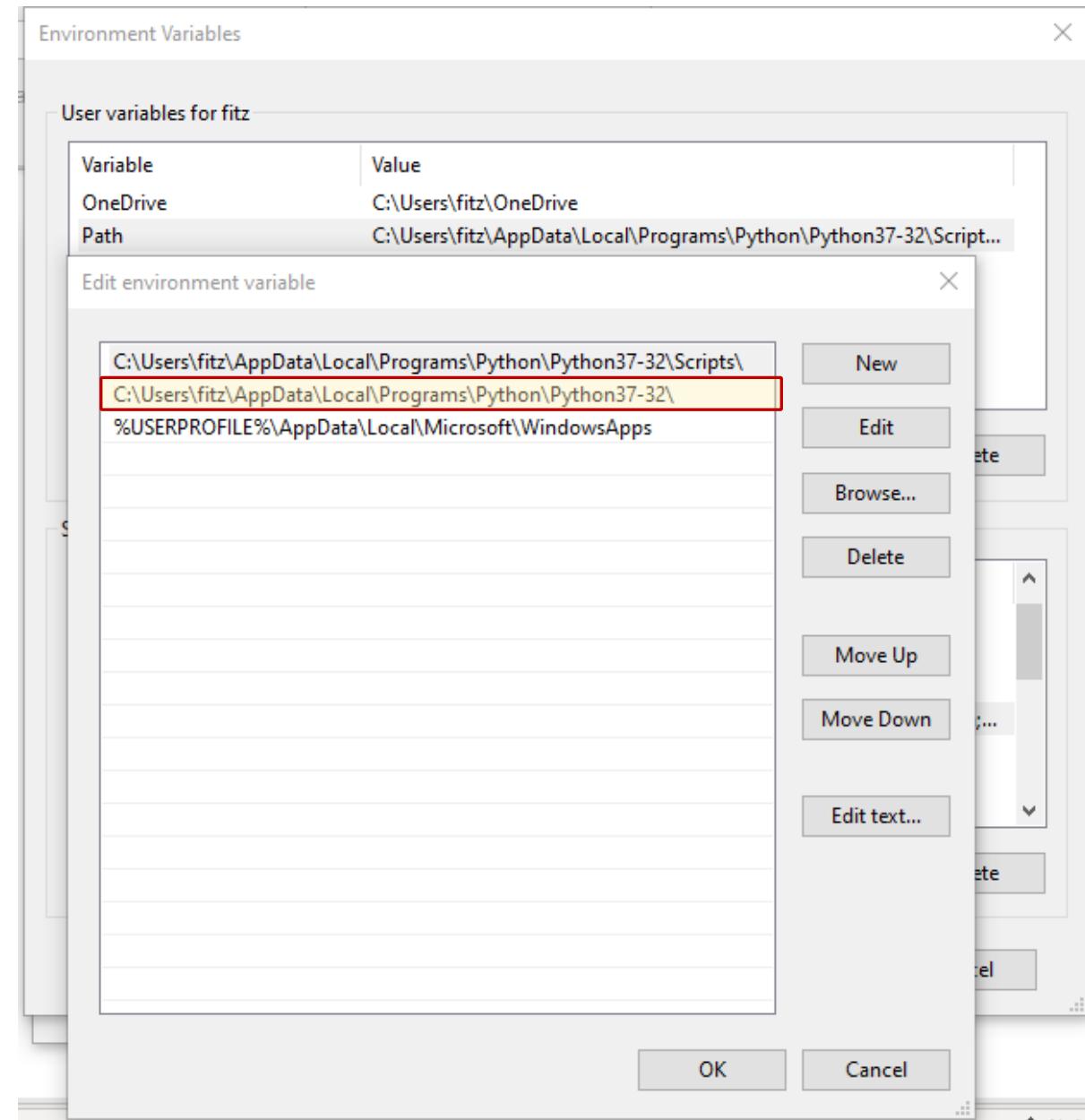
Edit Environment Variables

Edit the Path variable and add the location of your python installation to the existing string. Notice there is a user path variable and a system variable. You may modify the one you like.



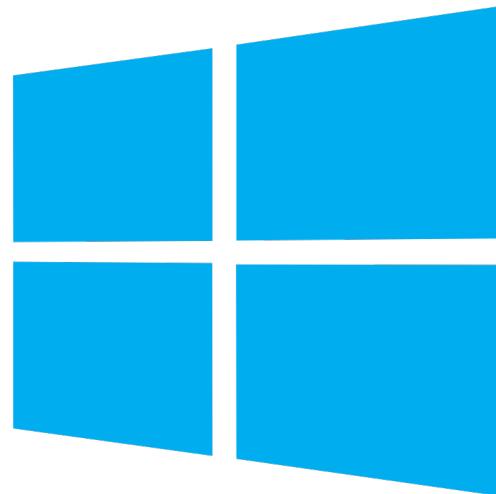
Edit Environment Variables

Edit the Path variable and add the location of your python installation to the existing string.



Installing MySQL on Windows

- The following slides will show you how to install and set up MySQL on a computer running Windows 10



Downloading MySQL for Windows

Choose the latest version of the MySQL installer from <http://dev.mysql.com/downloads/mysql>

This should include the following:

- MySQL Server
- MySQL Workbench
- Documentation
- Sample Databases

The screenshot shows a web browser displaying the MySQL Community Downloads page at <https://dev.mysql.com/downloads/installer/>. The page title is "MySQL Community Downloads". Below it is a breadcrumb navigation "MySQL Installer". The main content area is titled "MySQL Installer 8.0.26". A dropdown menu "Select Operating System:" is set to "Microsoft Windows". To the right, there is a link "Looking for previous GA versions?". Two download options are listed:

Version	File Type	Size	Action
8.0.26	Windows (x86, 32-bit), MSI Installer	2.4M	Download
8.0.26	Windows (x86, 32-bit), MSI Installer	450.7M	Download

Below the download links is a note: "We suggest that you use the MD5 checksums and GnuPG signatures to verify the integrity of the packages you download." At the bottom of the page, the Oracle logo is present along with copyright information: "© 2021, Oracle Corporation and/or its affiliates".

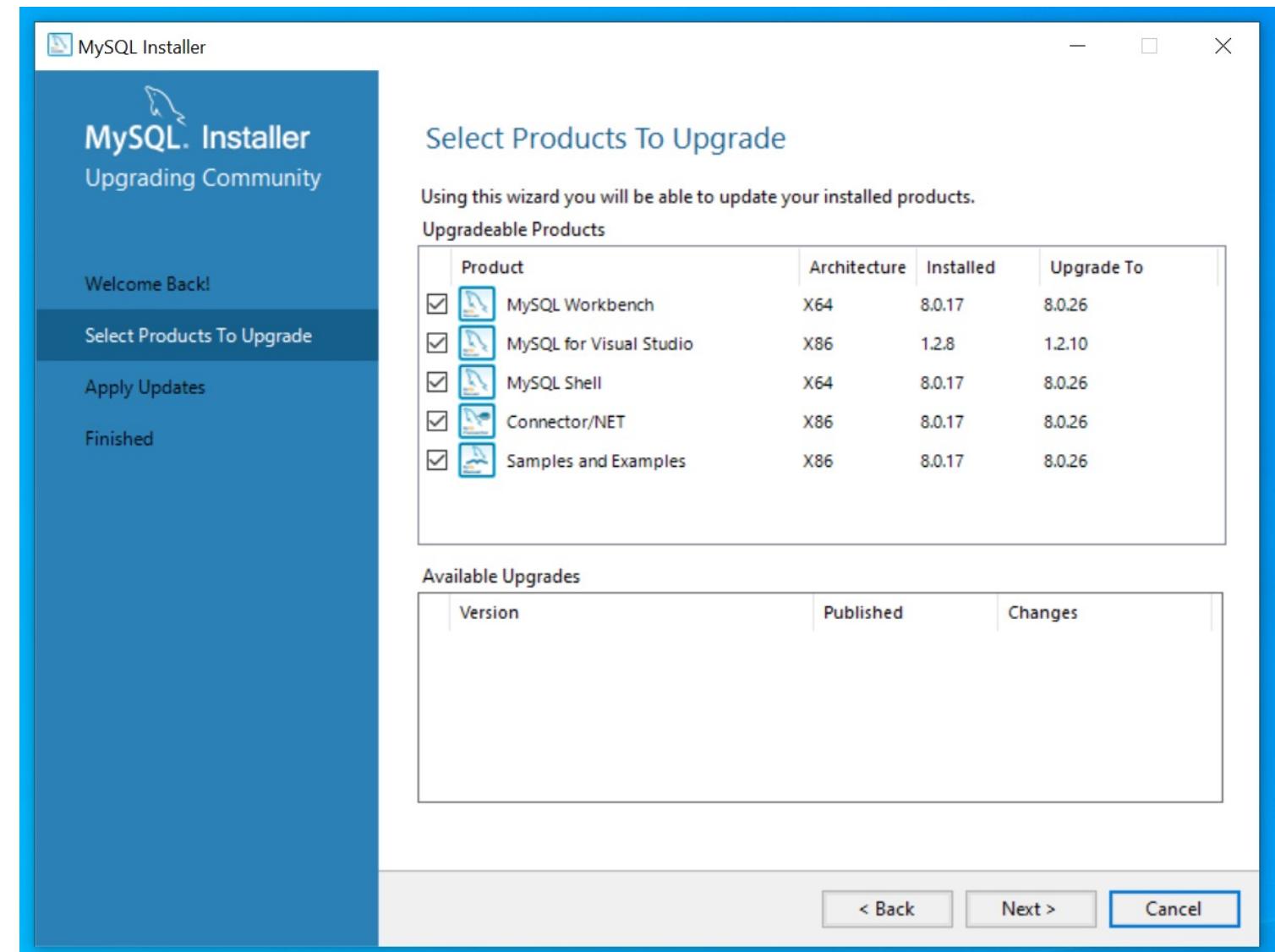
Installing MySQL on Windows

Run the installer to install MySQL.

After the installation is complete, you may rerun the installer to see what tools were installed.

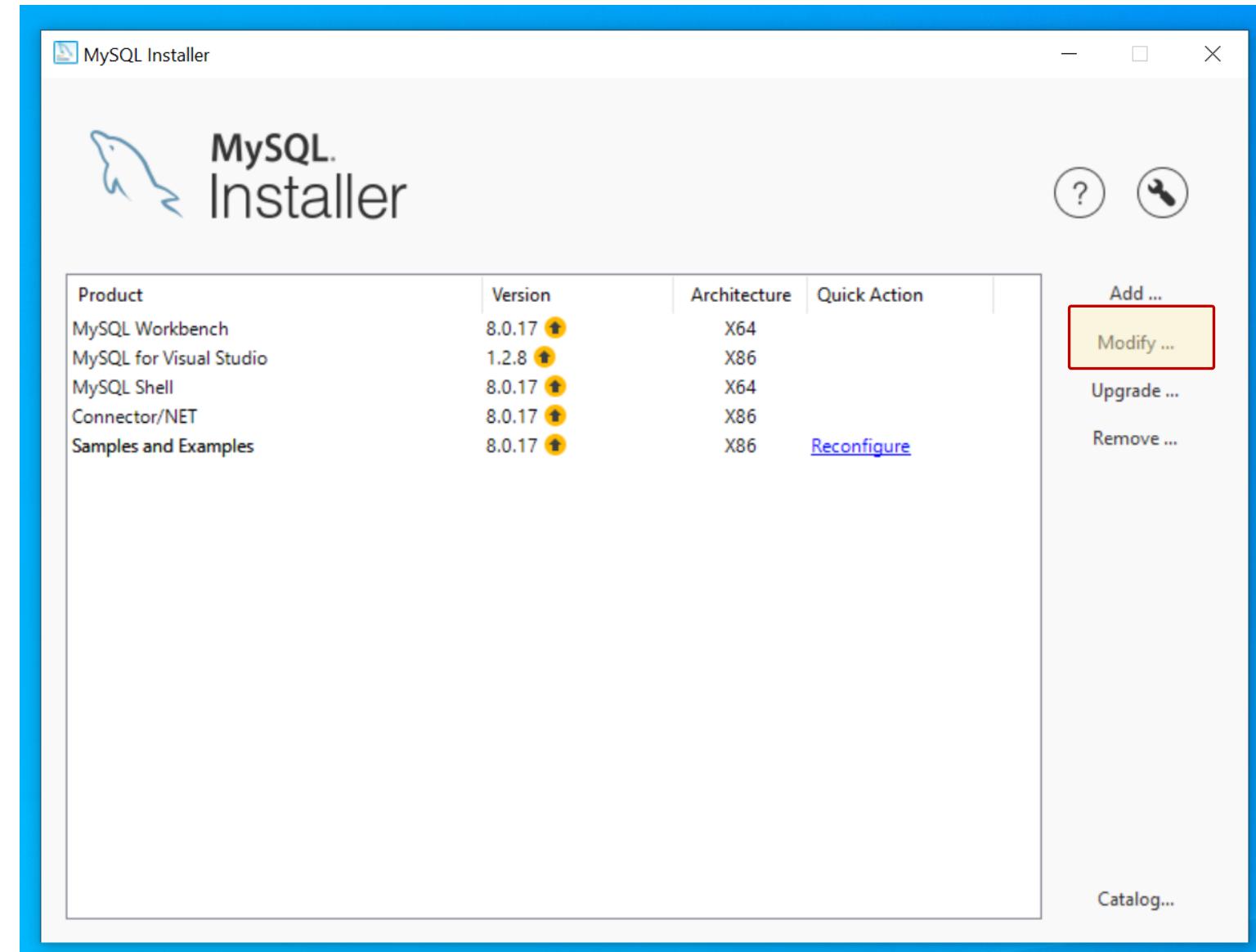
Notice that MySQL Server is missing from my installation.

If this is the case for you, click **Cancel** and follow the instructions on the next slides. Otherwise, go to slide 16 to set up MySQL Server.



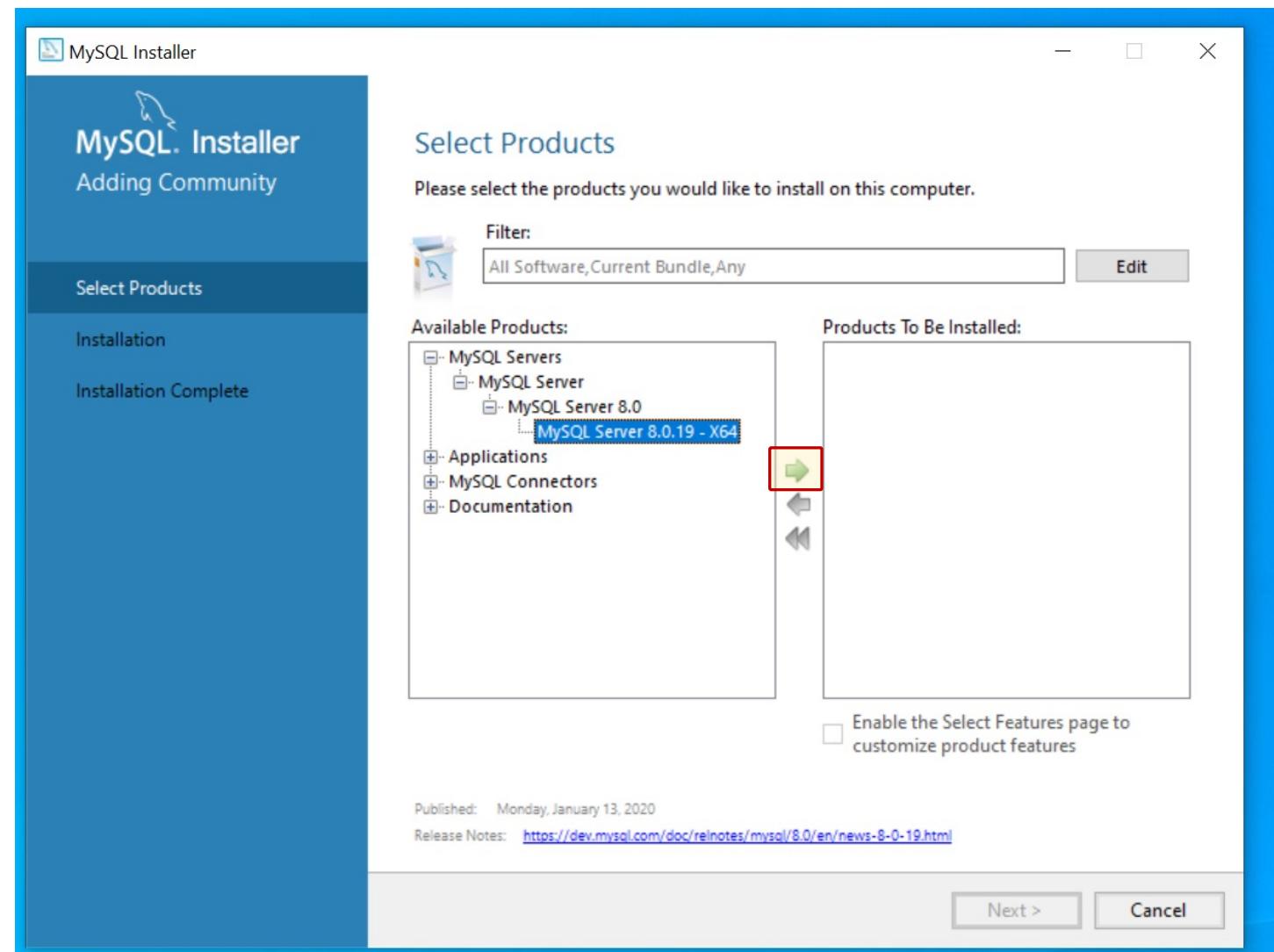
Adding MySQL Server to the set of Tools

Choose **Modify** to Add MySQL Server to the list of tools.



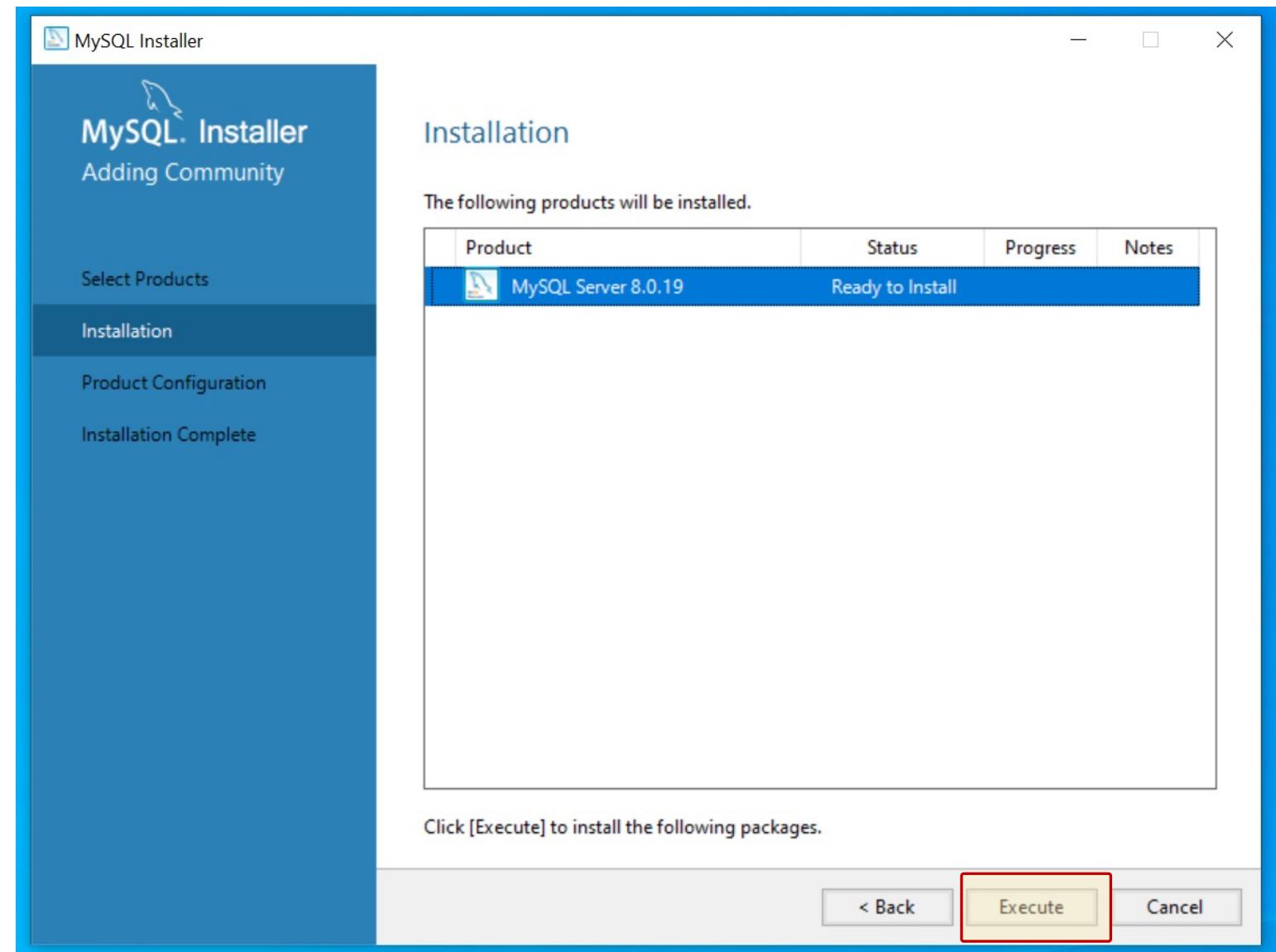
Adding MySQL Server to the set of Tools

Use the Arrow to add MySQL server to the list of products to be installed and click Next.



Installing MySQL Server

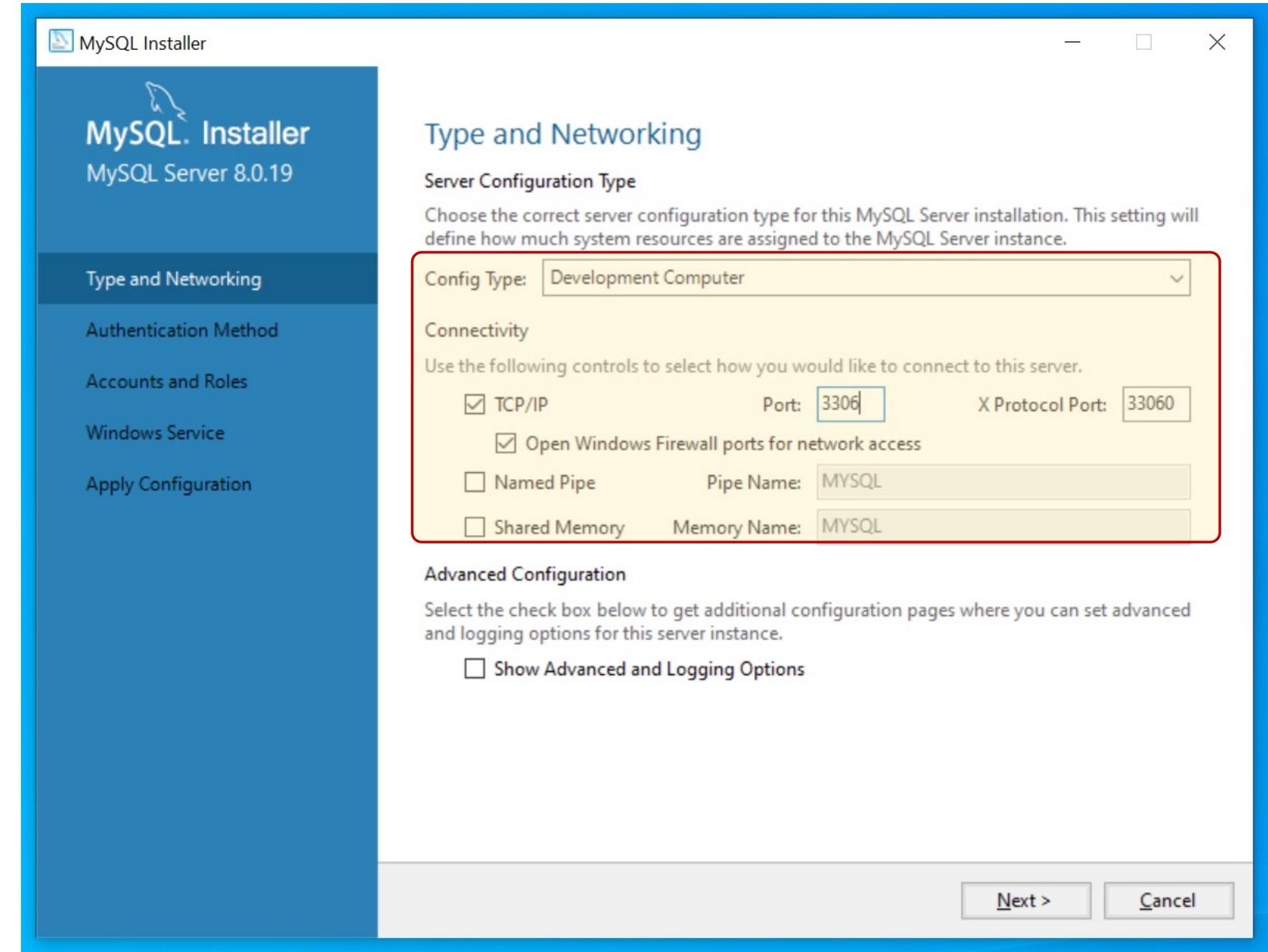
Click **Execute** to get to the configuration screen.



Configuring MySQL Server

Choose Development Computer and TCP/IP with port 3306.

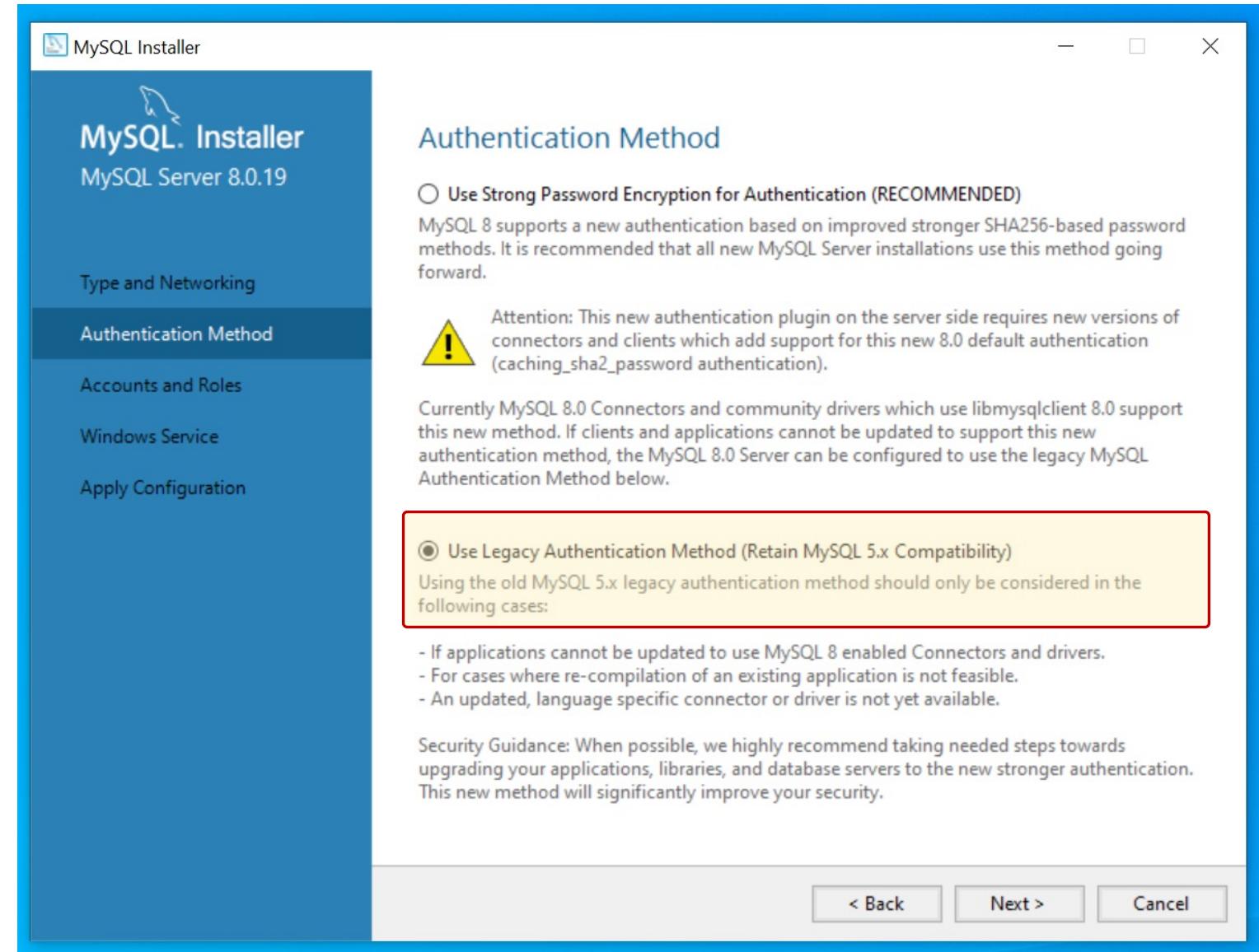
Click Next.



Configuring MySQL Server

Choose “Use Legacy Authentication Method” from the list. This will enable systems that do not support strong encryption to be able to access your databases especially for in-class demos and homework assignments.

Click **Next**.



Enter a Password for the Root User

Enter a password for the root user. Make sure to remember your password. You will need it to connect to MySQL.

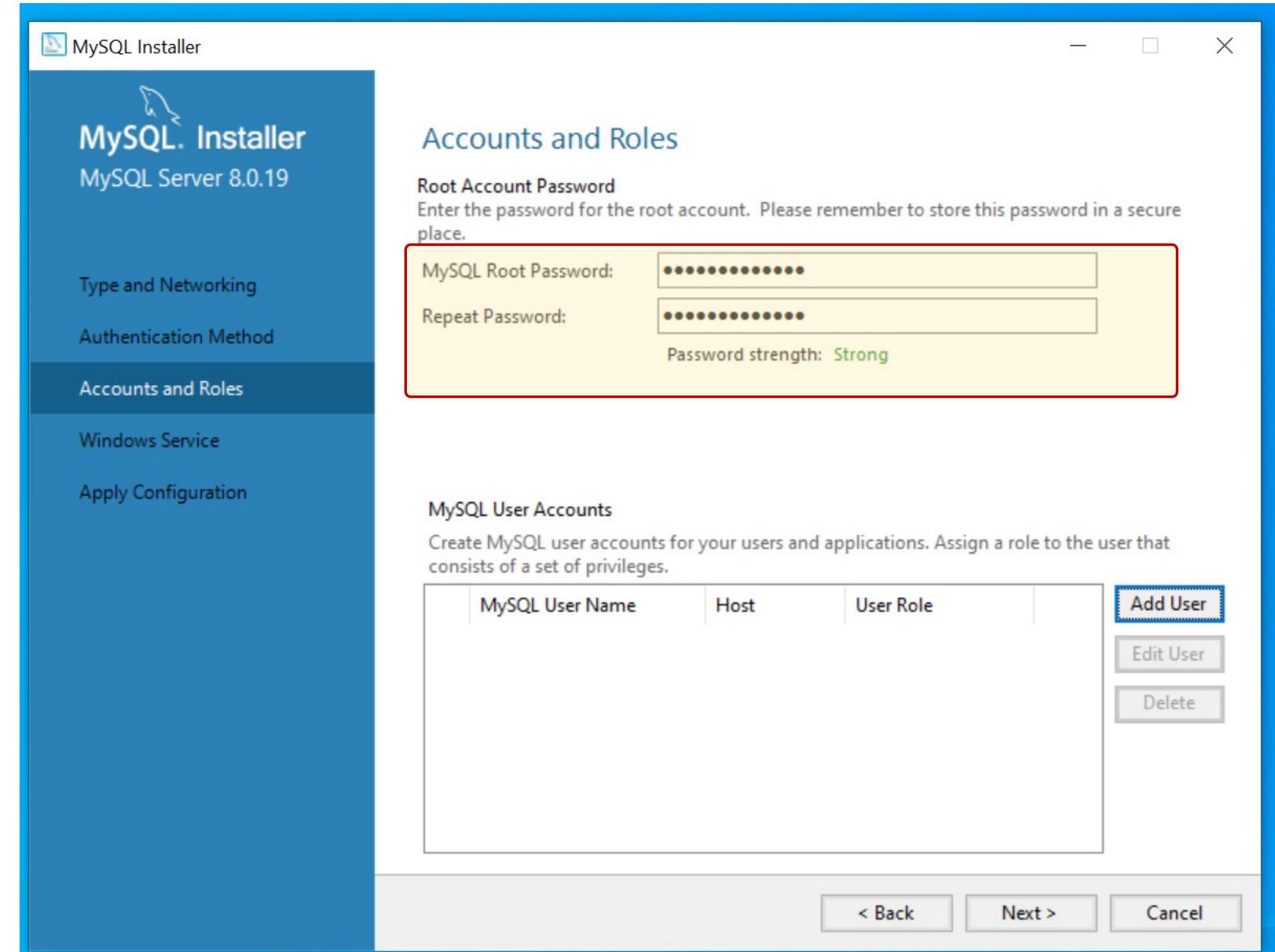
It is common practice to connect from your terminal like so:

```
$ mysql -uroot -p
```

You will then be prompted for your password.

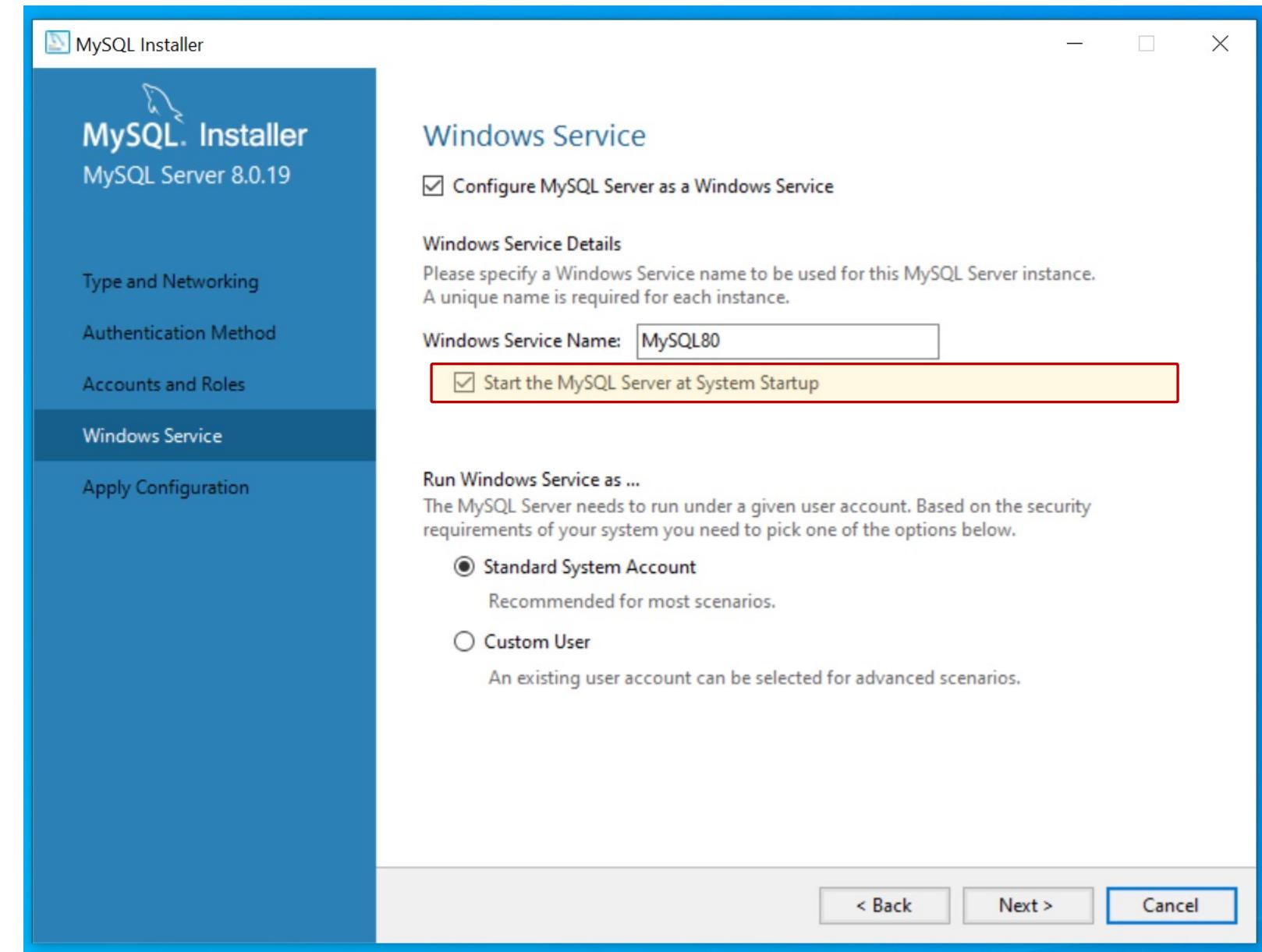
You may also check the checkbox to start the server after installation.

Click **Next**.



Configure MySQL Server as a Service

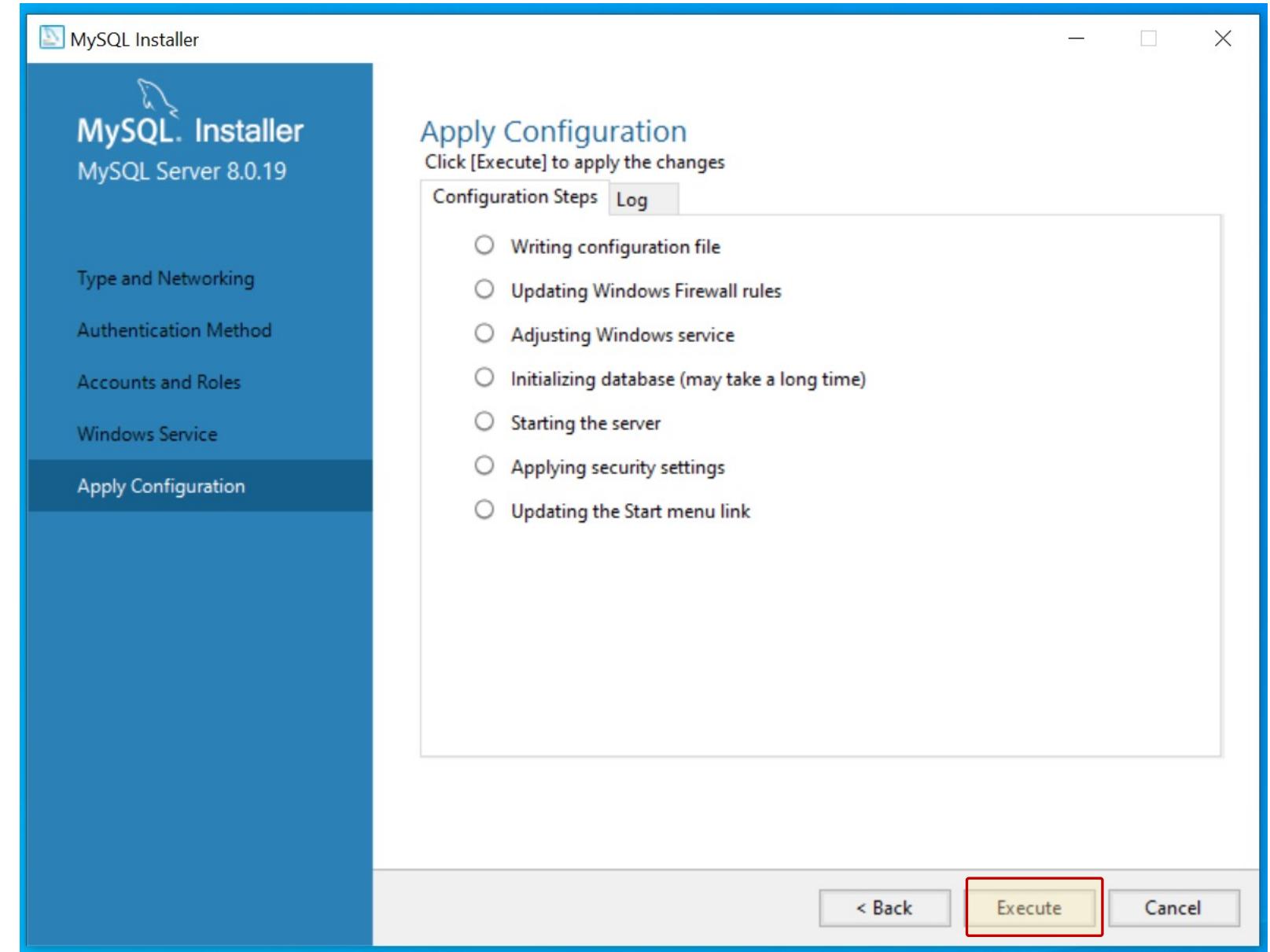
It is good to practice to configure MySQL Server to start at System Startup.



Apply the Configuration

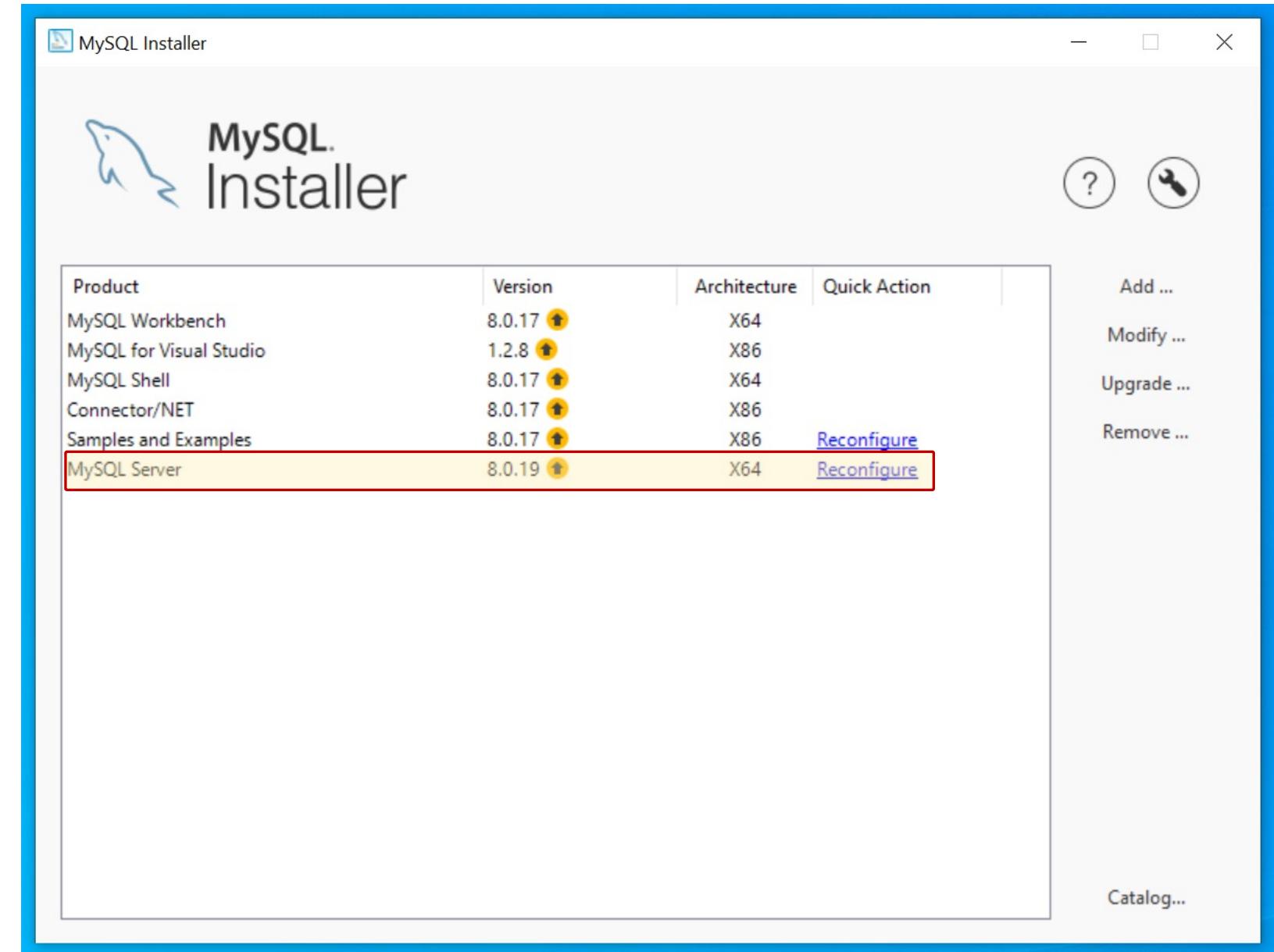
Click **Execute** to apply the Configuration.

Then click Finish.



Verify that MySQL Server is Installed

Check the list of tools to make sure MySQL Server is installed.

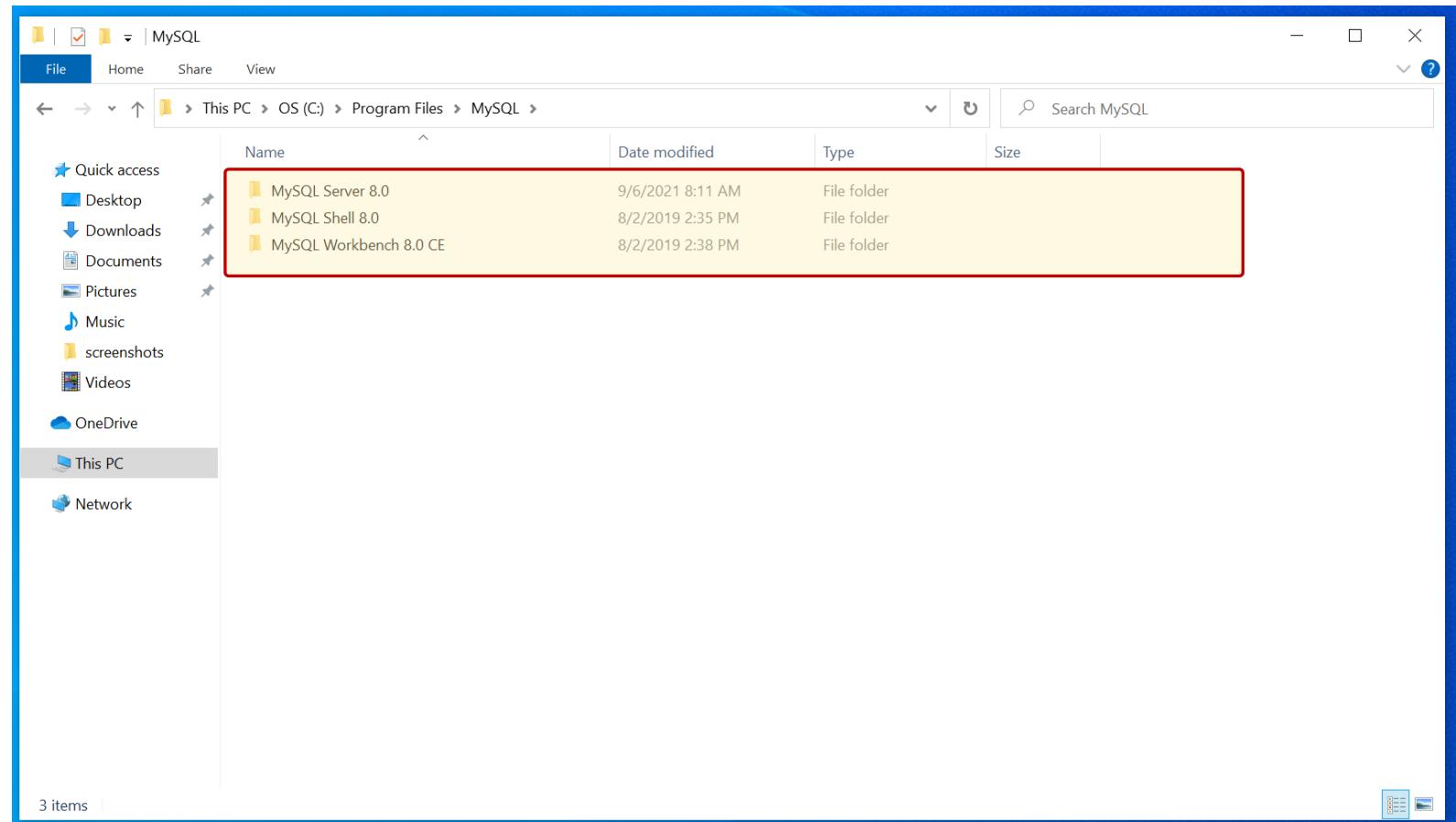


Verify that MySQL Server is Installed

Capture the location of MySQL

More than likely, it should be **C:/Program Files/MySQL**.

Make sure Workbench, the Shell, and the MySQL Server are included.

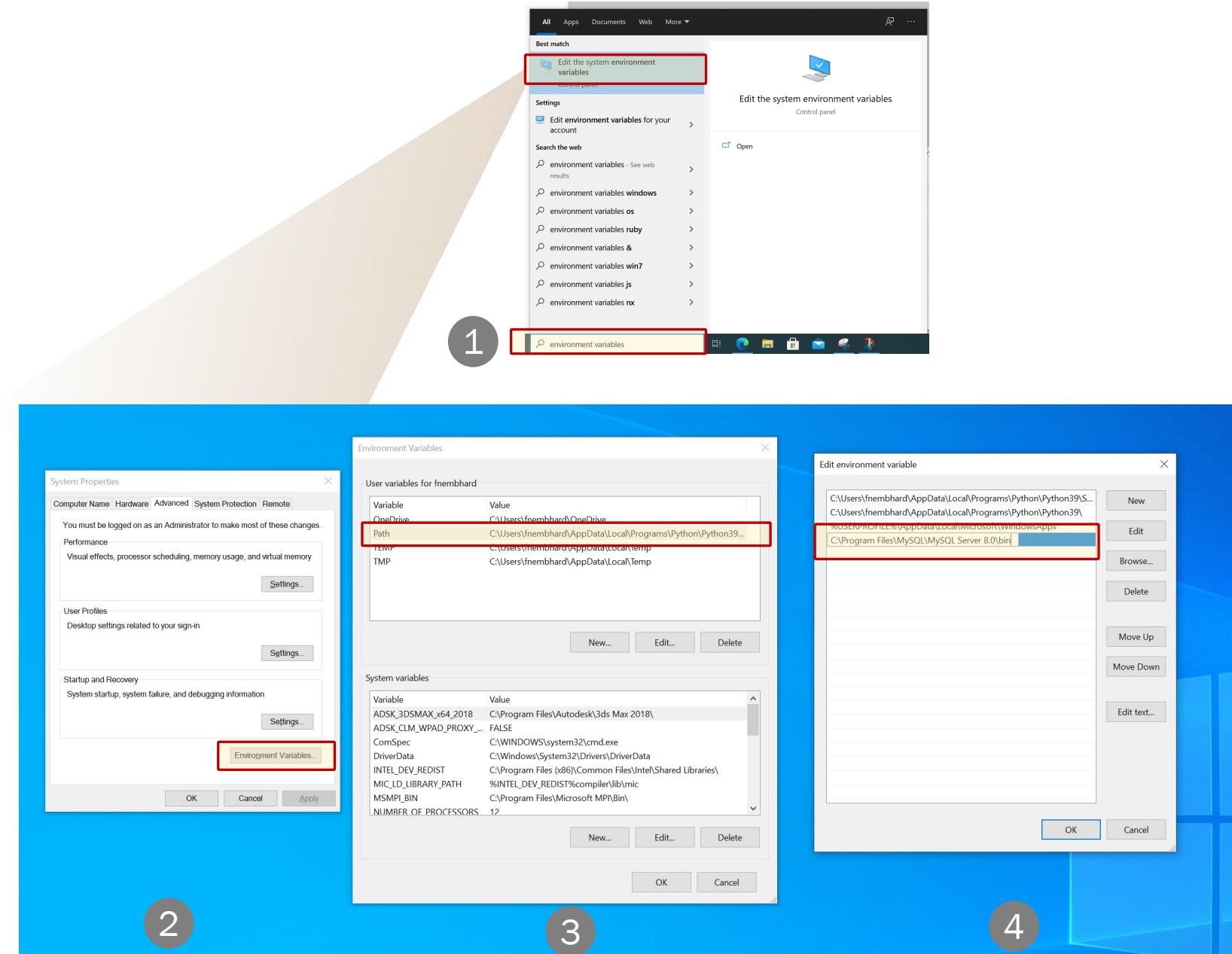


Verify that MySQL is included in your Path variable.

Enter **environment variables** in your Windows Search bar. Then open the Edit the system environment variables window.

Go to the path variable and make sure the path to the MySQL bin folder is included.

More than likely, it should be **C:/Program Files/MySQL/bin**



Test the MySQL Shell

Open your terminal (Command Prompt) and enter "where mysql"

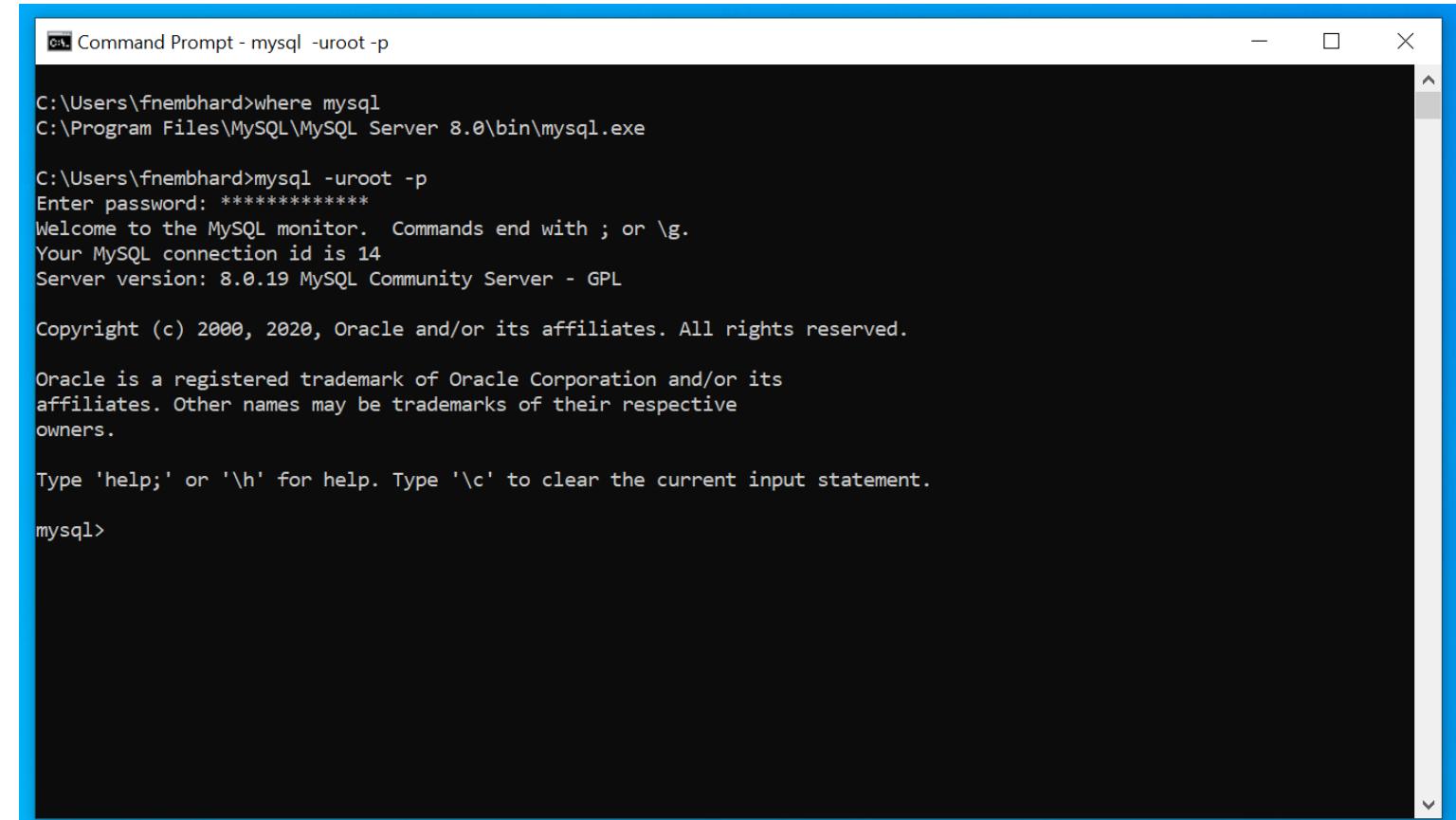
It should show the path to the mysql executable.

If not, make sure you followed the steps on the previous slide.

Next, enter `mysql -uroot -p`

And enter the password you chose for the root user.

You should be successfully logged into the MySQL Server via the shell.



The screenshot shows a Windows Command Prompt window titled "Command Prompt - mysql -uroot -p". The window contains the following text:

```
C:\Users\fnembhard>where mysql
C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe

C:\Users\fnembhard>mysql -uroot -p
Enter password: *****
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 14
Server version: 8.0.19 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

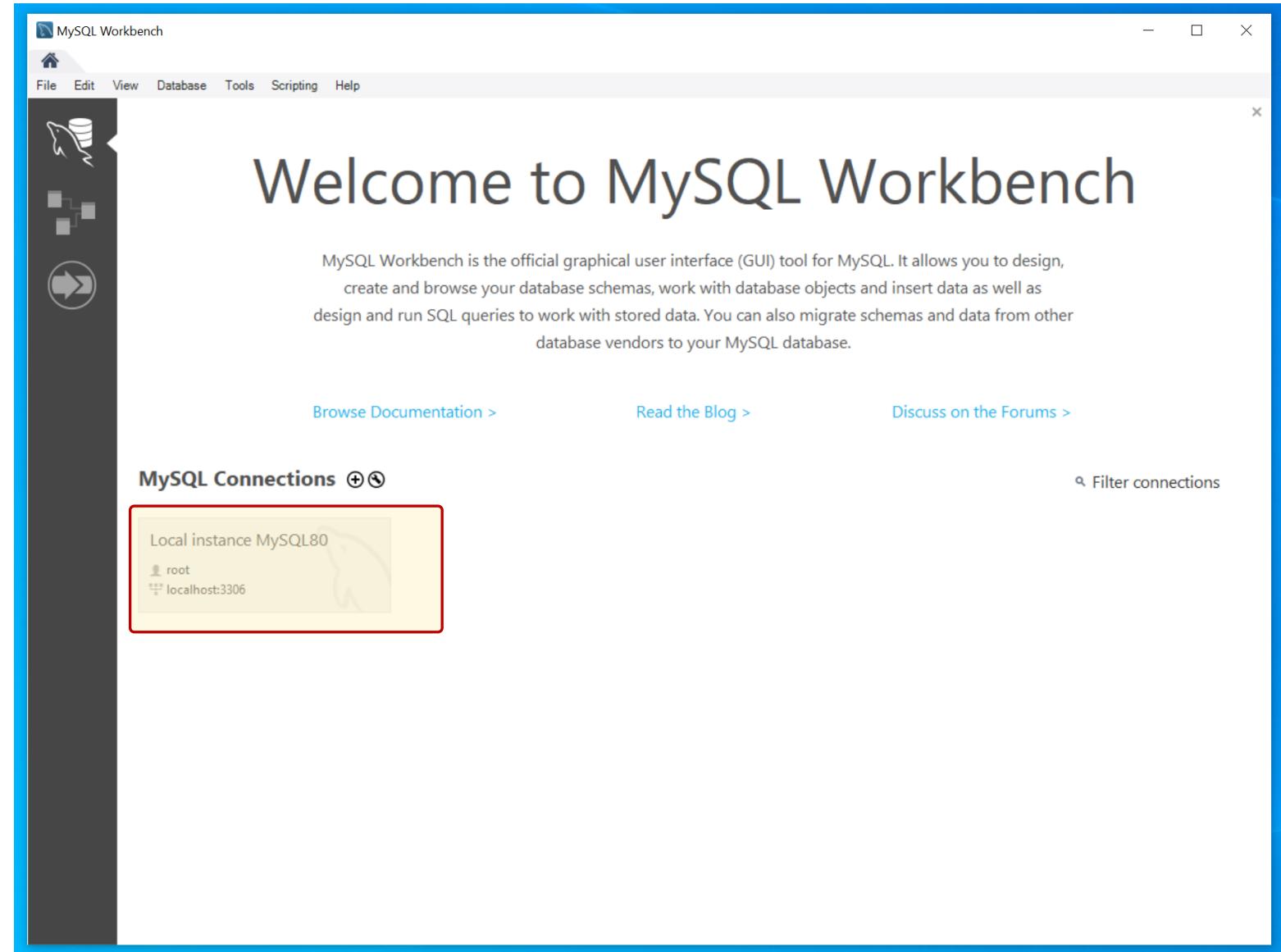
mysql>
```

Test the MySQL Workbench

Open MySQL Workbench.

You should see a local Instance running on port 3306.

Try to log in using the password you set for the root user.



Installing Python on MacOS

- The following slides will show you how to install Python on a computer running MacOS



Download Python

Go to python.org/downloads and choose the latest version.

The screenshot shows the Python.org homepage with a dark blue header. The navigation bar includes links for Python, PSF, Docs, PyPI, Jobs, and Community. Below the header is the Python logo and a search bar with a magnifying glass icon. A prominent yellow button labeled "Download Python 3.9.7" is highlighted with a red box. To its right, text links to other OS versions like Windows, Linux/UNIX, macOS, and Other. Further down, links point to Prereleases and Docker images. A note mentions Python 2.7 releases. On the right side of the page, there's a graphic of two boxes descending from the sky on yellow and white parachutes.

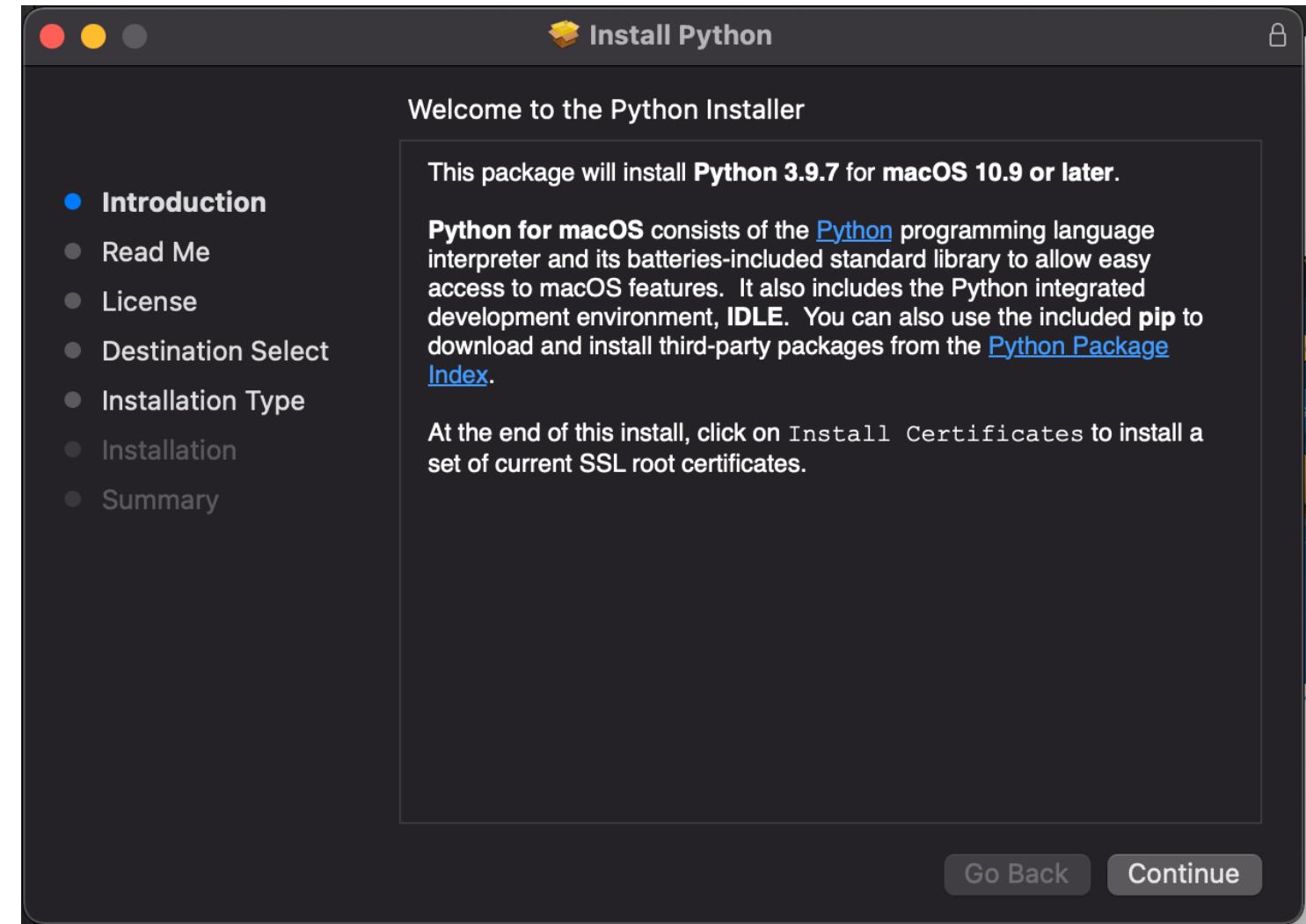
Install Python

Follow the Instructions in the Python Installer to install Python.

After installation, go to your terminal and enter “[which python](#).”

If executing the command does not show the version of Python that you installed, add Python to your Path. You may follow the instructions on slide 35.

If Python was not installed or you have issues installing it, follow the instructions here:
<https://tinyurl.com/y6mkdcqd>



Installing MySQL on Mac

- The following slides will show you how to install and set up MySQL on a computer running MacOS



Download MySQL for your Mac Computer

Choose the latest version of the MySQL installer from <http://dev.mysql.com/downloads/mysql>

← → ⌂ dev.mysql.com/downloads/mysql/

General Availability (GA) Releases Archives ⓘ

MySQL Community Server 8.0.25

Select Operating System: macOS Looking for previous GA versions?

! Packages for Big Sur (11) are compatible with Catalina (10.15)

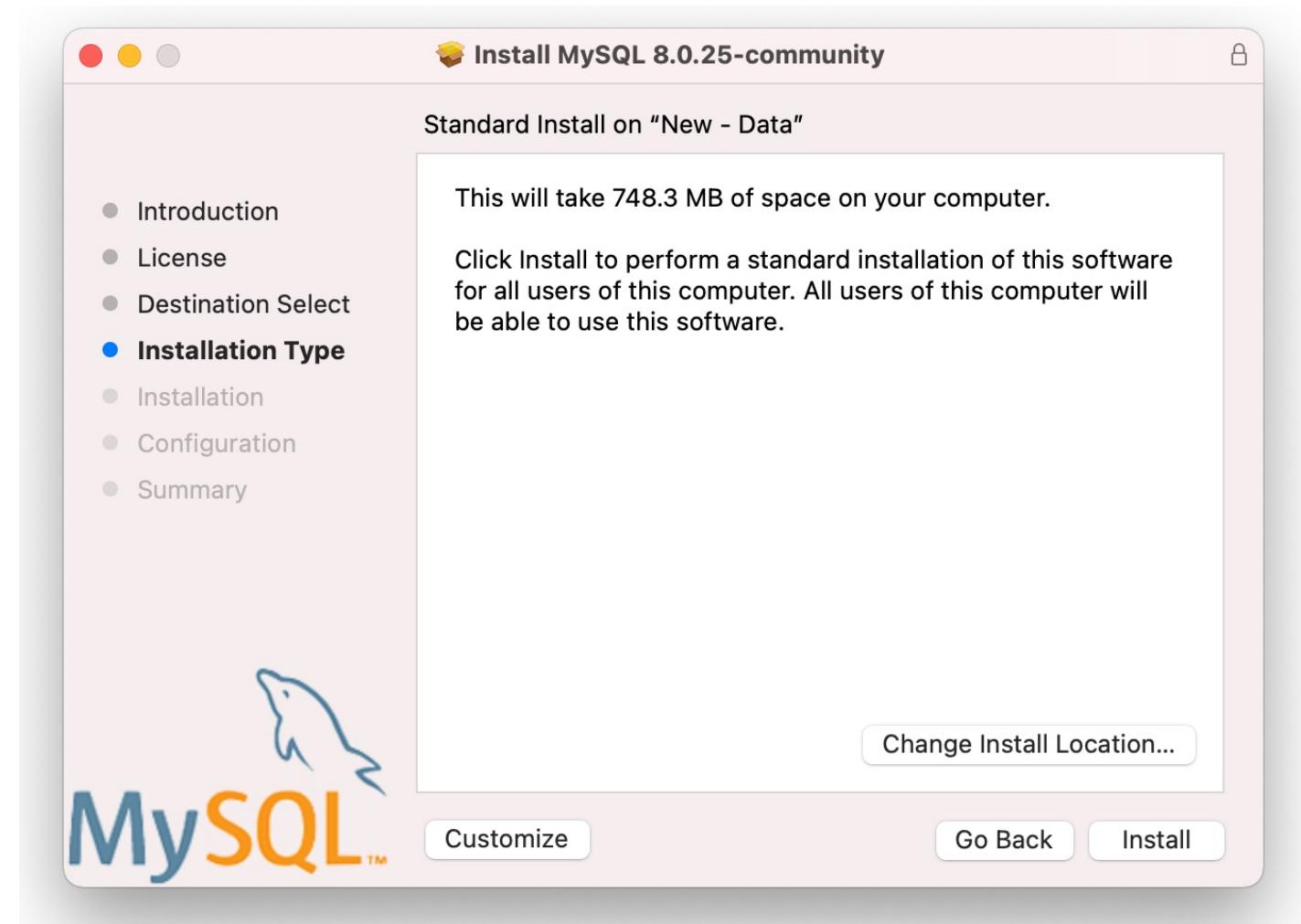
macOS 11 (x86, 64-bit), DMG Archive	8.0.25	415.0M	Download
(mysql-8.0.25-macos11-x86_64.dmg)	MD5: 8cde757c8a4cc2bbabbaf9fac369796	Signature	

macOS 11 (x86, 64-bit), Compressed TAR Archive	8.0.25	160.8M	Download
(mysql-8.0.25-macos11-x86_64.tar.gz)	MD5: 5db6d3f773c6d1fabc791eaa288fd164	Signature	

macOS 11 (x86, 64-bit), Compressed TAR Archive Test Suite	8.0.25	249.8M	Download
(mysql-test-8.0.25-macos11-x86_64.tar.gz)	MD5: 0340ecd112ca83271e14286ca652e906	Signature	

Installing MySQL on Mac

Run the installer to install MySQL.



Configure MySQL Server

Choose “Use Legacy Password Encryption” from the list. This will enable systems that do not support strong encryption to be able to access your databases especially for in-class demos and homework assignments.



Choose a Password

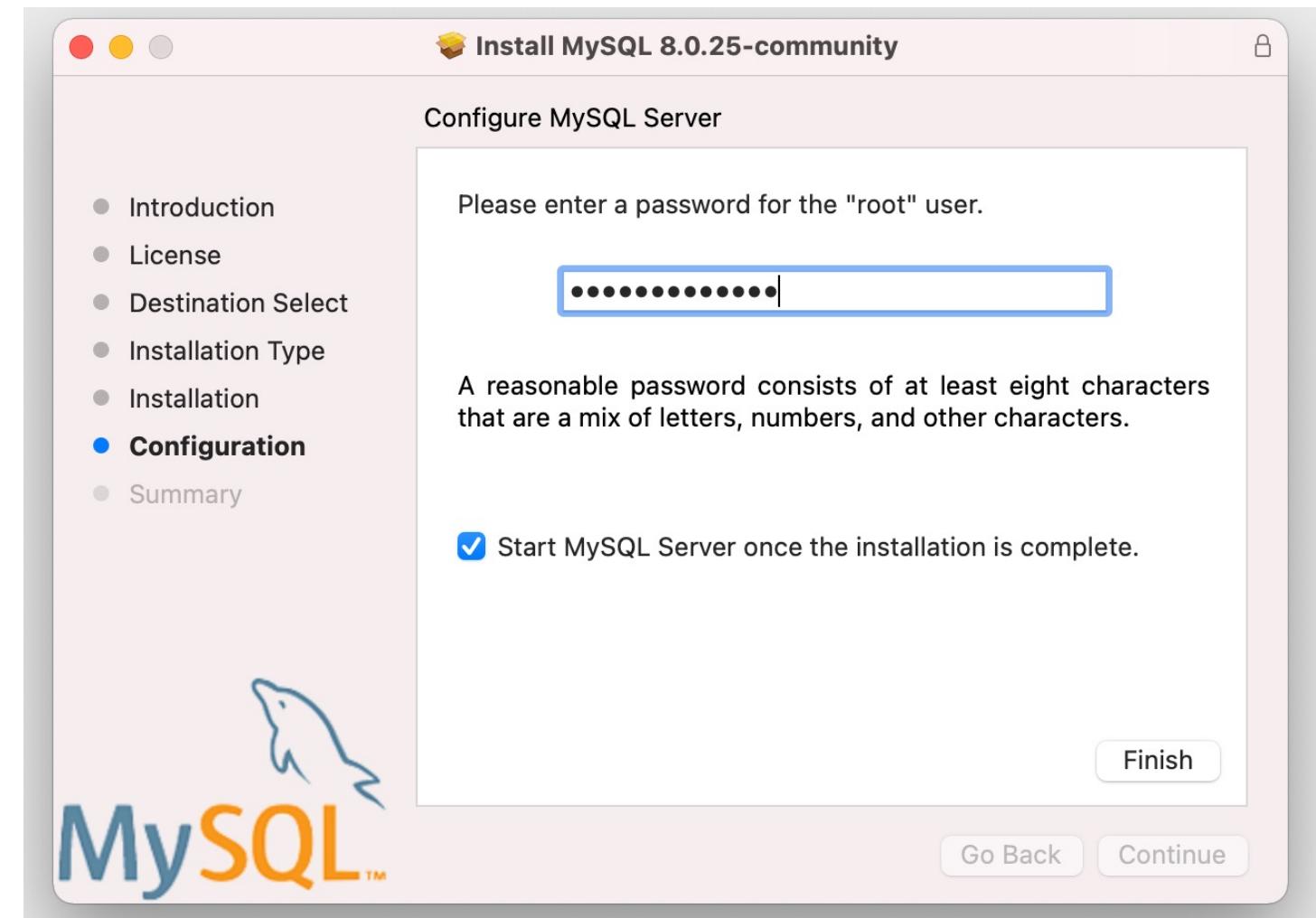
Enter a password for the root user. Make sure to remember your password. You will need it to connect to MySQL.

It is common practice to connect from your terminal like so:

```
$ mysql -uroot -p
```

You will then be prompted for your password.

You may also check the checkbox to start the server after installation.



Install MySQL Workbench

If MySQL Workbench was not included in the MySQL Community Server package, download and install it separately.

The screenshot shows a web browser displaying the MySQL Community Downloads page at dev.mysql.com/downloads/workbench/. The page title is "MySQL Community Downloads". Below it is a breadcrumb navigation: "MySQL Workbench". At the top, there are two tabs: "General Availability (GA) Releases" (highlighted in orange) and "Archives". A small "i" icon is also present. The main content area displays "MySQL Workbench 8.0.31". Below the title, a dropdown menu is set to "macOS". A warning message states: "Packages require Big Sur (11.1 or newer)". A download link for "macOS (x86, 64-bit), DMG Archive" is shown, with the file name "(mysql-workbench-community-8.0.31-macos-x86_64.dmg)" and a file size of "113.0M". A "Download" button is available. To the right of the download link, the version "8.0.31" and MD5 hash "MD5: 57927c4341d3ae5addb1ad82ac9647e3" are listed, along with a "Signature" link. A note at the bottom suggests using MD5 checksums and GnuPG signatures for integrity verification.

MySQL Community Downloads

MySQL Workbench

General Availability (GA) Releases Archives i

MySQL Workbench 8.0.31

Select Operating System:

macOS

Packages require Big Sur (11.1 or newer)

macOS (x86, 64-bit), DMG Archive 8.0.31 113.0M Download

(mysql-workbench-community-8.0.31-macos-x86_64.dmg) MD5: 57927c4341d3ae5addb1ad82ac9647e3 | Signature

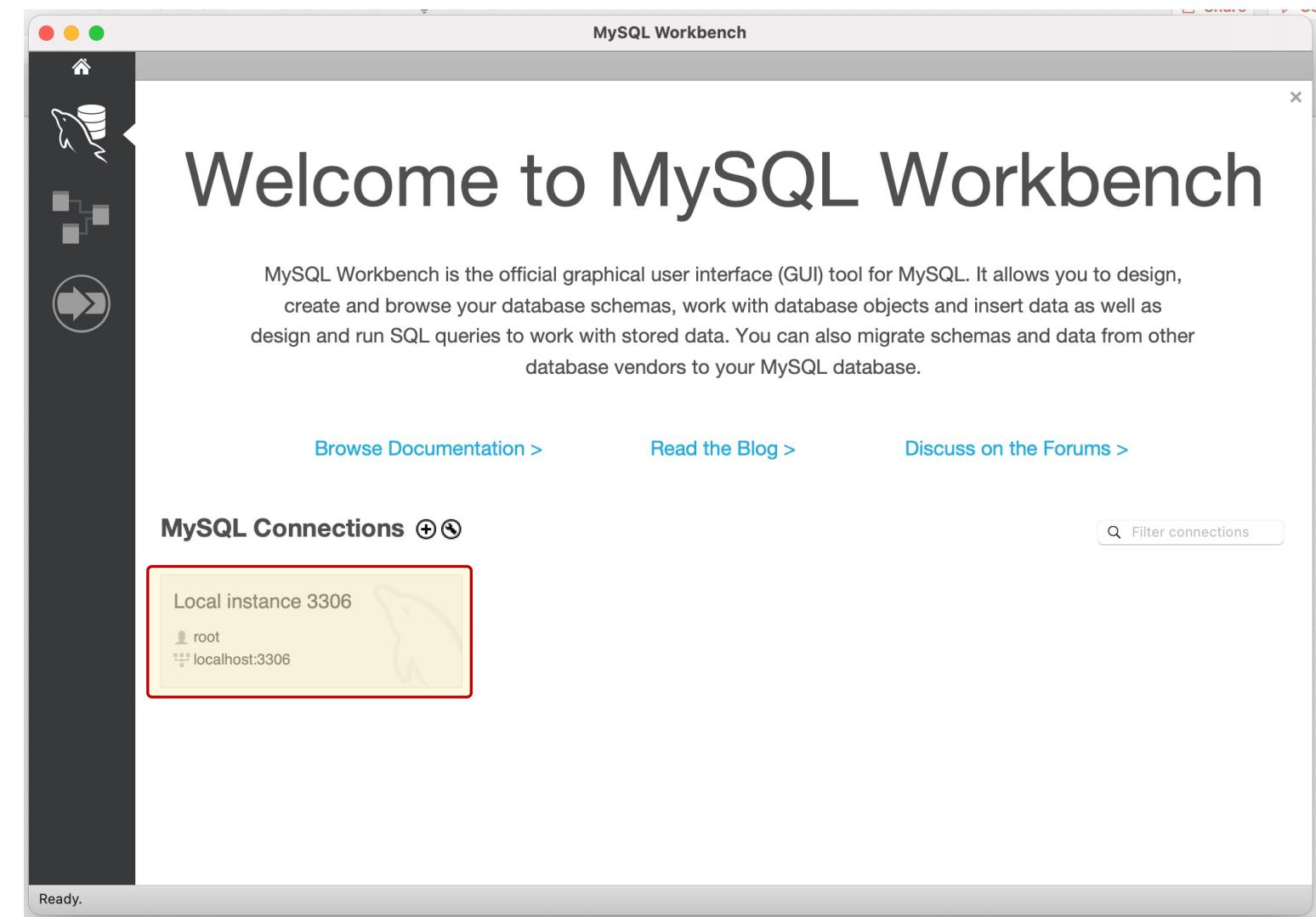
We suggest that you use the [MD5 checksums and GnuPG signatures](#) to verify the integrity of the packages you download.

Test MySQL Workbench

Open MySQL Workbench.

You should see a local Instance running on port 3306.

Try to log in using the password you set for the root user.

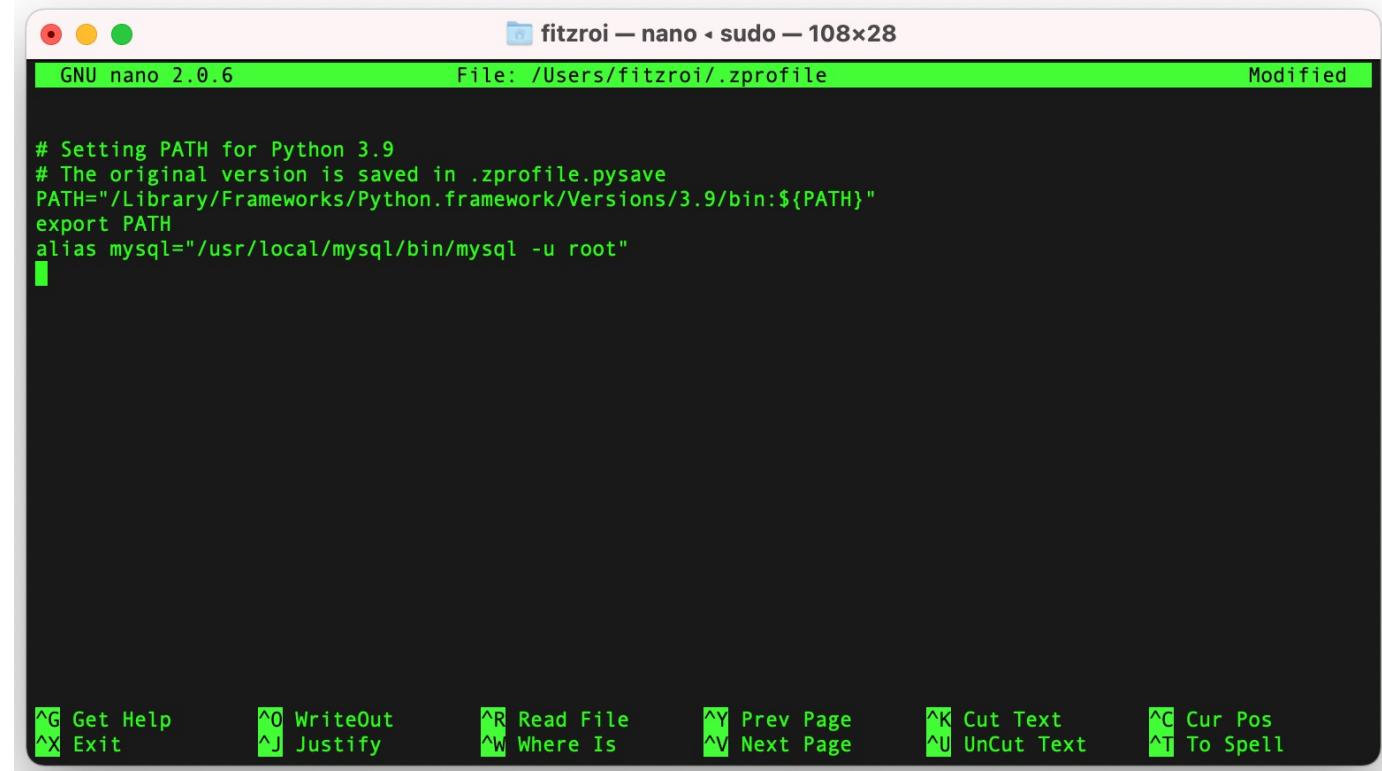


Verify MySQL is in Your Path

Make sure MySQL is included in your Path.

You may edit the path variable from your `.bash_profile` or `.zprofile` using a utility such as nano.

Here I am using an alias as a shortcut to mysql. Therefore, invoking mysql in the Terminal would launch the MySQL Shell.



The screenshot shows a terminal window titled "fitzroi — nano - sudo — 108x28". The title bar also displays "File: /Users/fitzroi/.zprofile" and "Modified". The nano editor interface is visible with a green status bar at the top. The main text area contains the following code:

```
# Setting PATH for Python 3.9
# The original version is saved in .zprofile.pysave
PATH="/Library/Frameworks/Python.framework/Versions/3.9/bin:${PATH}"
export PATH
alias mysql="/usr/local/mysql/bin/mysql -u root"
```

At the bottom of the terminal window, there is a menu of keyboard shortcuts:

- ^G Get Help
- ^X Exit
- ^O WriteOut
- ^J Justify
- ^R Read File
- ^W Where Is
- ^Y Prev Page
- ^V Next Page
- ^K Cut Text
- ^U Uncut Text
- ^C Cur Pos
- ^T To Spell

Test MySQL Shell

Open your terminal and enter “which mysql”

It should show the path to the mysql tool.

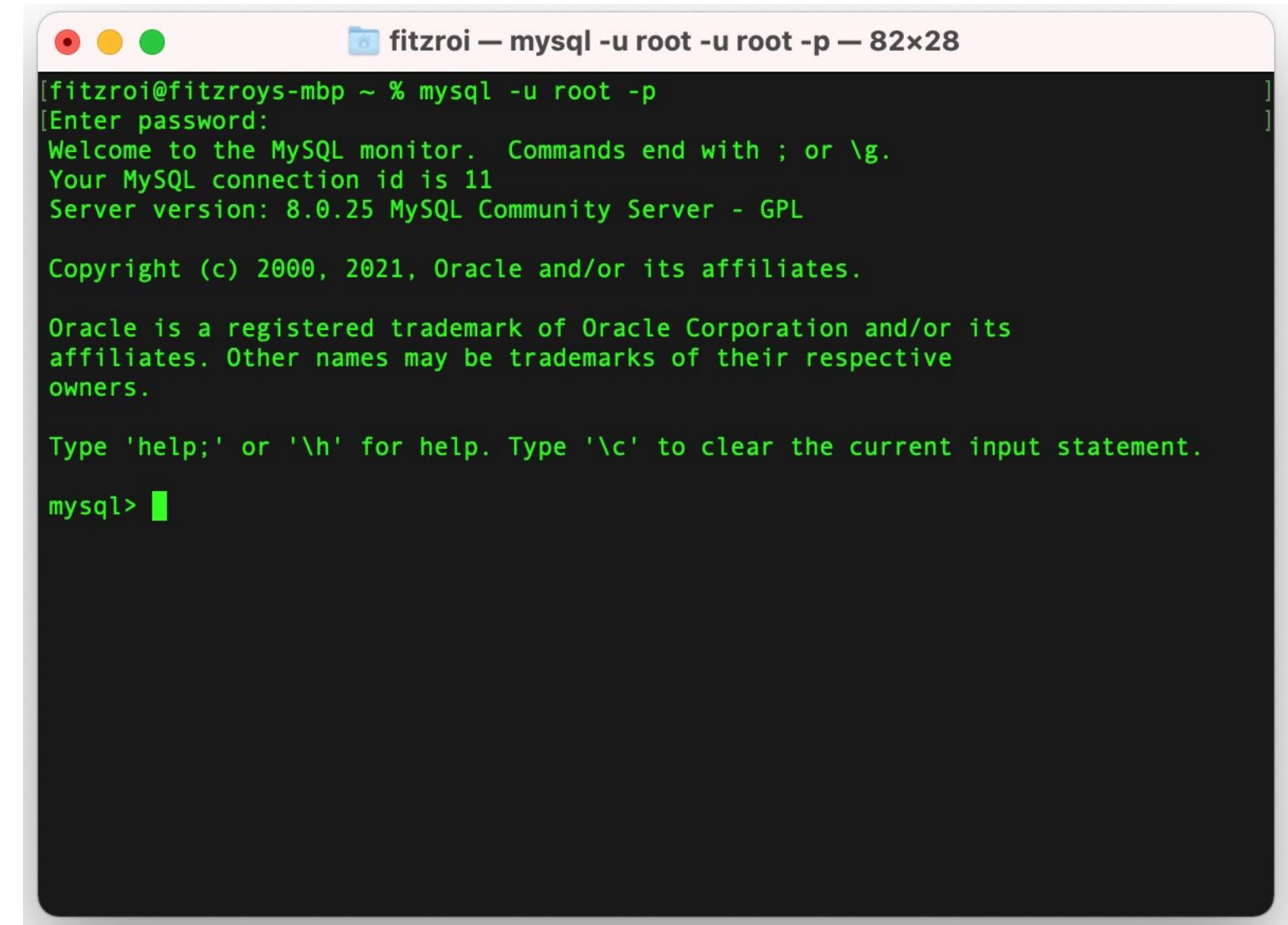
If not, make sure you followed the steps on the previous slide.

Next, enter `mysql -uroot -p`

or the alias `mysql` to launch the MySQL Shell.

Then, enter the password you chose for the root user.

You should be successfully logged into the MySQL Server via the shell.



A screenshot of a macOS terminal window titled "fitzroi — mysql -u root -u root -p — 82x28". The window shows the MySQL monitor interface. The text output is as follows:

```
[fitzroi@fitzroys-mbp ~ % mysql -u root -p
[Enter password:
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 11
Server version: 8.0.25 MySQL Community Server - GPL

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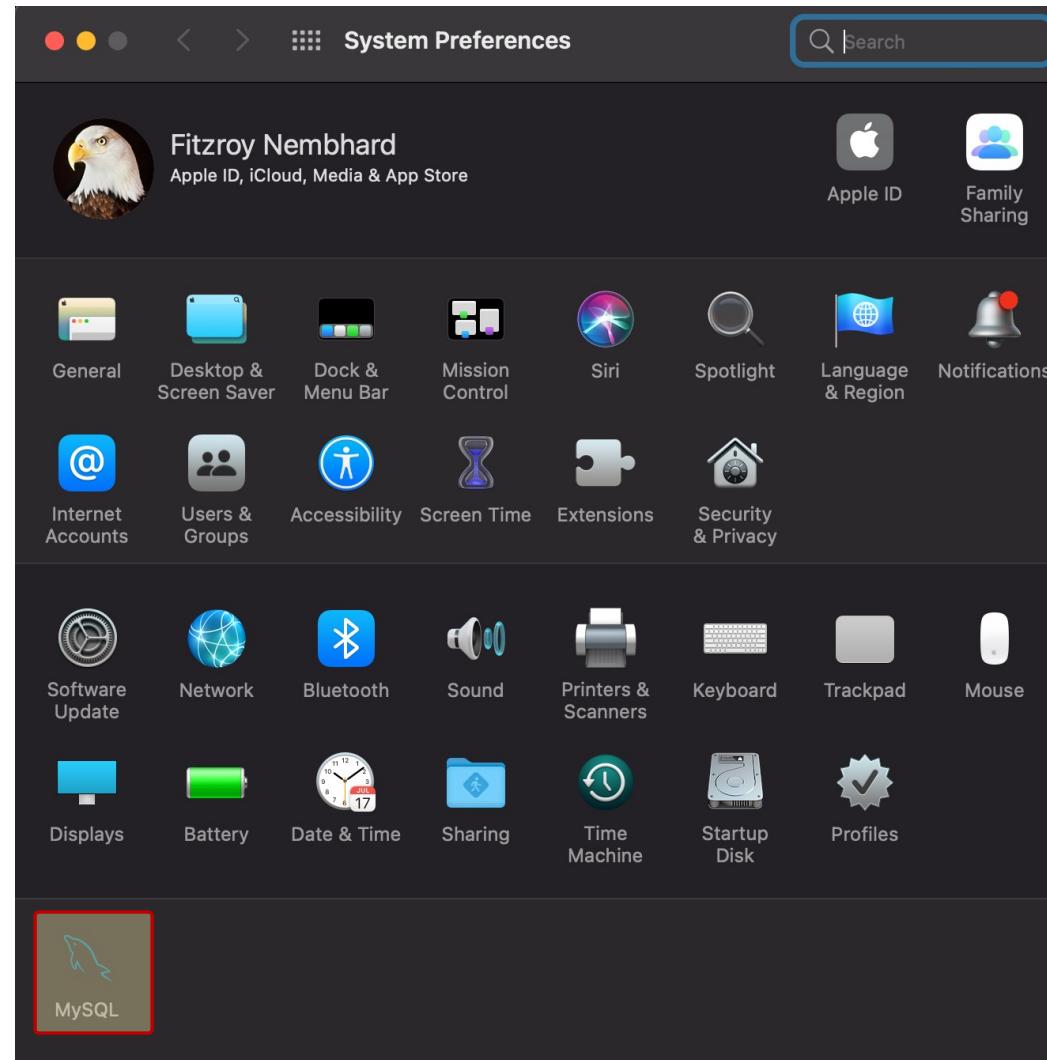
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> ]
```

Start/Stop MySQL Daemon

Open Your System Preferences.

Locate the MySQL Icon at the bottom of the window.



Start/Stop the MySQL Daemon

Use this screen to start/stop the MySQL Server.

