MySQL
Disclaimer: Subject to updates as corrections are found
Version 1.0

Solmaz Seyed Monir

solmaz.seyedmonir@cwu.edu

seyedmonirs@cwu.edu
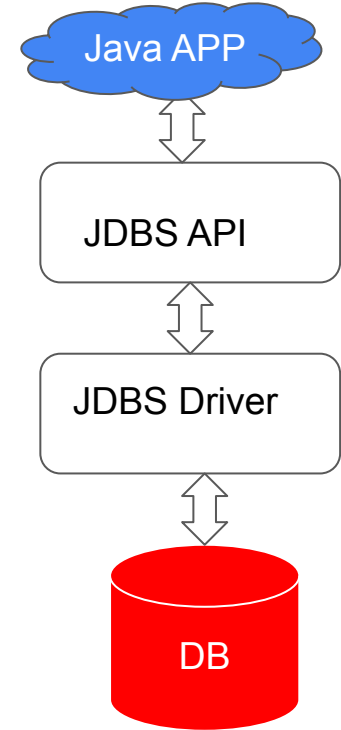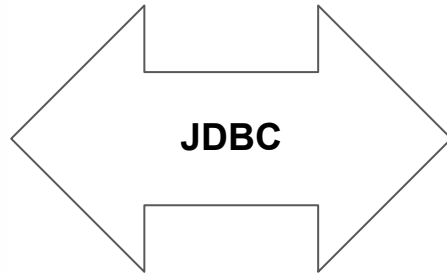
COLLEGE OF THE SCIENCES, CWU

This tutorial teaches you the following topics

✅ What is MySQL.

✅ What is MySQL Connector/J

✅ What is JDBC

✅How to Download MySQL

✅MySQL Workbench setup

✅MySQL Shell setup

✅SQL - CREATE Database

✅SQL - CREATE Table

✅ SQL - INSERT Query

✅ SQL - DELETE Query

- **MySQL** is a SQL-based relational database management system. Oracle Corporation creates, distributes, and supports it. MySQL is free and open-source software.

- **MySQL Connector/J**, a driver that implements the JDBC API, is provided by MySQL to connect to MySQL in Java.

- **JDBC** is an abbreviation for Java Database Connectivity, a standard Java API for database-independent connectivity between the Java programming language and a variety of databases. It allows you to query and update data in a database. JDBC is designed for relational databases.

JDBC

Java APP

JDBS API

JDBS Driver

DB

Download MySQL

https://www.mysql.com/downloads/
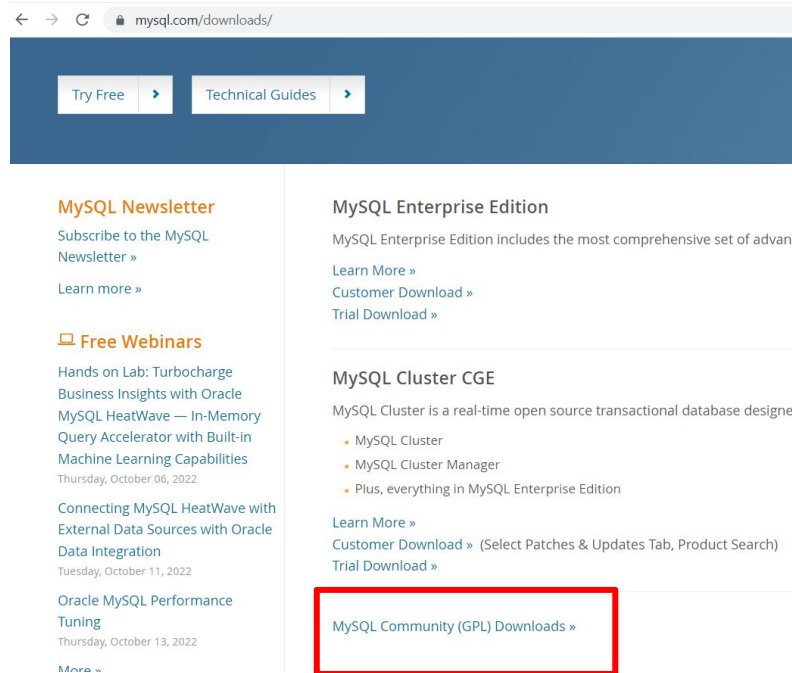
Click on this link

MySQL Community (GPL) Downloads »

Installer for Windows from

https://dev.mysql.com/downloads/

Click on mySQL installer for windows

⊕ MySQL Community Downloads

- MySQL Yum Repository
- MySQL APT Repository
- MySQL SUSE Repository

- MySQL Community Server
- MySQL Cluster
- MySQL Router
- MySQL Shell
- MySQL Operator

- MySQL Workbench

- MySQL Installer for Windows
- MySQL for Visual Studio

- C API (libmysqlclient)
- Connector/C++
- Connector/J
- Connector/NET
- Connector/Node.js
- Connector/ODBC
- Connector/Python
- MySQL Native Driver for PHP

- MySQL Benchmark Tool
- Time zone description tables
- Download Archives

ORACLE © 2022 Oracle

Privacy / Do Not Sell My Info | Terms of Use | Trademark Policy | Cookie Preferences

Installing MySQL On Windows

MySQL Community Server 8.0.30 version

Installing MySQL On MacOS

https://dev.mysql.com/downloads/mysql/

Click the Download button.

Select the link **No thanks, just start my download.**

MySQL Community Downloads

Login Now or Sign Up for a free account.

An Oracle Web Account provides you with the following advantages:

- Fast access to MySQL software downloads
- Download technical White Papers and Presentations
- Post messages in the MySQL Discussion Forums
- Report and track bugs in the MySQL bug system

Login »
using my Oracle Web account

Sign Up »
for an Oracle Web account

MySQL.com is using Oracle SSO for authentication. If you already have an Oracle Web account, click the Login link. Otherwise, you can signup for a free account by clicking the Sign Up link and following the instructions.

No thanks, just start my download.

downloaded to a local computer To open it, click on the arrow.

mysql-installer-we....msi

Open
Always open files of this type

Show in folder
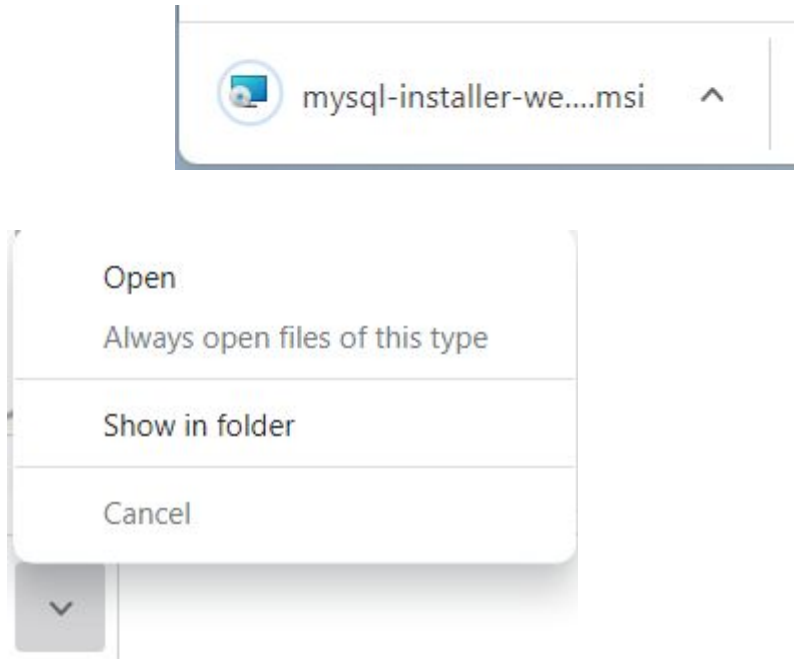
Cancel

You can select the 'Developer Default' configuration.
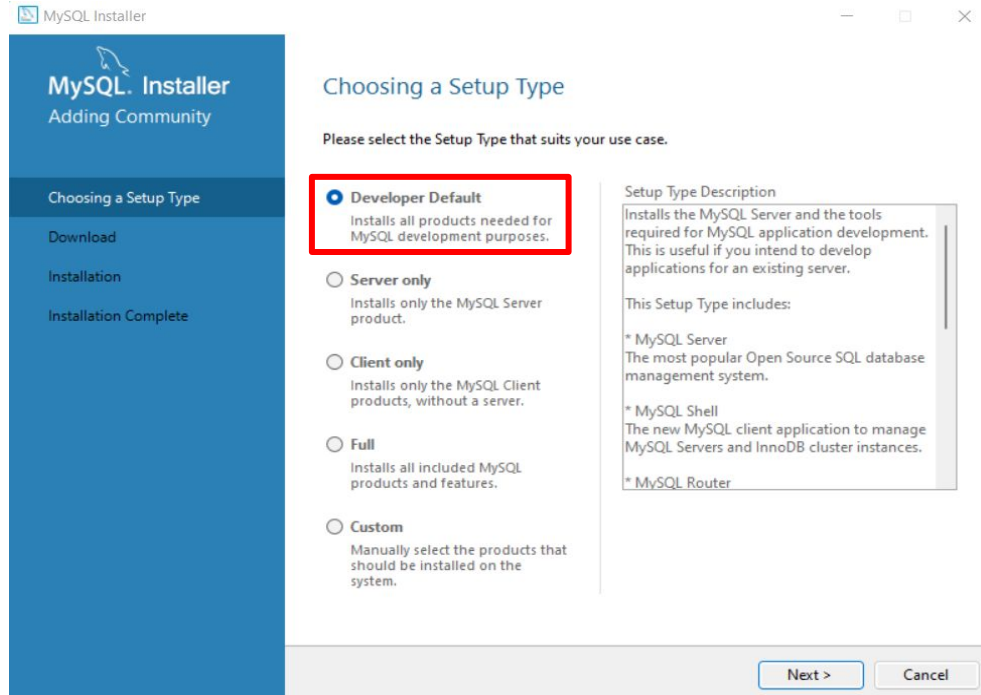
Once the installation is complete, if you chose to install the MySQL client (MySQL **Workbench**, which is a Community/free download), you can connect to your server instance; otherwise, you can check the installation from the command line.

* MySQL Workbench
The GUI application to develop for and manage the server.

Developer Default

* MySQL Server
The most popular Open Source SQL database management system.

* MySQL Shell
The new MySQL client application to manage MySQL Servers and InnoDB cluster instances.

* MySQL Router
High availability router daemon for InnoDB cluster setups to be installed on application nodes.

* MySQL Workbench
The GUI application to develop for and manage the server.

* MySQL for Visual Studio
To work with the MySQL Server from VS.

Next, click the ==Next button==.
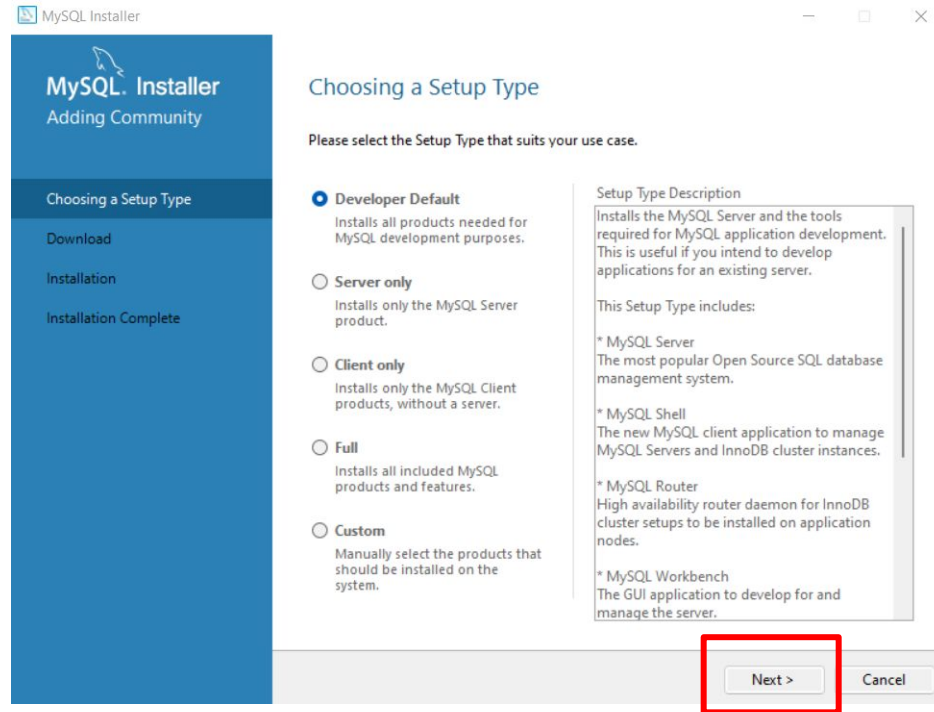
Click on MySQL for Visual Studio
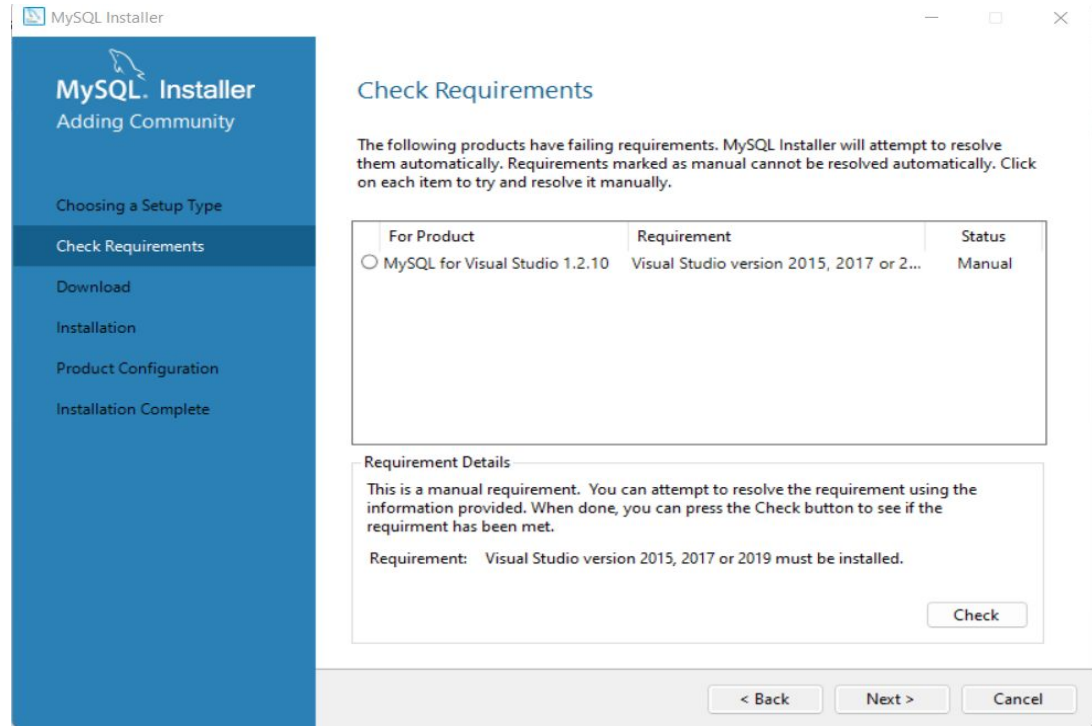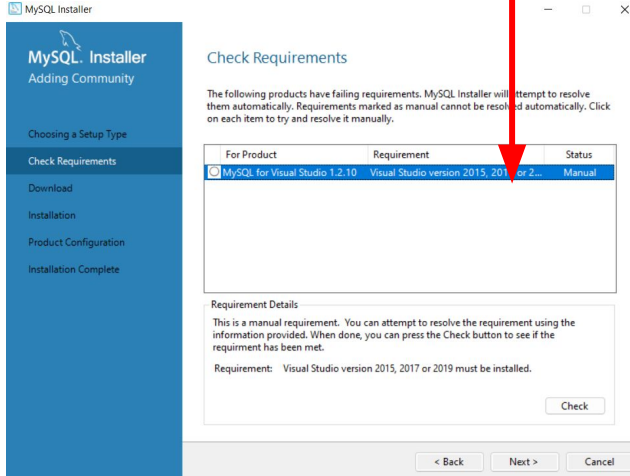
1. Next, click the Next button.

2. Click the Execute button
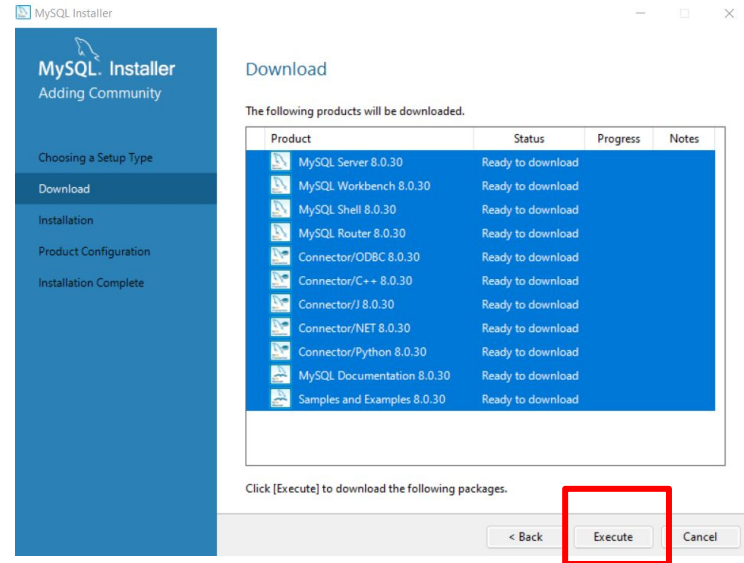
all downloaded, then click on the Next button.
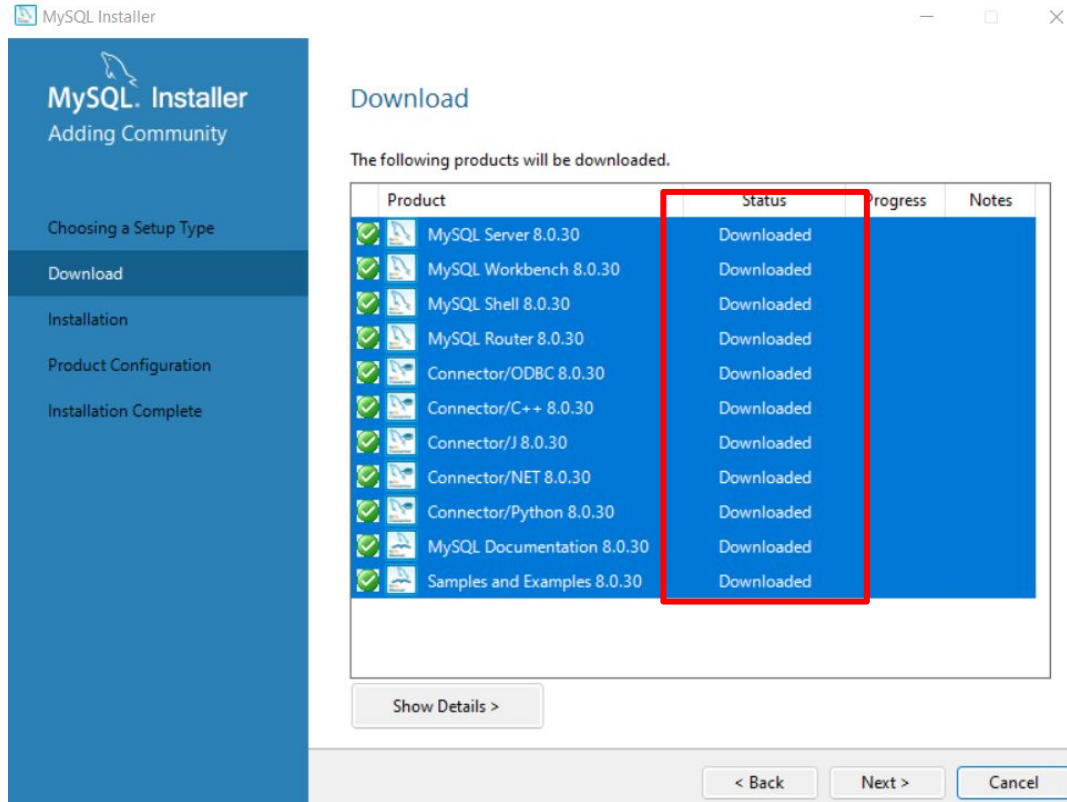
ready for installation
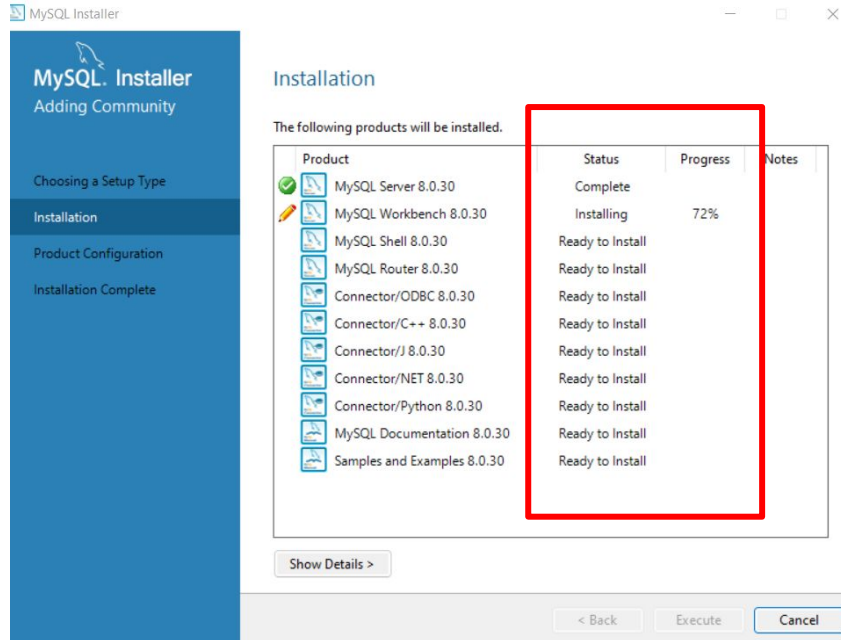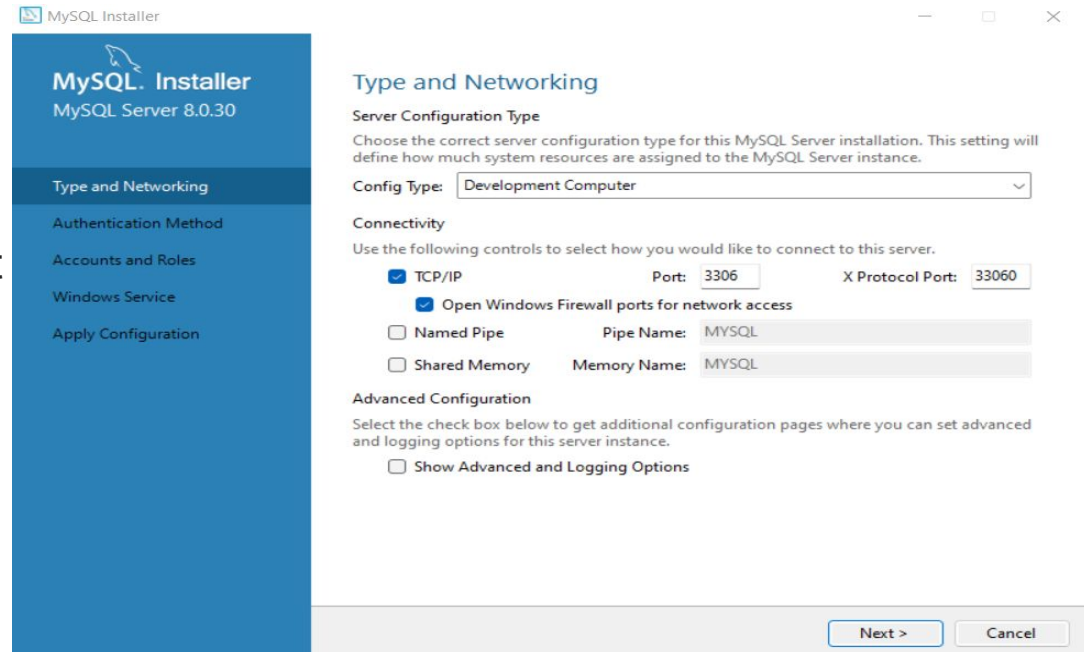
Status **complete**, then click on the Next button.
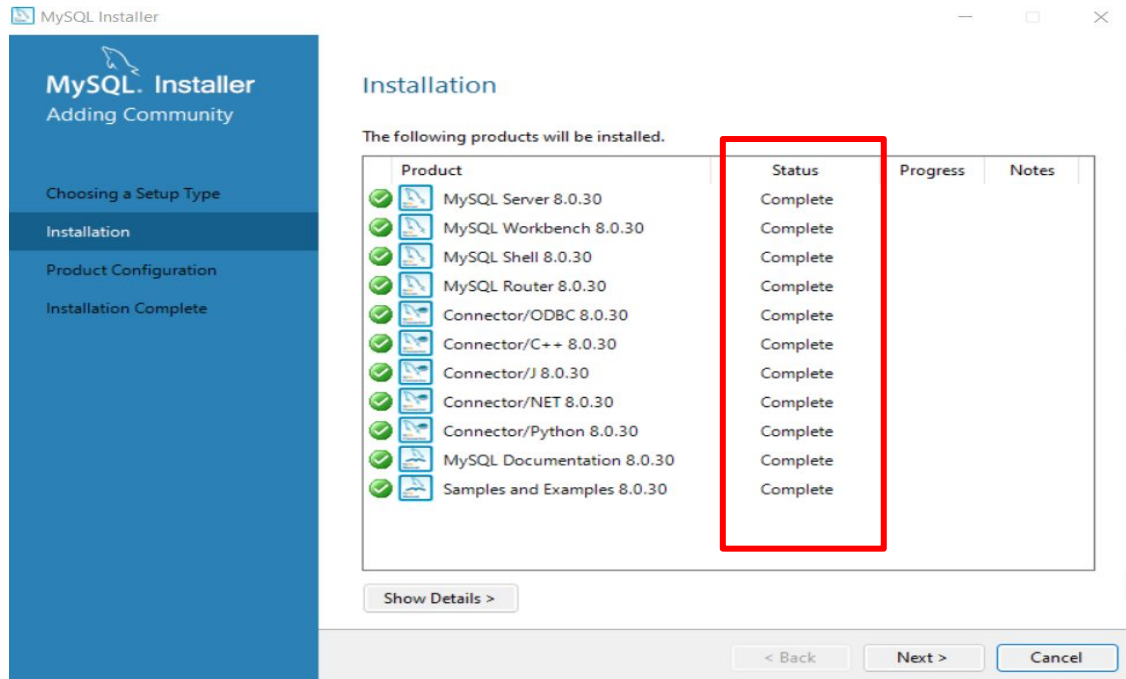
click on the Next button.
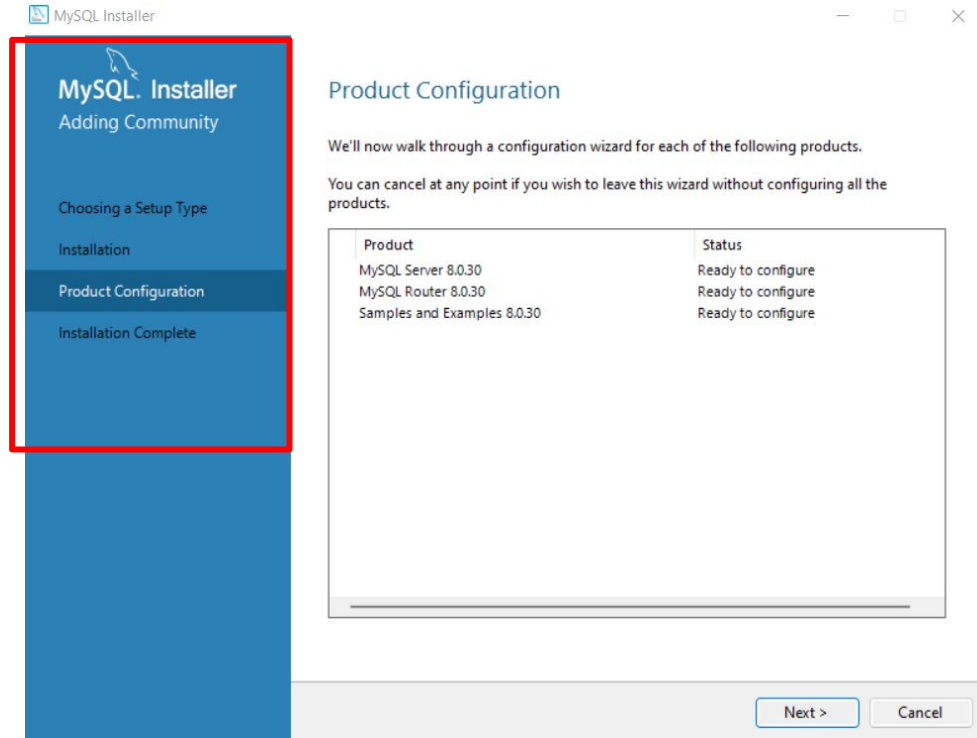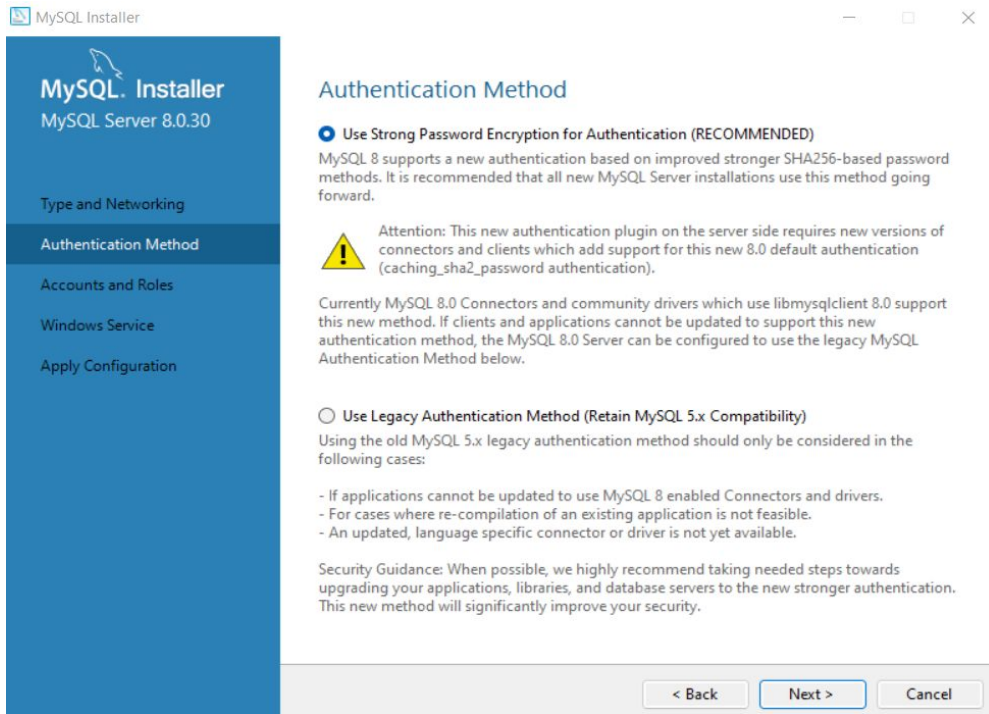
click on the Next button.
Port number is 3306 as default

Click on the <mark>Next button</mark>.

Click on the Add User button.
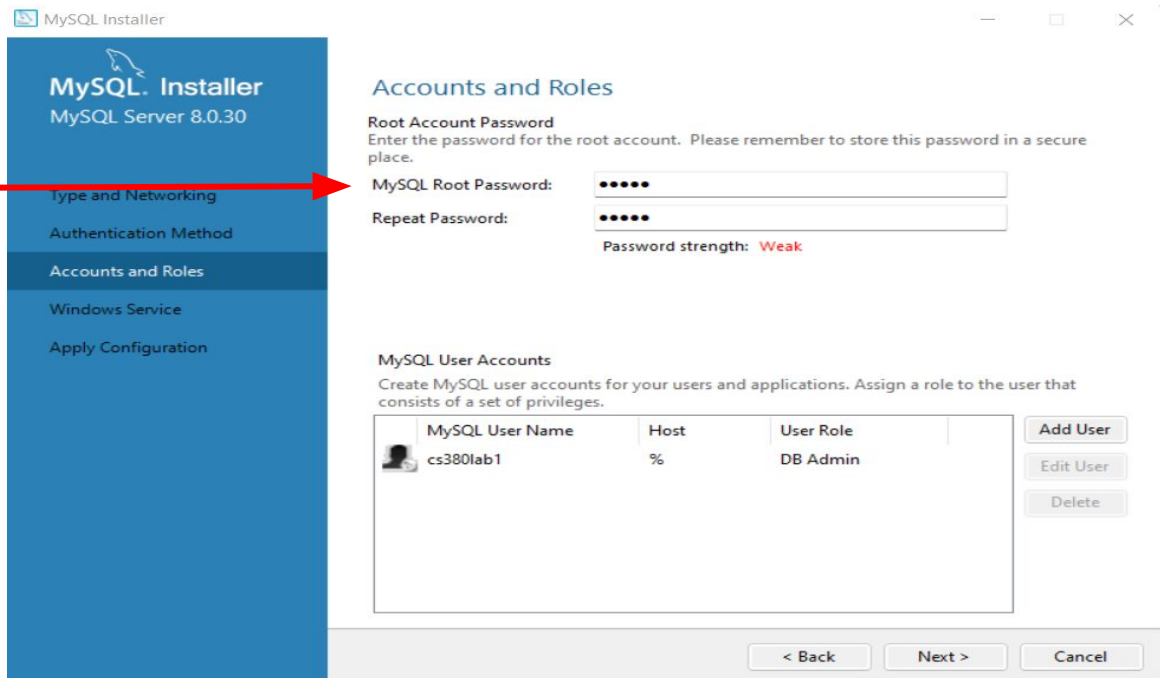
enter the username
cs380lab1

Password
cs380

Click on the OK button.
Set root password cs380
Then click on Next button

Click on the Next button.

Click on the ==Execute button==.

Click on the Finish button.

Click on the
Next button.

Click on the Finish button.

Click on the
Next button.

In this lab, enter the cs380 password and connect to the server.

1. Then, connect to the server by clicking the check button.
2. Click on the Next button.
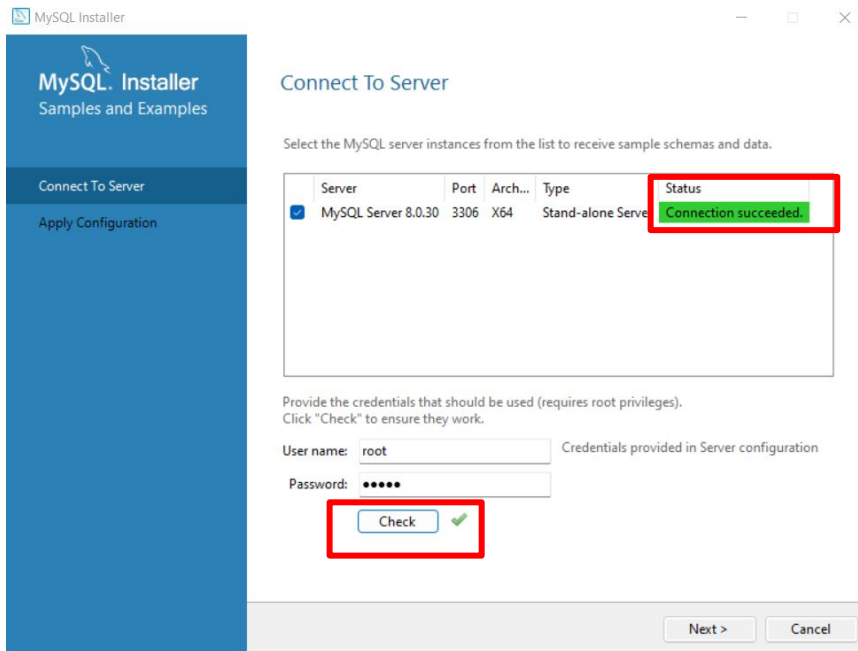
Click on the Finish button.
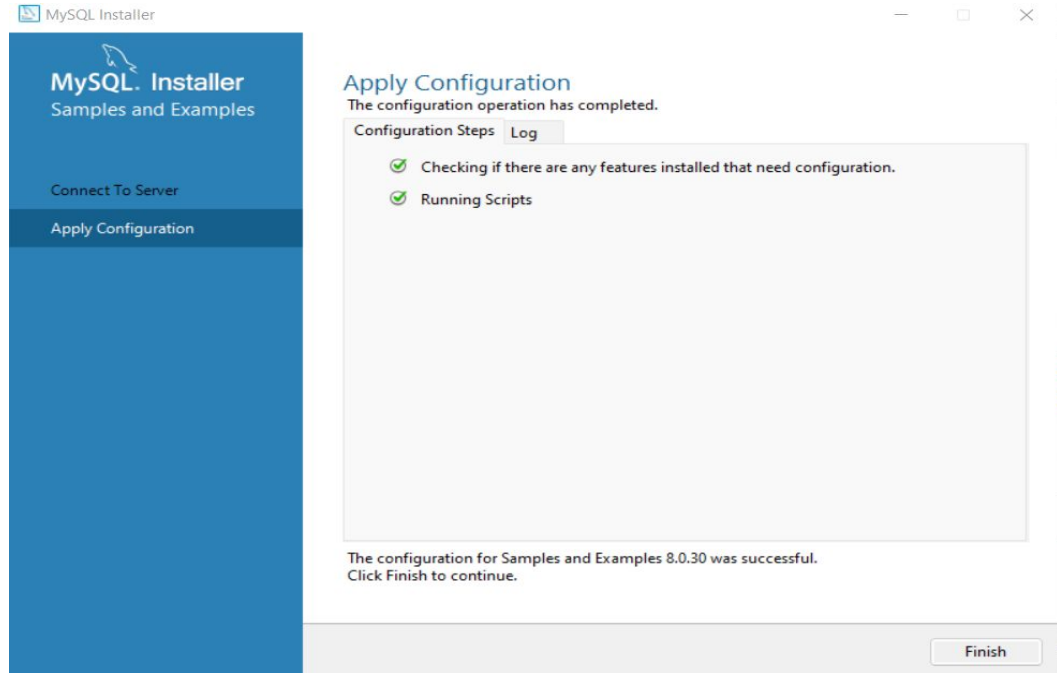
*MySQL Shell set up

* MySQL Workbench setup

Click on the Finish button.
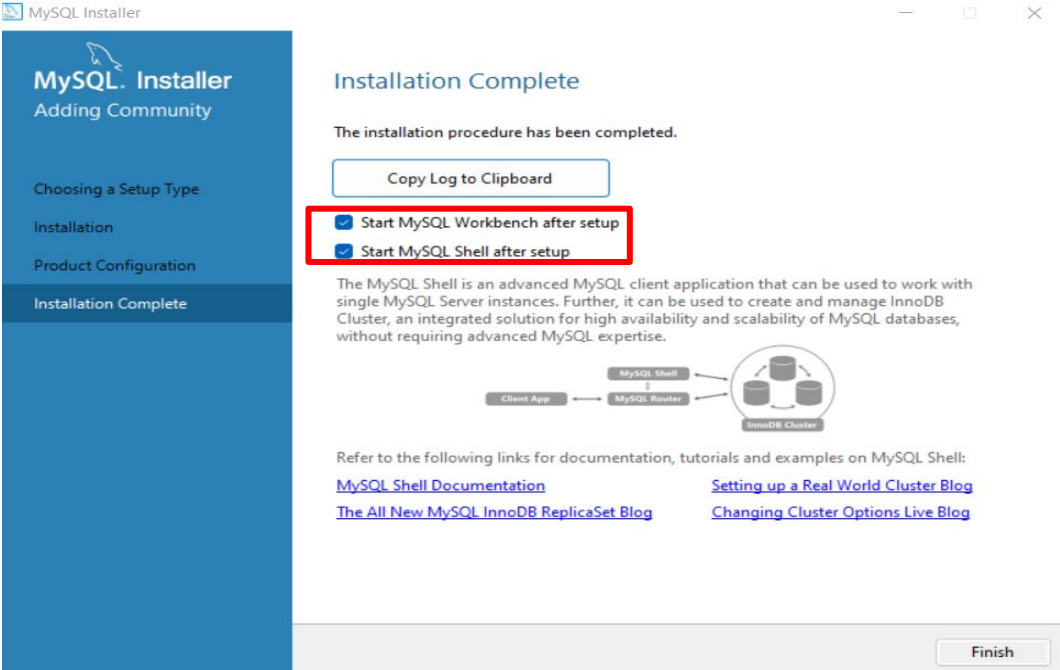
MySQL Workbench setup
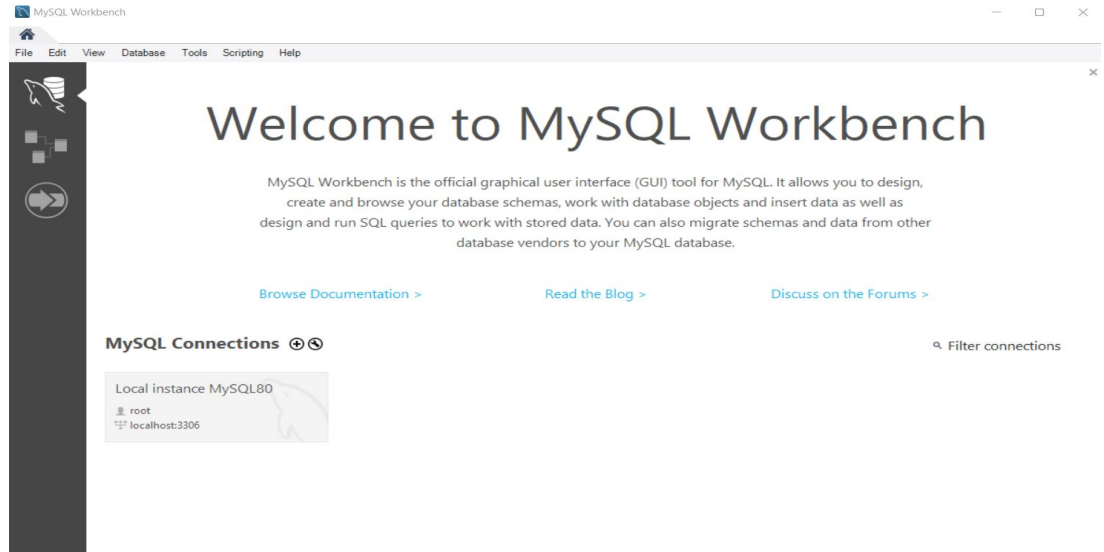
MySQL Shell setup


```
C:\Program Files\MySQL\MySQL Shell 8.0\bin\mysqlsh.exe

MySQL Shell 8.0.30

Copyright (c) 2016, 2022, Oracle and/or its affiliates.
Oracle is a registered trademark of Oracle Corporation and/or its affiliates.
Other names may be trademarks of their respective owners.

Type '\help' or '\?' for help; '\quit' to exit.
MySQL  JS >
```

Click on this local instance

MySQL Connections ⊕ ⊗

Local instance MySQL80

👤 root

localhost:3306
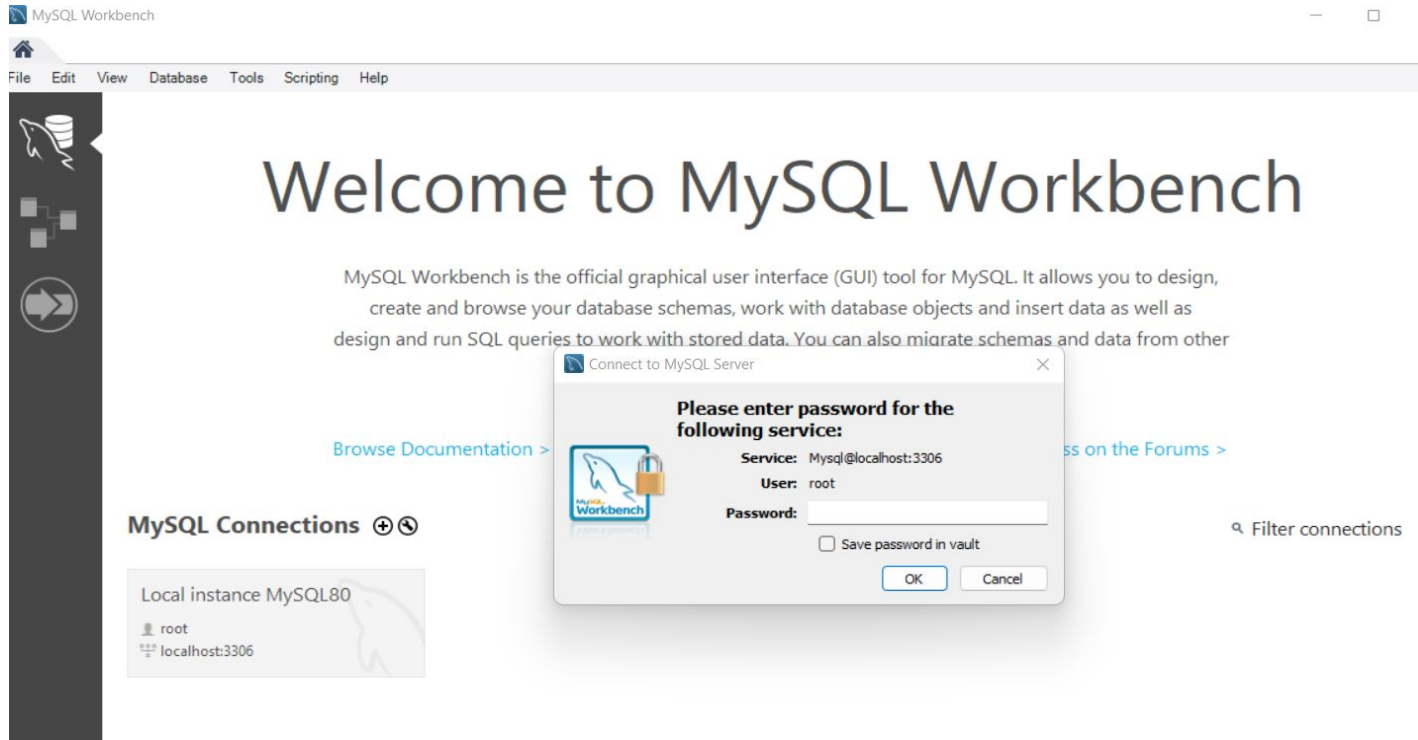
Enter cs380 as the root user password, which you set up
in the previous slides.

now successfully connected to server.
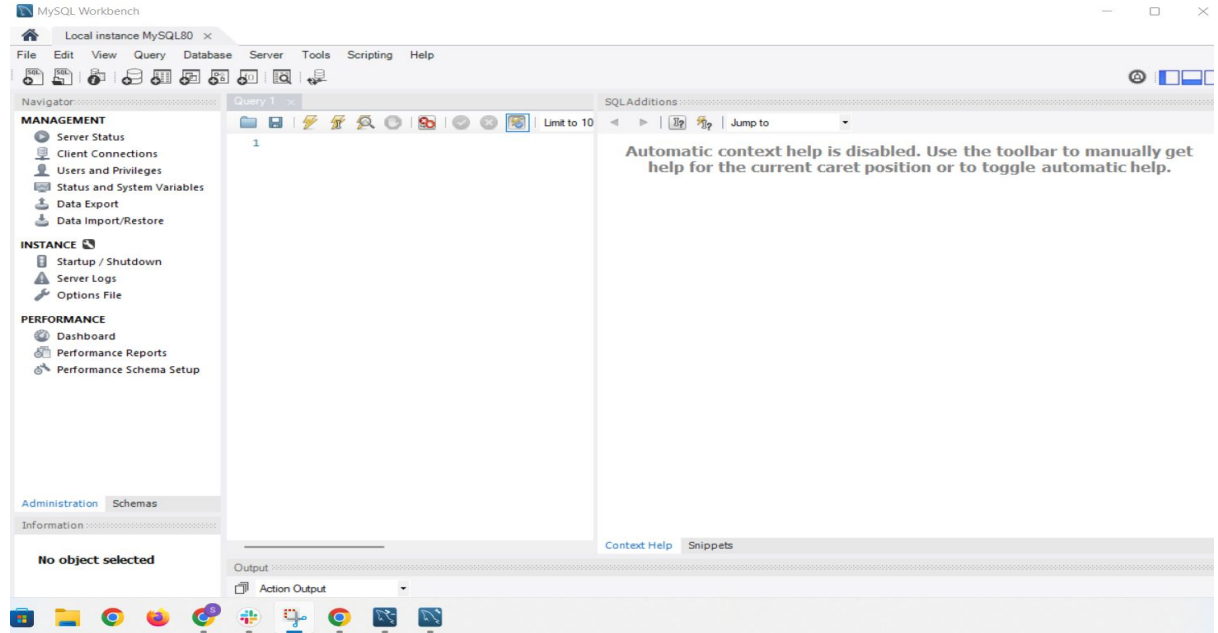
Click the Create a new schema in the connected server button on the main toolbar of the newly opened MySQL Workbench window.
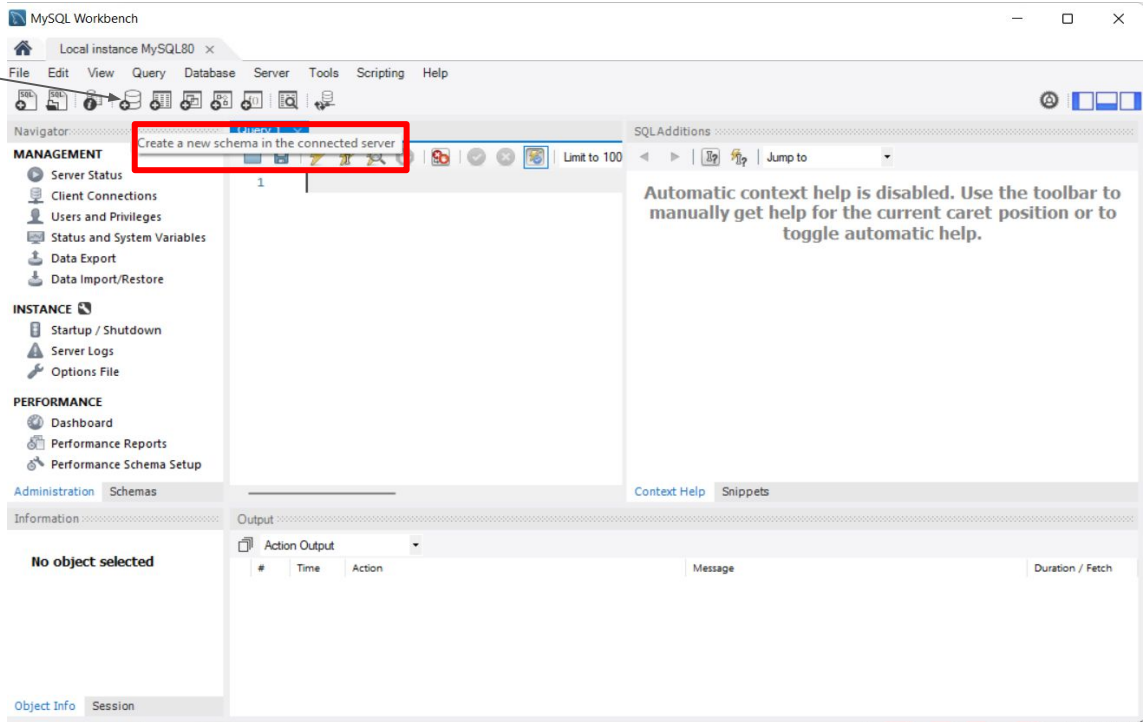
Type the name **cs380lab1** of the schema and click Apply.

Review SQL Script

Apply SQL Script

Review the SQL Script to be Applied on the Database

Online DDL

Algorithm: [Default ⌄]   Lock Type: [Default ⌄]

```
1        CREATE SCHEMA `cs380lab1` ;
2
```

[Back]   [Apply]   [Cancel]
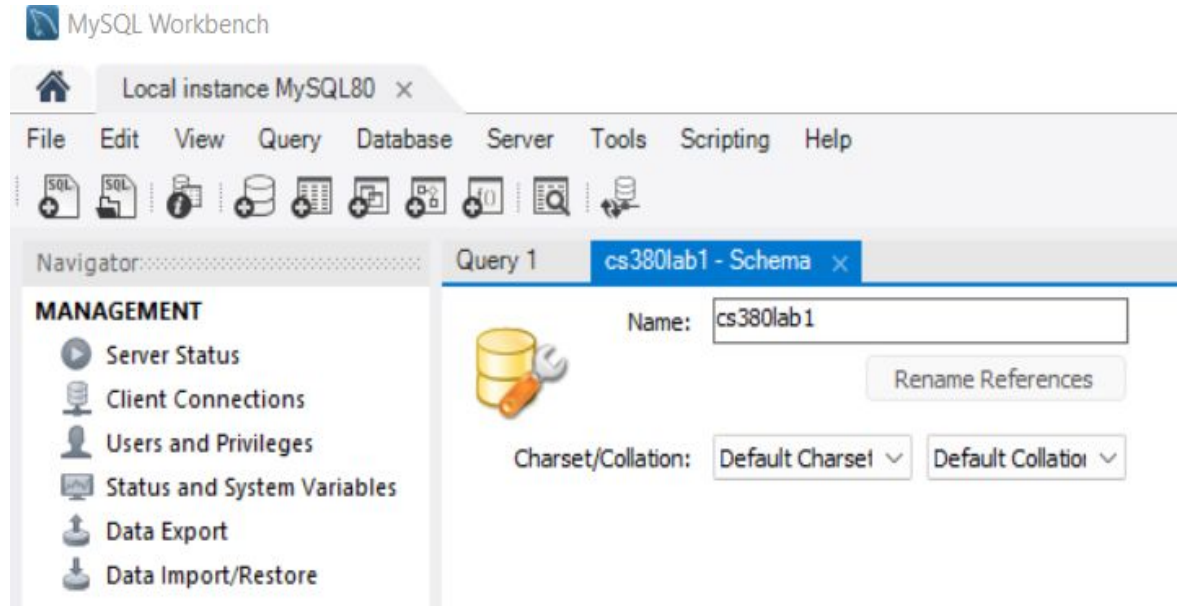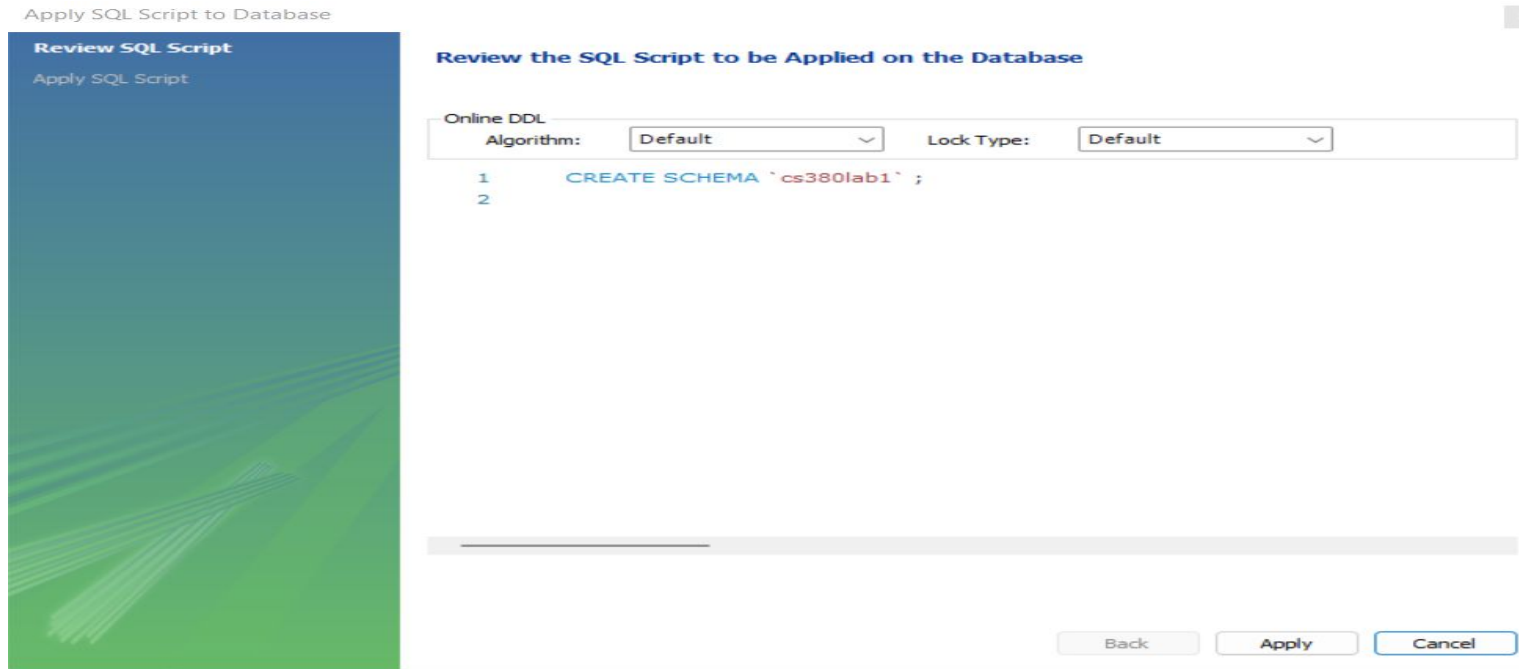
In the Apply SQL Script to Database window that
opens, **click Apply**. Then click Finish.

Verify that the Navigator has displayed the **database cs380lab1**.
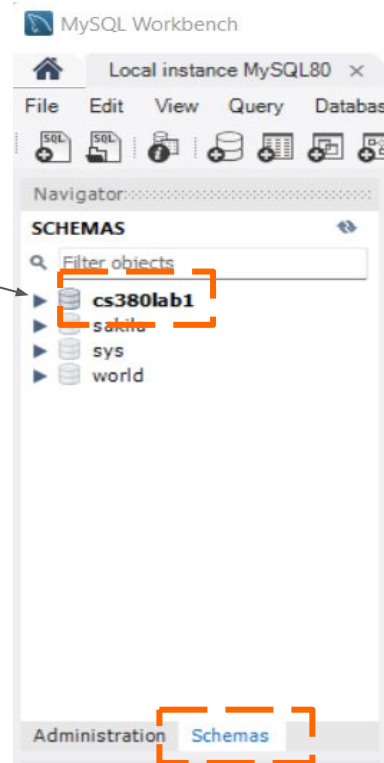
1. Right-click the Table and choose Create a table
2. Create a new table called "student" in our cs380lab1 database.
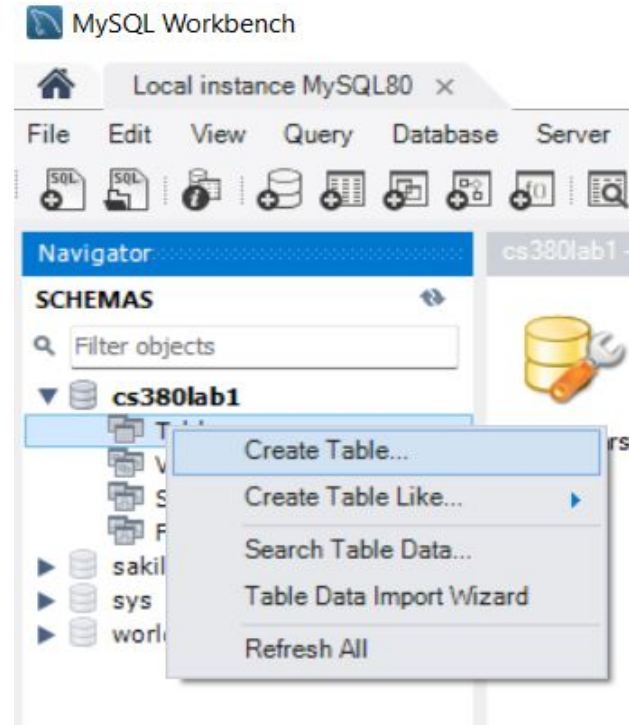
Add the table name at the top (next to Name: student) and all column names, data types, constraints, and default values.

Add the table name at the top (next to Name: student) and all column names: studentid, data types: VARCHAR(45)

Edit the table column names by
selecting this circle.
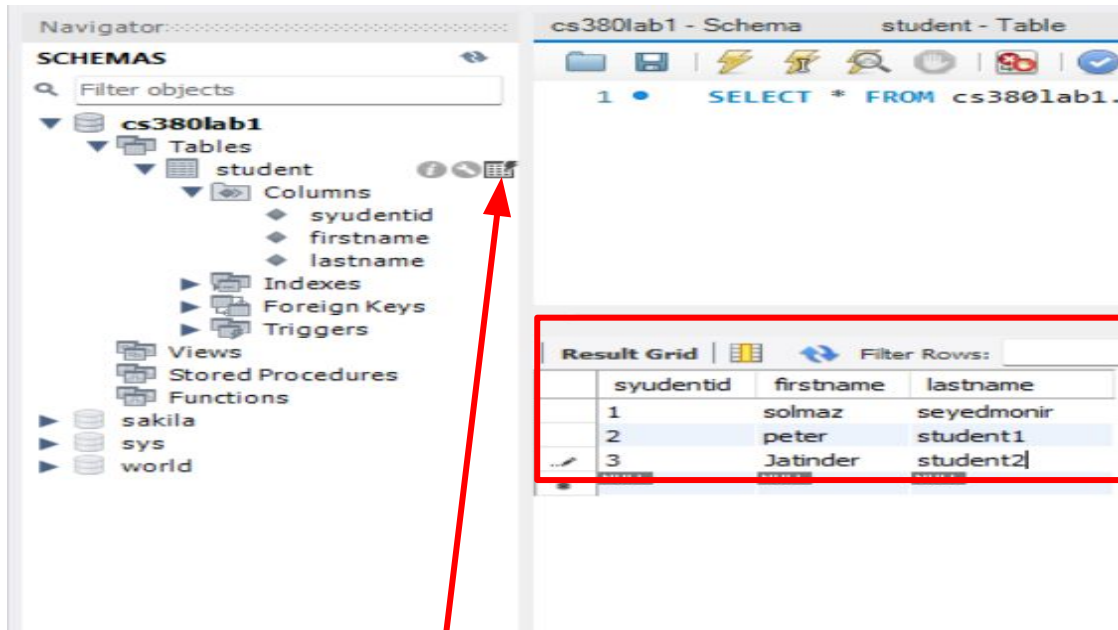
Enter data in the table column
names by selecting this square.

Select the Query tab from the menu and then Export Results.
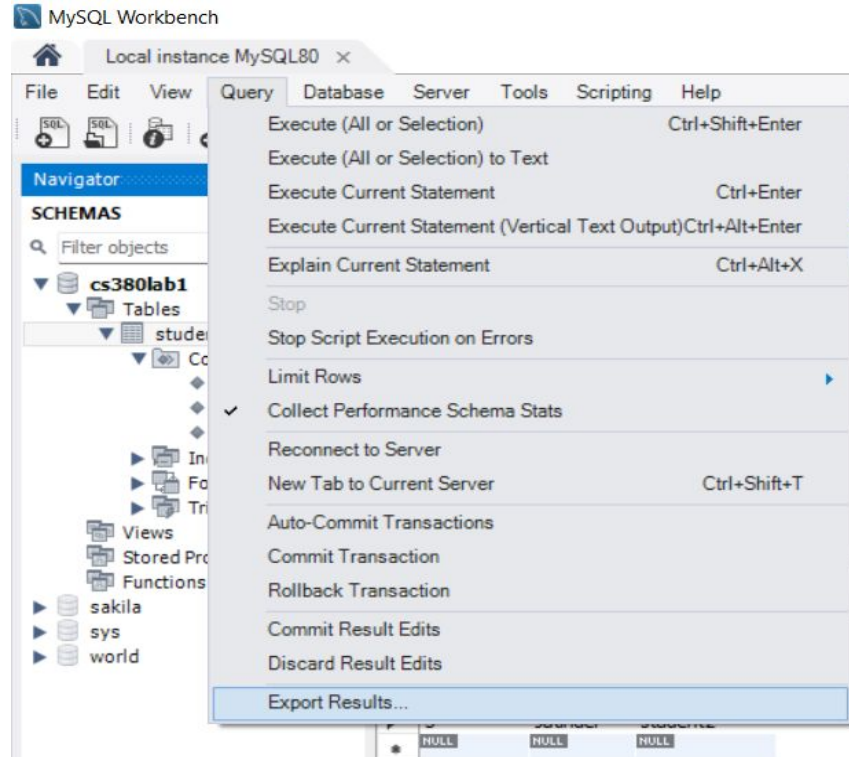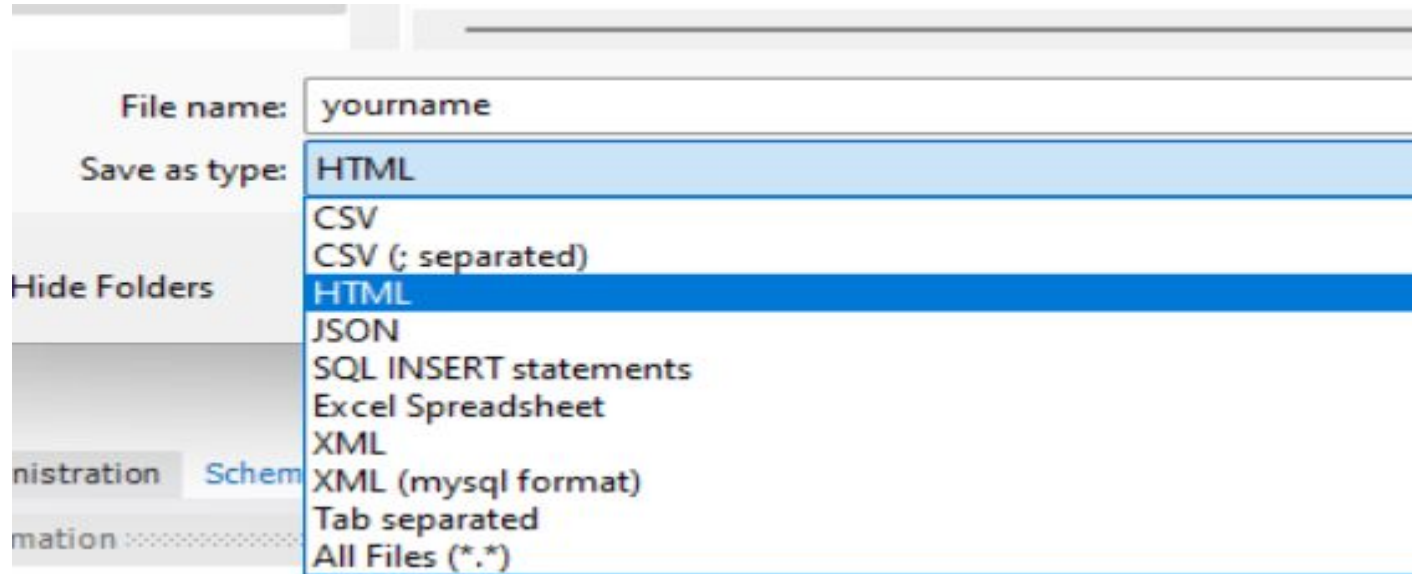
Enter your name as the filename.
Save as type HTML formatting

Result

syudentid	firstname	lastname
1	solmaz	seyedmonir
2	peter	student1
3	Jatinder	student2

SQL - CREATE Database

Using command line ⟶

Create database with this command:

CREATE DATABASE DatabaseName;

*In this specific example, **cs380lab__1**
show all available databases with the
SHOW DATABASES statement.


```
mysql> CREATE DATABASE cs380lab__1;
Query OK, 1 row affected (0.03 sec)
```

SQL - CREATE Table

syntax of the CREATE TABLE

CREATE TABLE table_name(
column1 datatype,
column2 datatype,
column3 datatype,
.....
columnN datatype,
PRIMARY KEY(one or more columns)
);

```
mysql> CREATE TABLE students_cs380 (
    -> studentid int,
    -> lastname varchar(255),
    -> firstname varchar(255),
    -> address varchar(225),
    -> groupnumber int
    -> );
Query OK, 0 rows affected (0.07 sec)
```

SQL - INSERT Query

INSERT INTO statement

INSERT INTO TABLE_NAME (column1, column2, column3,...columnN) VALUES (value1, value2, value3,...valueN);

```
mysql> INSERT INTO students_cs380 (studentid, lastname, firstname, address, groupnumber)
    -> VALUES (10, 'student1', 'Peter', 'Seattle', 2);
Query OK, 1 row affected (0.06 sec)

mysql> INSERT INTO students_cs380 (studentid, lastname, firstname, address, groupnumber)
    -> VALUES (2, 'student2', 'Jatinder', 'Seattle', 3);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO students_cs380 (studentid, lastname, firstname, address, groupnumber)
    -> VALUES (1, 'teacher3', 'Solmaz', 'Seattle', 4);
Query OK, 1 row affected (0.02 sec)
```

SQL - DELETE Query

DELETE query with the WHERE clause

DELETE FROM table_name WHERE [condition];
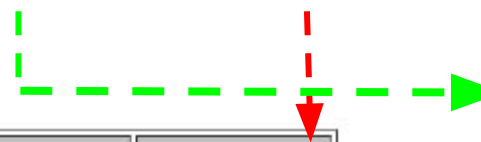
```
mysql> DELETE FROM students_cs380
    -> WHERE studentid = 1;
Query OK, 1 row affected (0.01 sec)
```

```
mysql> select * from students_cs380;
+-----------+------------+------------+----------+-------------+
| studentid | lastname   | firstname  | address  | groupnumber |
+-----------+------------+------------+----------+-------------+
|        10 | student1   | Peter      | Seattle  |           2 |
|         2 | student2   | Jatinder   | Seattle  |           3 |
|         1 | teacher3   | Solmaz     | Seattle  |           4 |
|         3 | seyedmonir | Solmaz     | Seattle  |           2 |
+-----------+------------+------------+----------+-------------+
4 rows in set (0.00 sec)
```

```
mysql> select * from students_cs380;
+-----------+------------+------------+----------+-------------+
| studentid | lastname   | firstname  | address  | groupnumber |
+-----------+------------+------------+----------+-------------+
|        10 | student1   | Peter      | Seattle  |           2 |
|         2 | student2   | Jatinder   | Seattle  |           3 |
|         3 | seyedmonir | Solmaz     | Seattle  |           2 |
+-----------+------------+------------+----------+-------------+
3 rows in set (0.00 sec)

mysql>
```

MySQL Exercise

1. In this exercise, you will create a new database called "**cs380lab1**."
2. The next step is to create a database table and fill it with data that includes a record for each of your employees called students_cs380.
3. The table should include additional information. (**studentid, firstname. lastname**)
4. Using command line or workbench.

syudentid	firstname	lastname
1	solmaz	seyedmonir
2	peter	student1
3	Jatinder	student2

```
mysql> select * from students_cs380;
+-----------+-----------+-----------+---------+-------------+
| studentid | lastname  | firstname | address | groupnumber |
+-----------+-----------+-----------+---------+-------------+
|        10 | student1  | Peter     | Seattle |           2 |
|         2 | student2  | Jatinder  | Seattle |           3 |
|         3 | seyedmonir| Solmaz    | Seattle |           2 |
+-----------+-----------+-----------+---------+-------------+
3 rows in set (0.00 sec)

mysql>
```