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Third Year B. Tech., Sem VI 2021-22

Advanced Database System Lab

Assignment submission

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Batch: T2

Assignment: 3

Title of assignment: Installation, configuration & testing of Oracle 12c EE/18c XE

1. Download / get setup CD of Oracle Server & Client (Win/Linux).
2. Read and follow the prerequisite for installation and accordingly set the system.
3. If oracle already installed, uninstall it.
4. Install Oracle Server on one machine.
5. Install Oracle Client on another machine.
6. Check the connectivity from Web client and SQL command line. (Note use the hr demo schema)
7. Create new schema/user by your PRN e.g. 2019BTECS00001.
8. Create sample tables in newly created schema / user.
9. Repeat the step 6 for this new schema.
10. Demonstrate the DML on new tables.
11. Create GUI desktop application in Python which will connect to schema created in step 7. Allows to choose available tables. Demonstrate the CRUD operations on selected table.

12. Demonstrate the above program on another machine configured in step 5.

Introduction:

A **database management system (DBMS)** is software that controls the storage, organization, and retrieval of data.

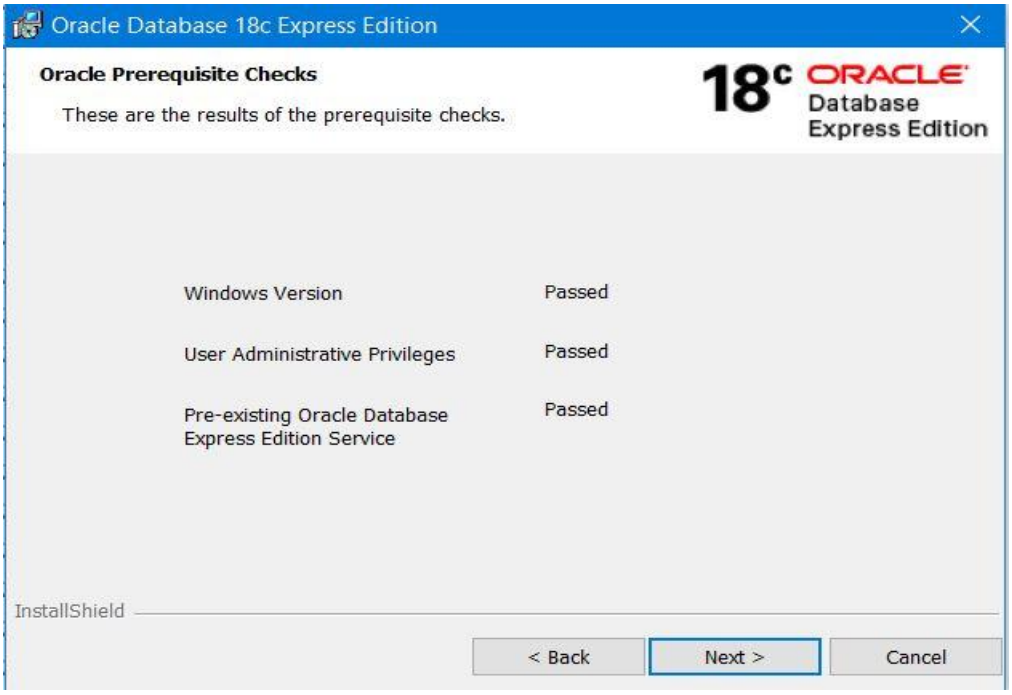
The relational model is the basis for a **relational database management system (RDBMS)**. An RDBMS moves data into a database, stores the data, and retrieves it so that applications can manipulate it.

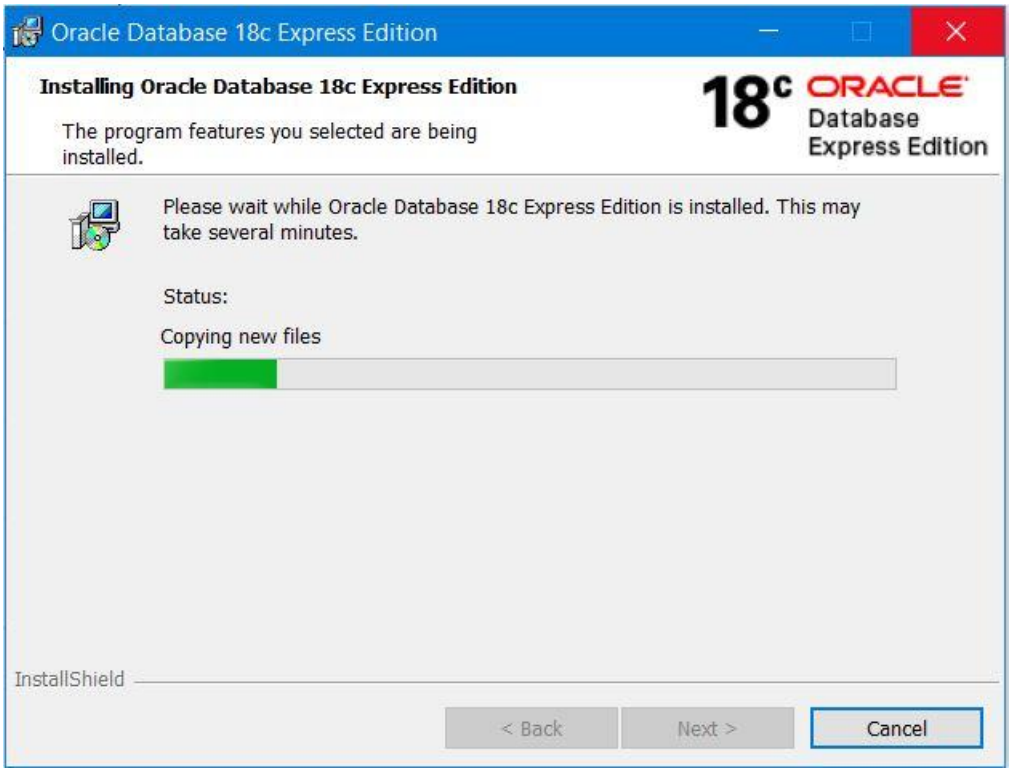
In Oracle Database, a database **schema** is a collection of logical data structures, or schema objects. A database user owns a database schema, which has the same name as the **user name**.

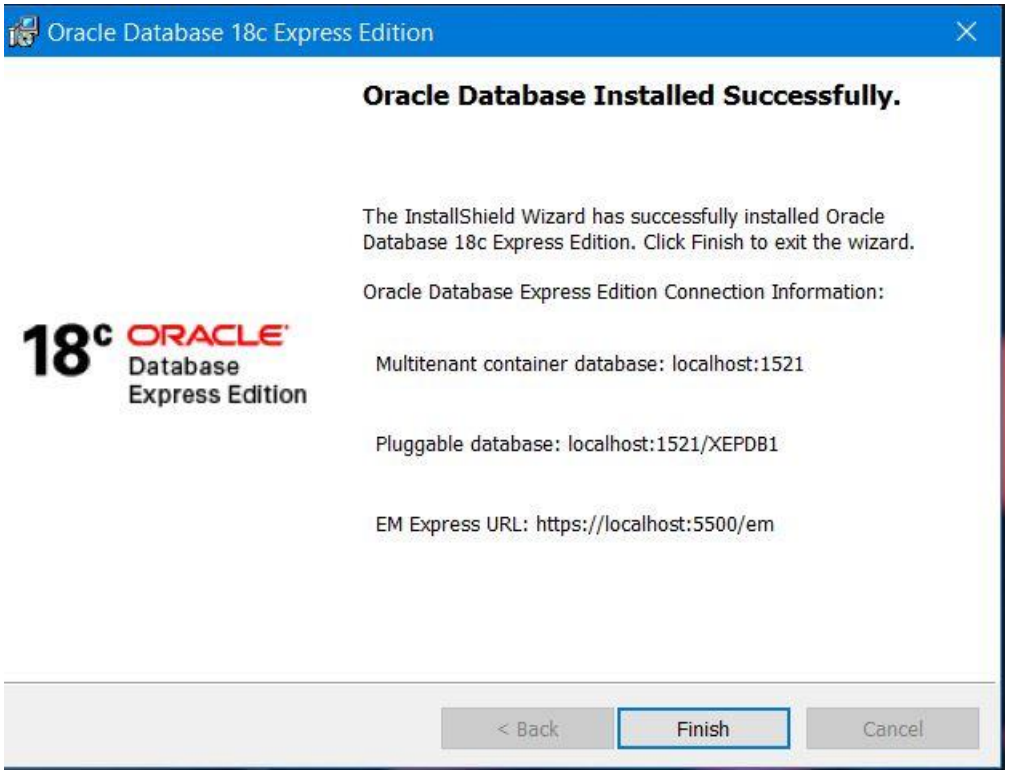
MySQL is released under an open-source license. So you have nothing to pay to use it. MySQL is a very powerful program in its own right. It handles a large subset of the functionality of the most expensive and powerful database packages. MySQL uses a standard form of the well-known SQL data language. MySQL works on many operating systems and with many languages including PHP, PERL, C, C++, JAVA, etc. MySQL works very quickly and works well even with large data sets.

Procedure:

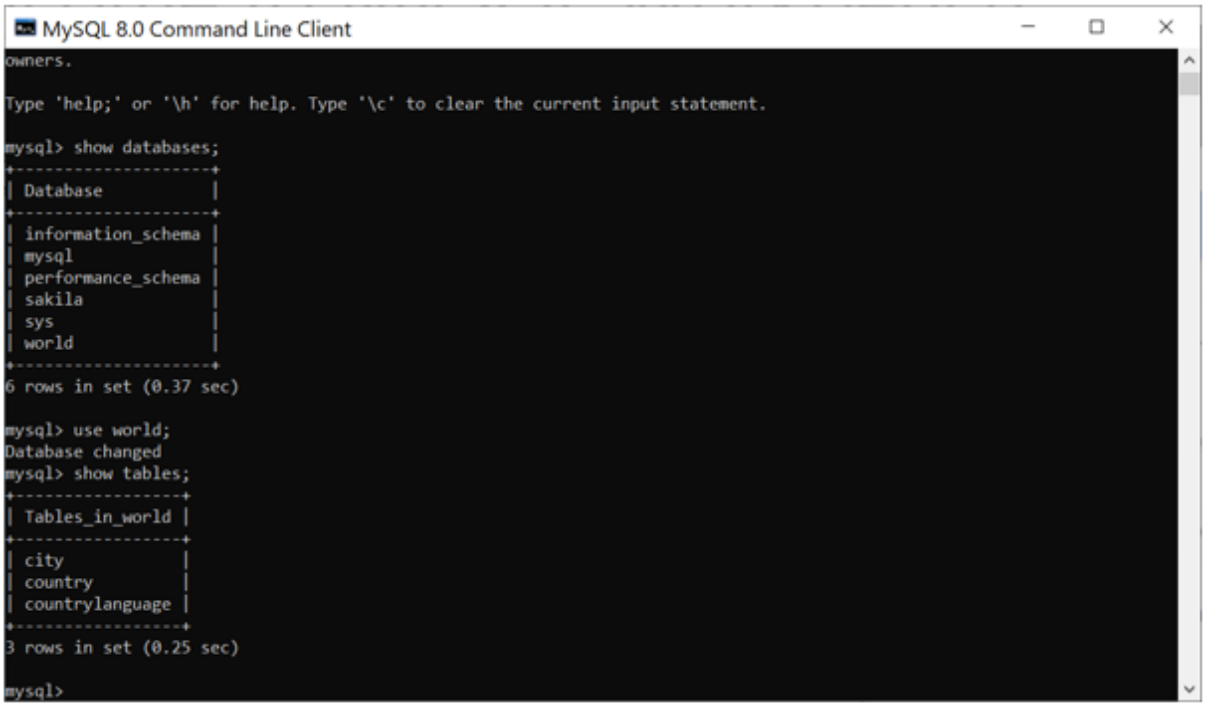
Installation of Oracle 18XC steps:



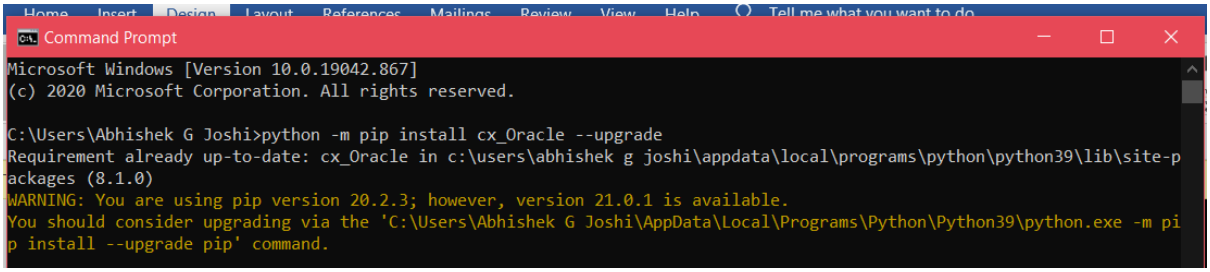




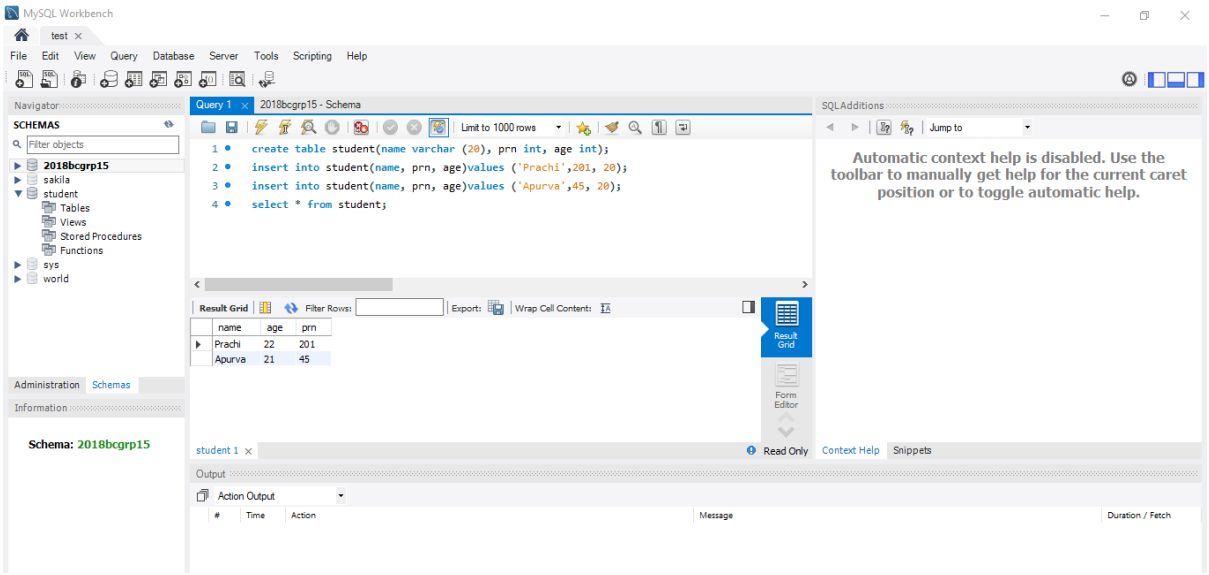
MySQL Command Line Client



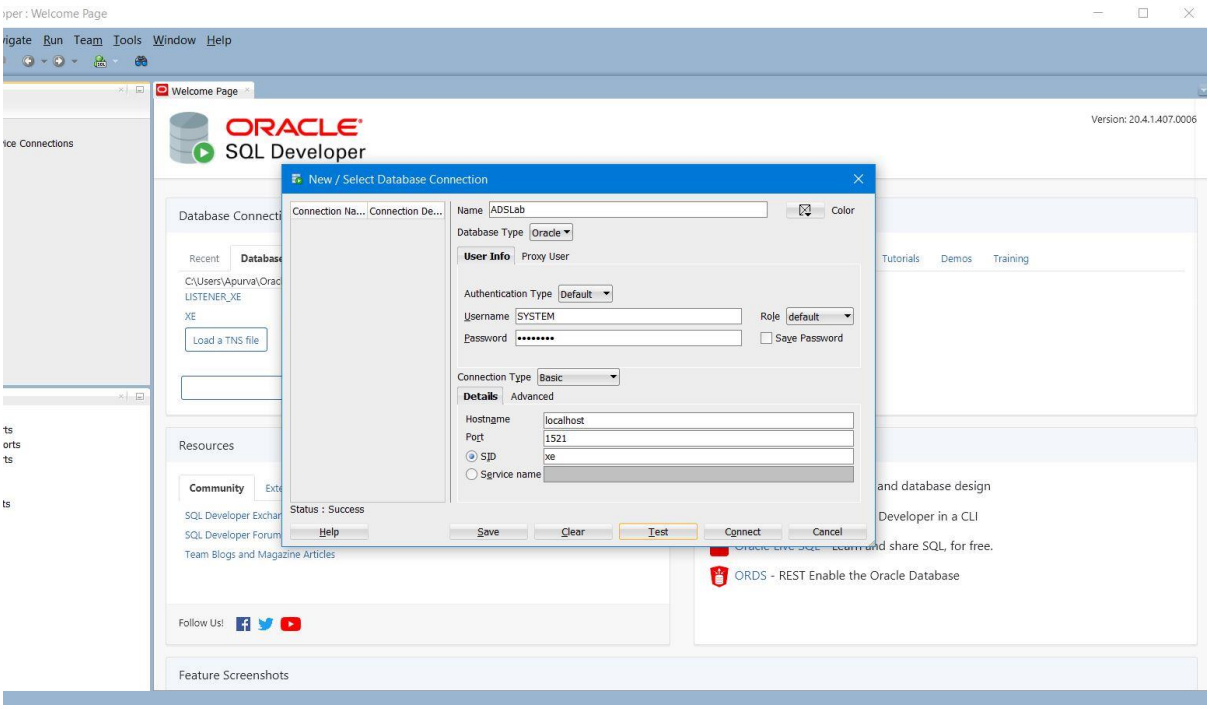
Oracle Connection with python through XC_oracle



MySQL Workbench

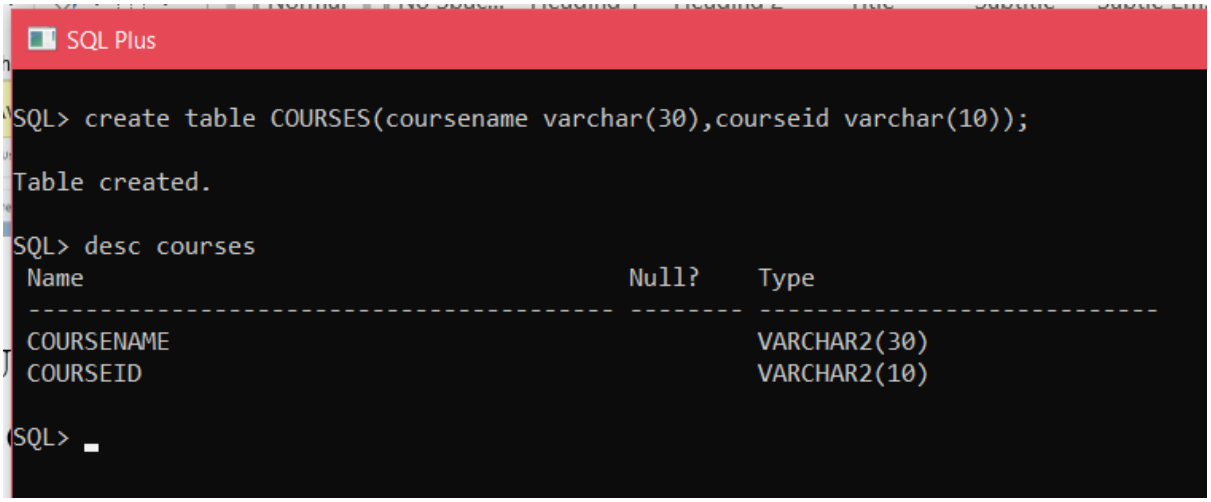


ORACLE Workspace

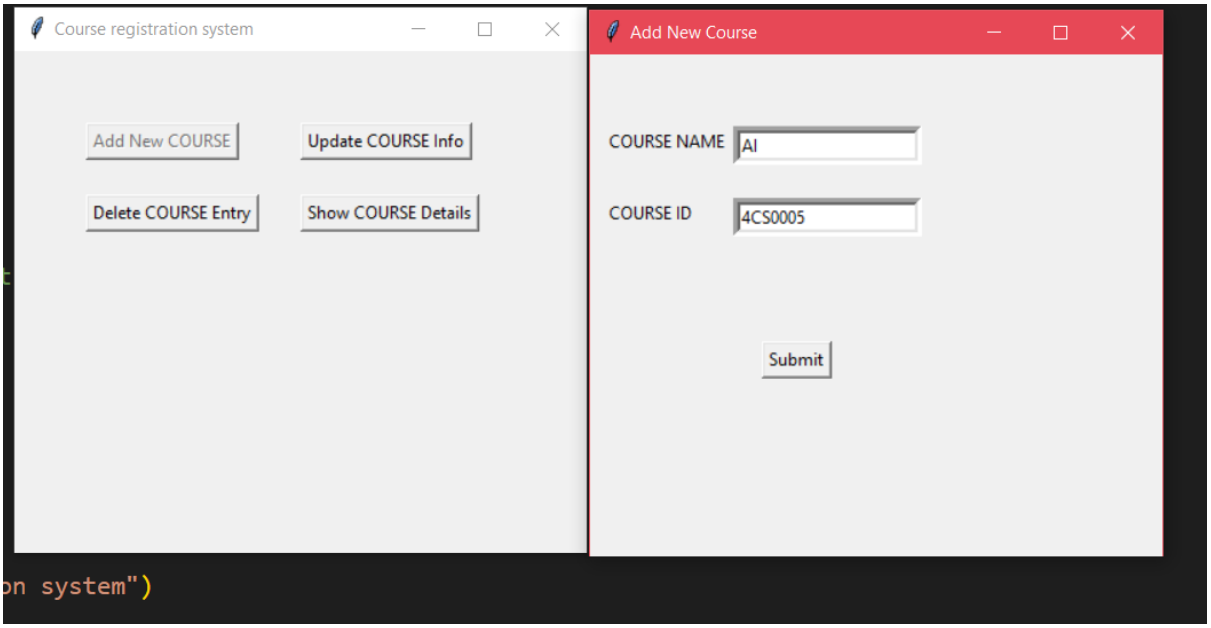


Making GUI with python and ORACLE server

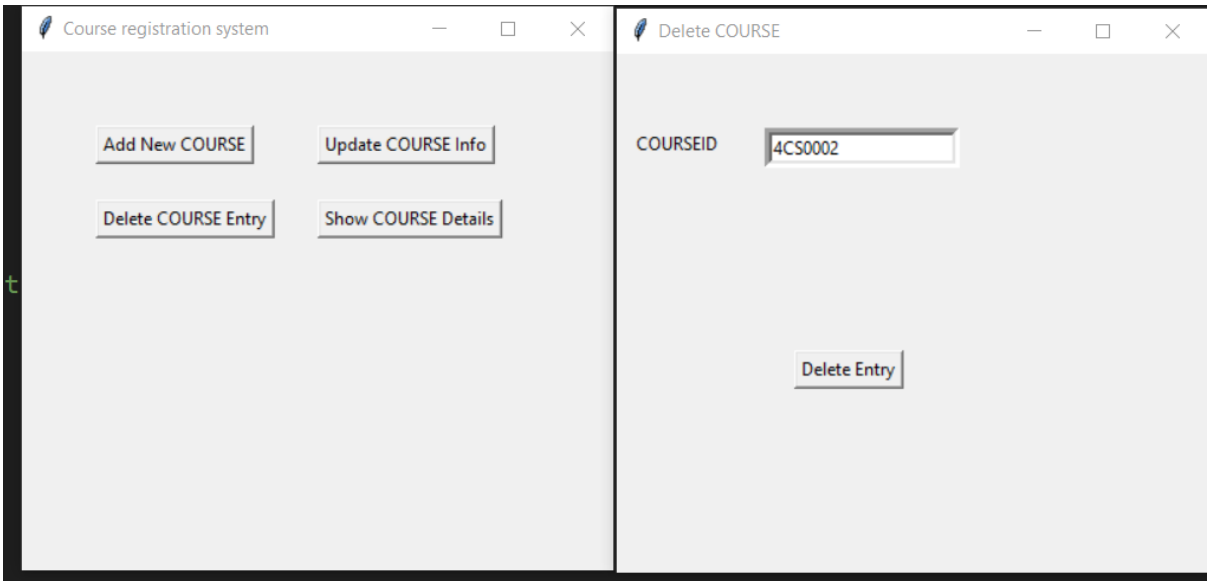
1. Table Creation:



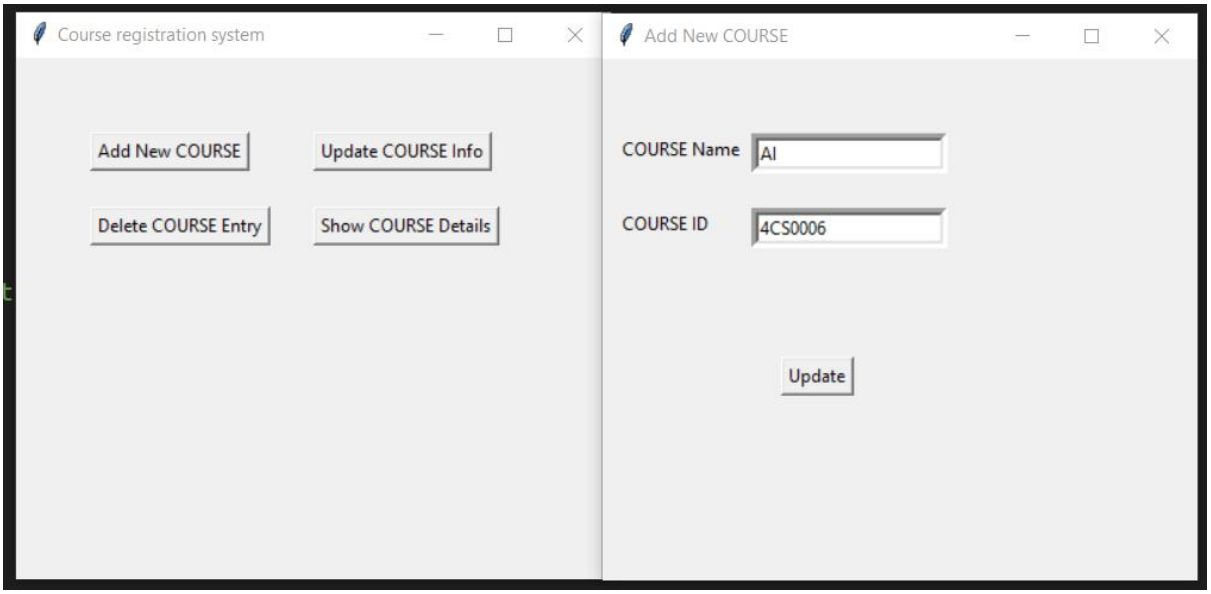
2. Data Insertion:



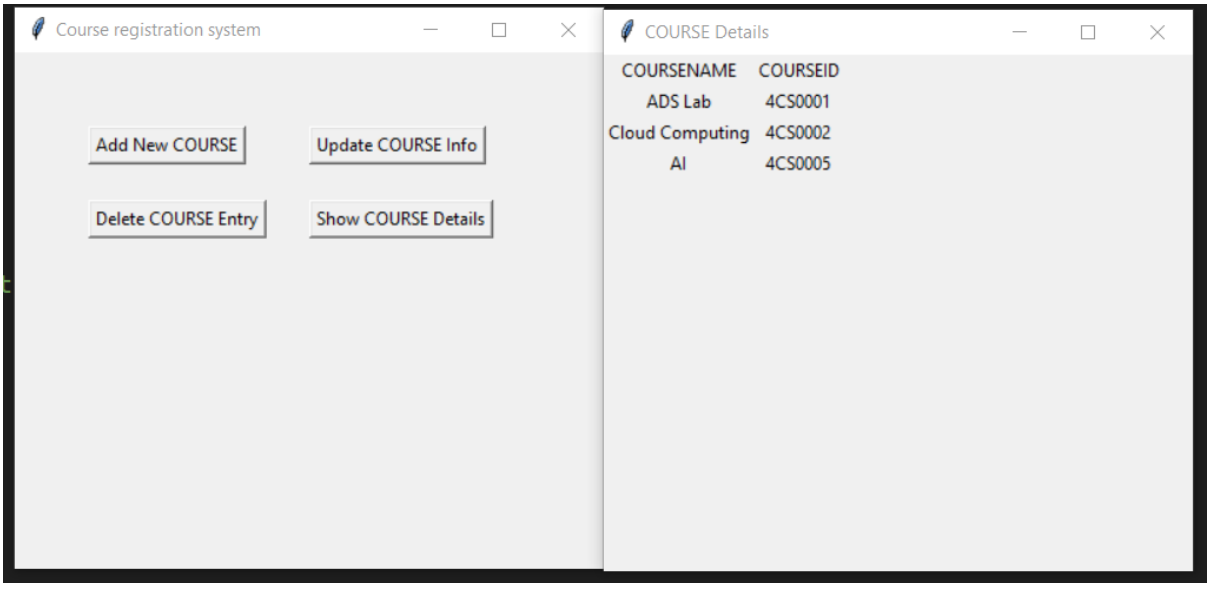
3. Data Deletion:



4. Data Updation:



5. Data Display



Making GUI of python with MySQL:

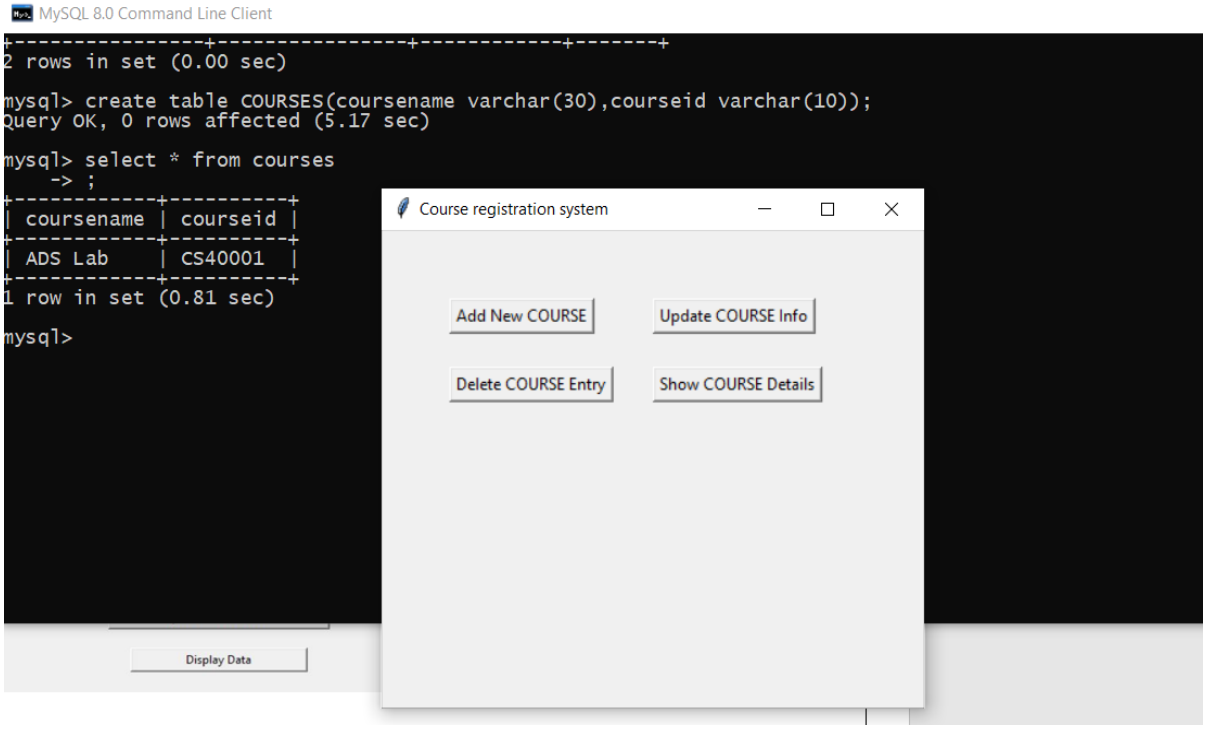
MySQL connection:

```
from tkinter import *
from tkinter import messagebox

import mysql.connector
expression = ""

con=mysql.connector.connect(host="localhost",user="root",passwd="Rop1122msq!",database="2018BCGRP05")

cur = con.cursor()
cur = con.cursor()
```

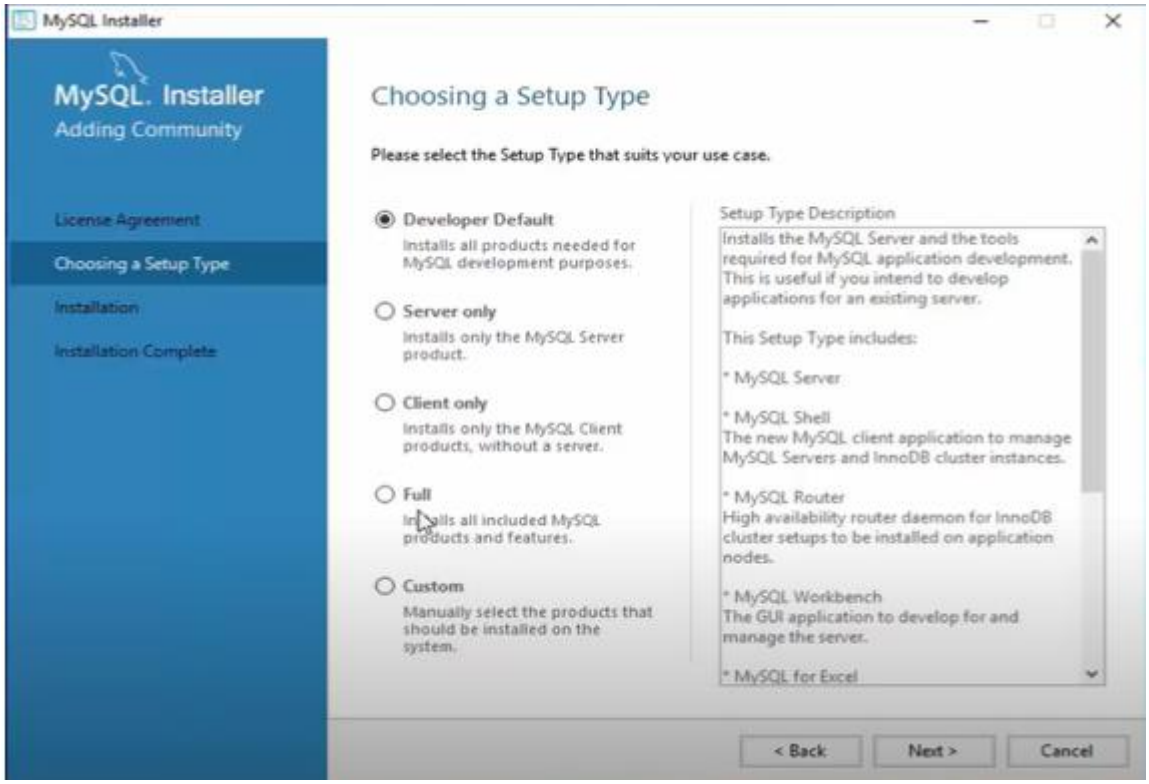
In shell:

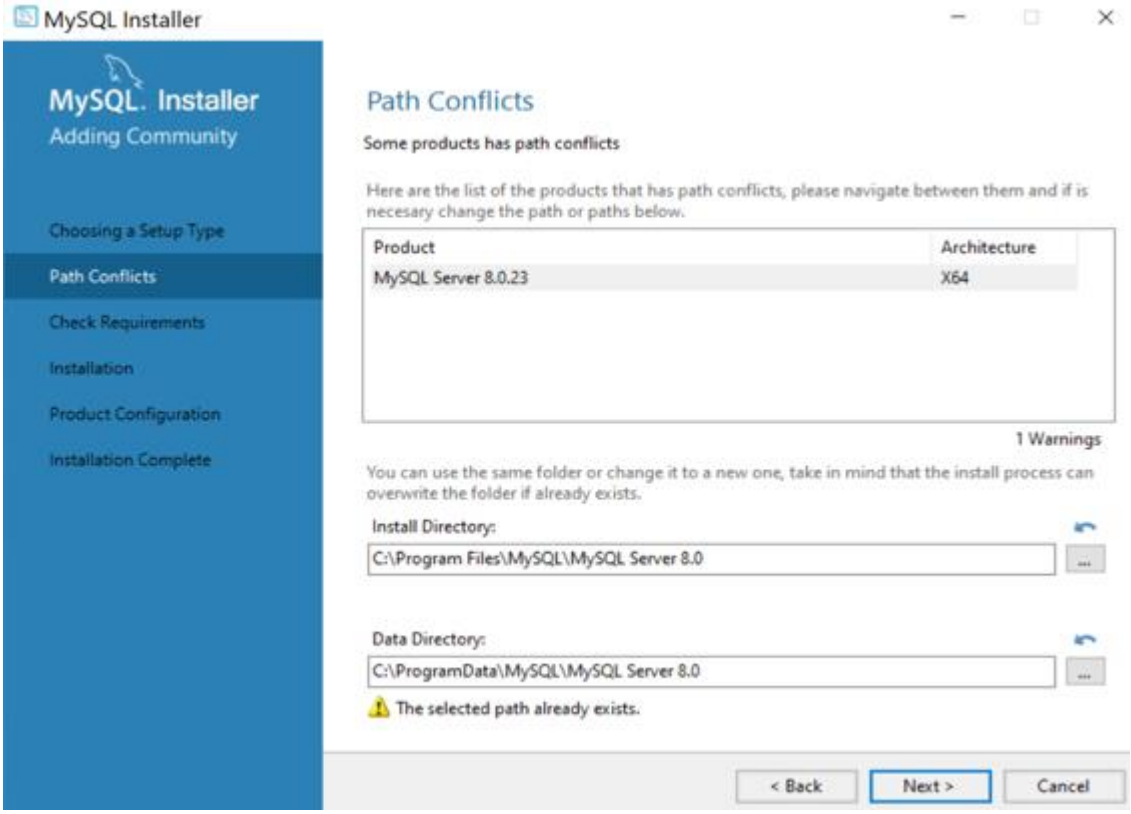
```
MySQL 8.0 Command Line Client
+-------------+----------+------------+-------+
2 rows in set (0.00 sec)

mysql> create table COURSES(coursename varchar(30),courseid varchar(10));
Query OK, 0 rows affected (5.17 sec)

mysql> select * from courses
    -> ;
+------------+----------+
| coursename | courseid |
+------------+----------+
| ADS Lab    | CS40001  |
+------------+----------+
1 row in set (0.81 sec)

mysql>
```

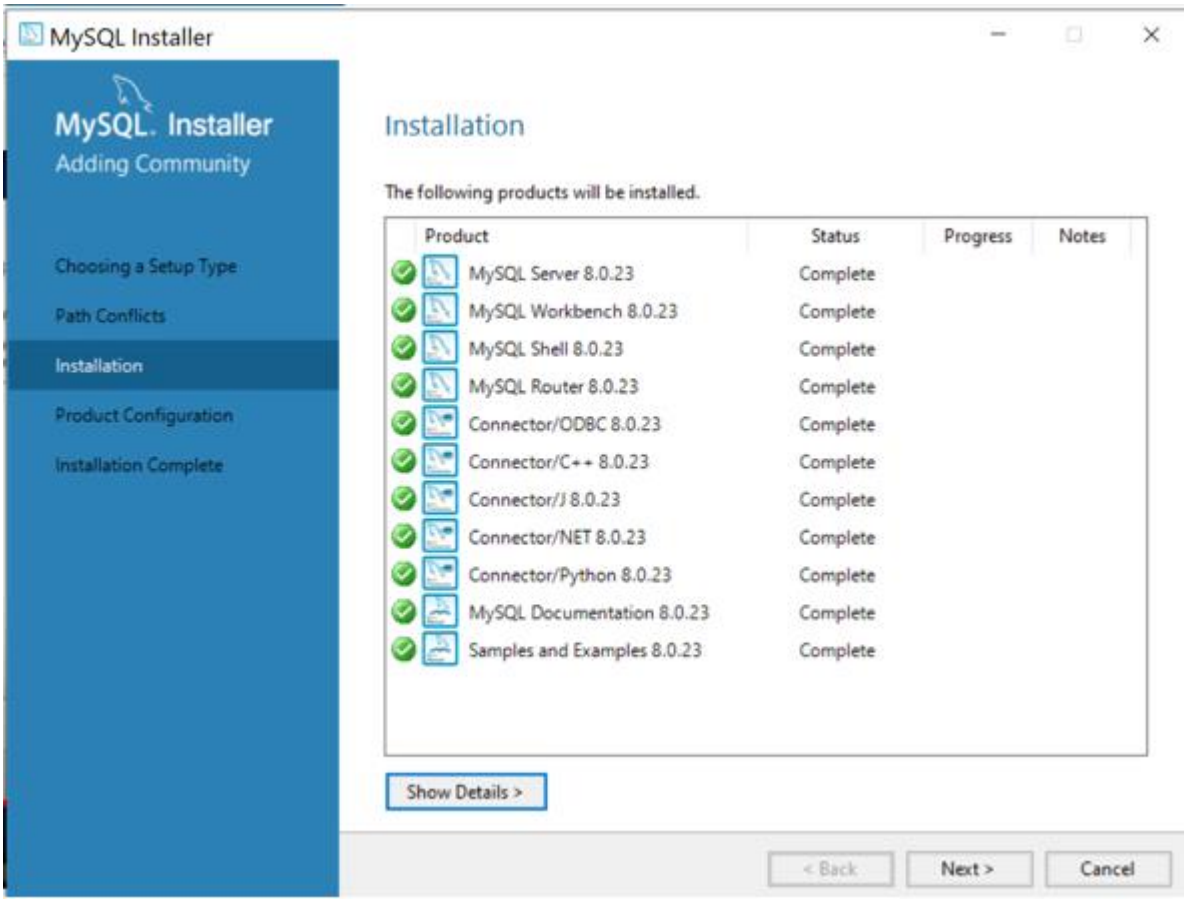
GUI:

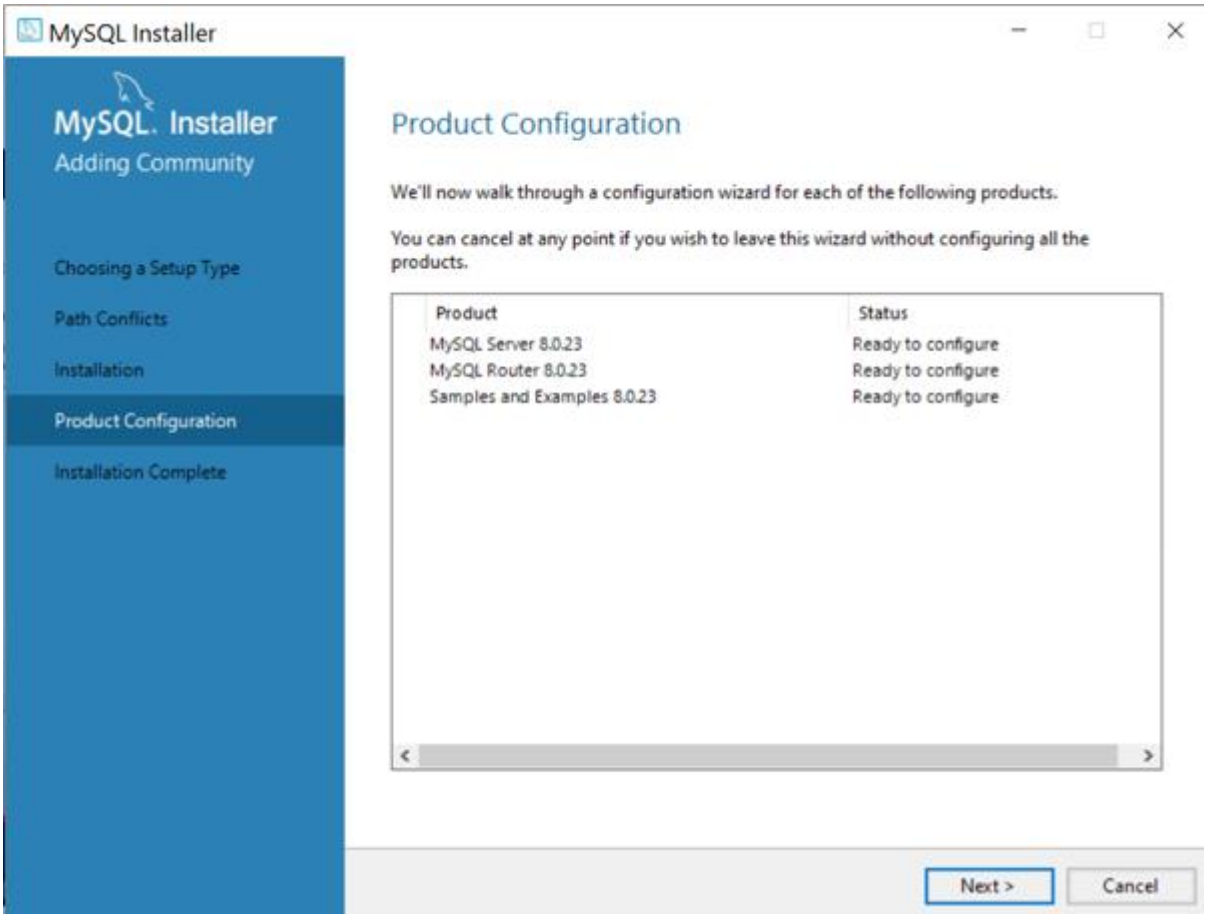


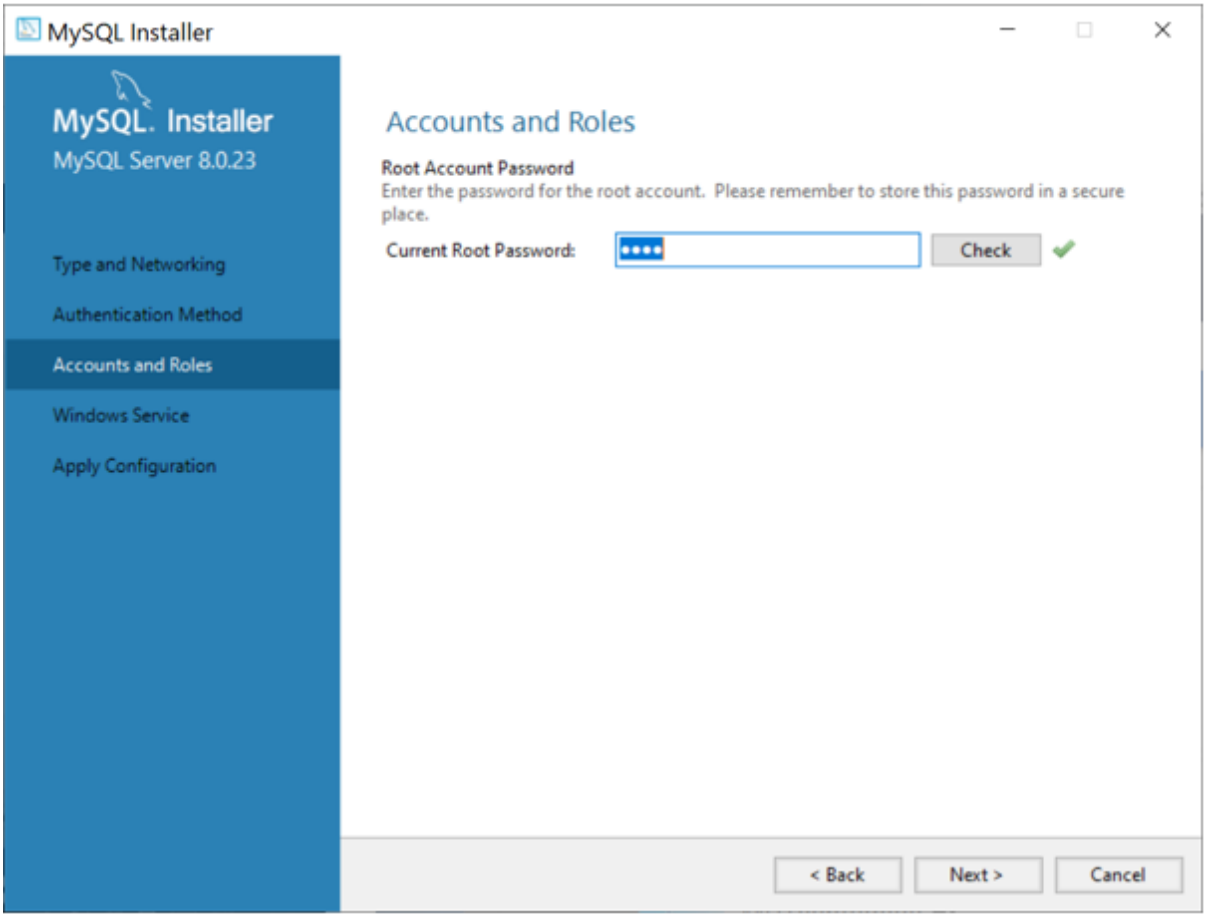
Installation of MySQL 8.0 Steps

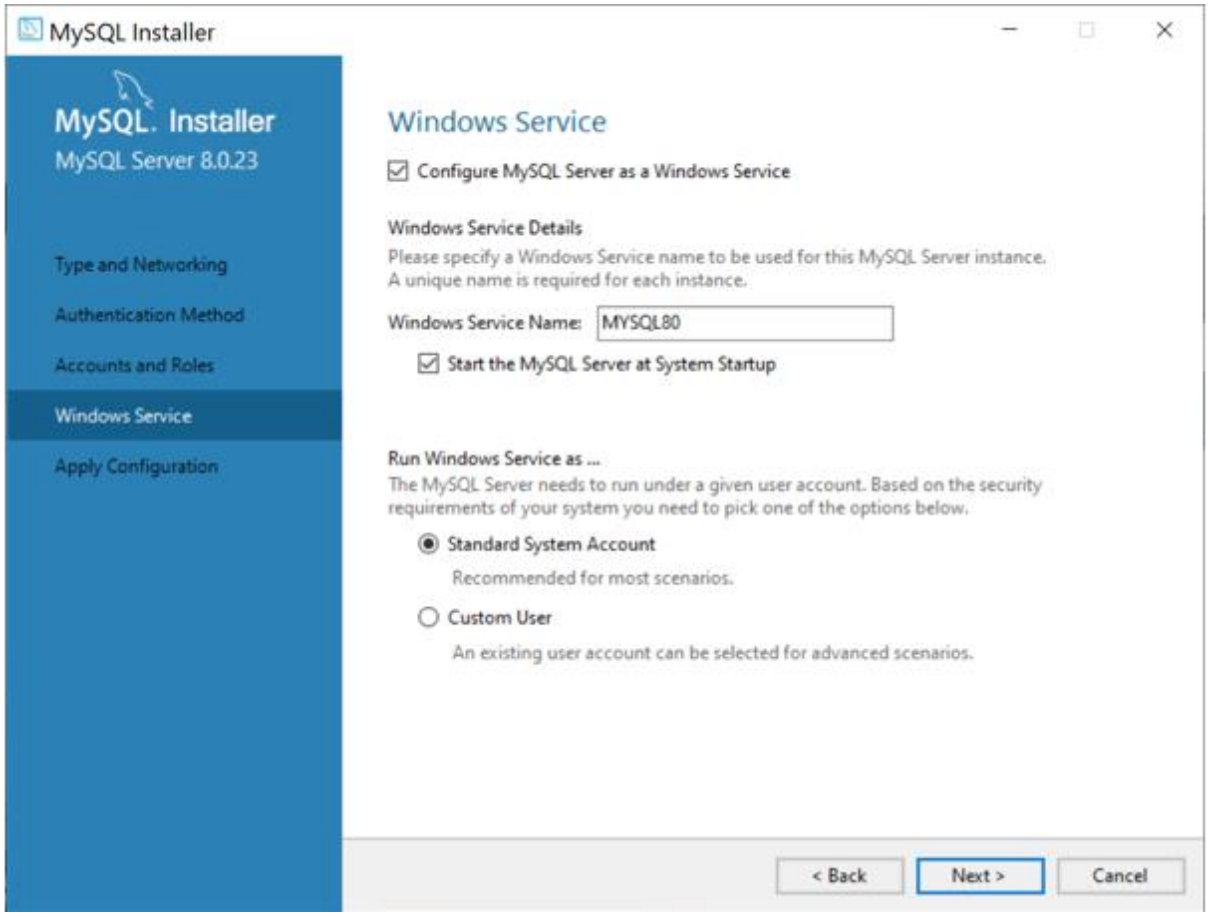


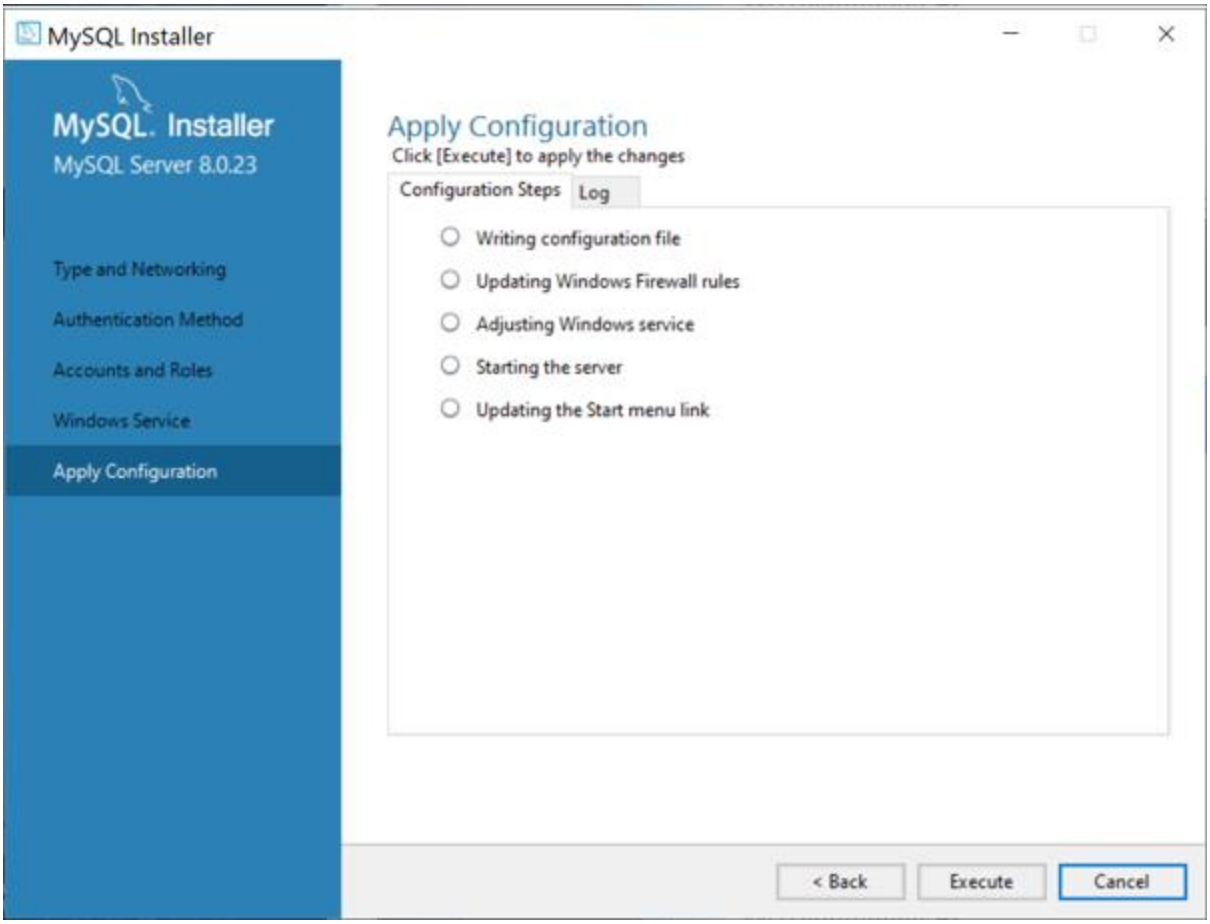


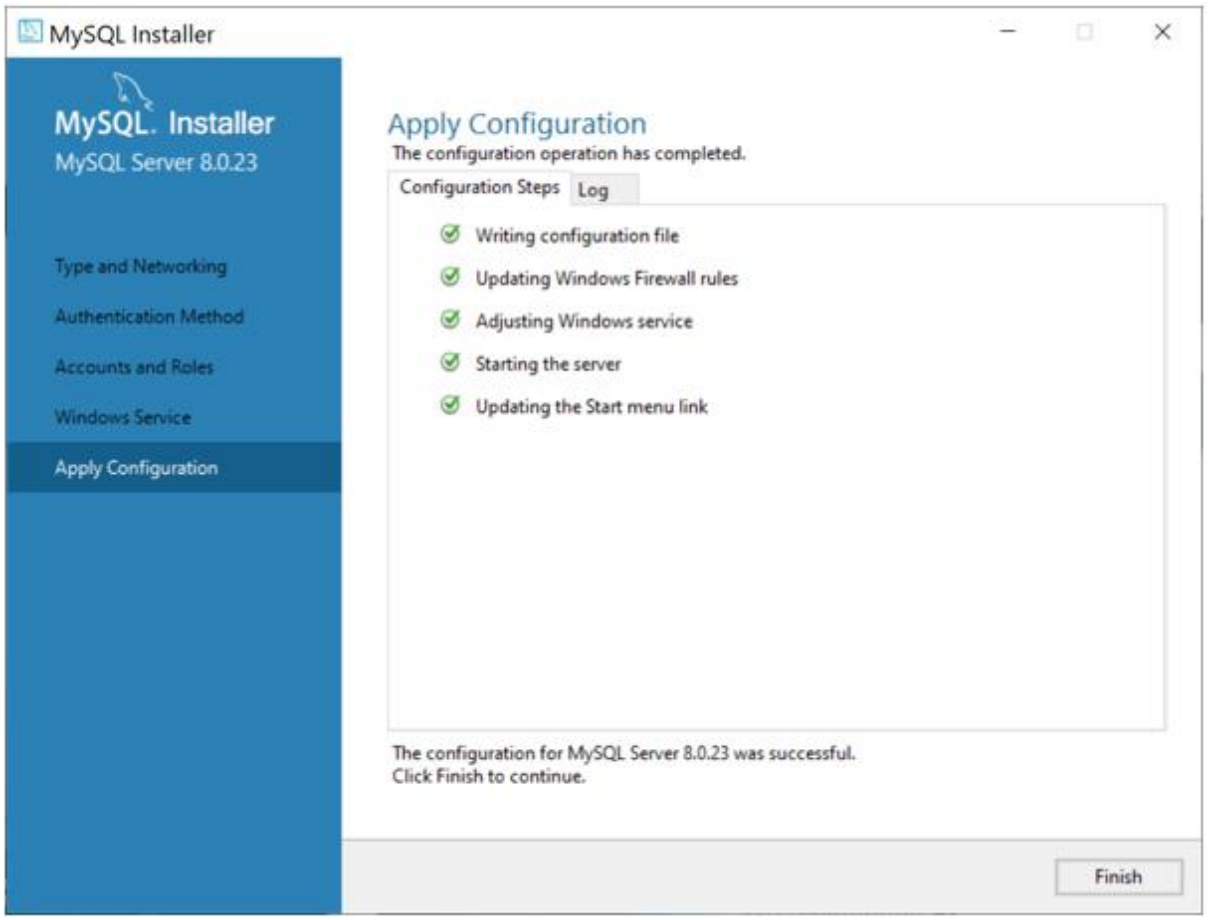

MySQL Installer
MySQL. Installer
Adding Community
Choosing a Setup Type
Path Conflicts
Installation
Product Configuration
Installation Complete
Installation
The following products will be installed.
Product
Status
Progress
Notes
MySQL Server 8.0.23
Complete
MySQL Workbench 8.0.23
Complete
MySQL Shell 8.0.23
Complete
MySQL Router 8.0.23
Complete
Connector/ODBC 8.0.23
Complete
Connector/C++ 8.0.23
Complete
Connector/J 8.0.23
Complete
Connector/NET 8.0.23
Complete
Connector/Python 8.0.23
Complete
MySQL Documentation 8.0.23
Complete
Samples and Examples 8.0.23
Complete
Show Details >
< Back
Next >
Cancel

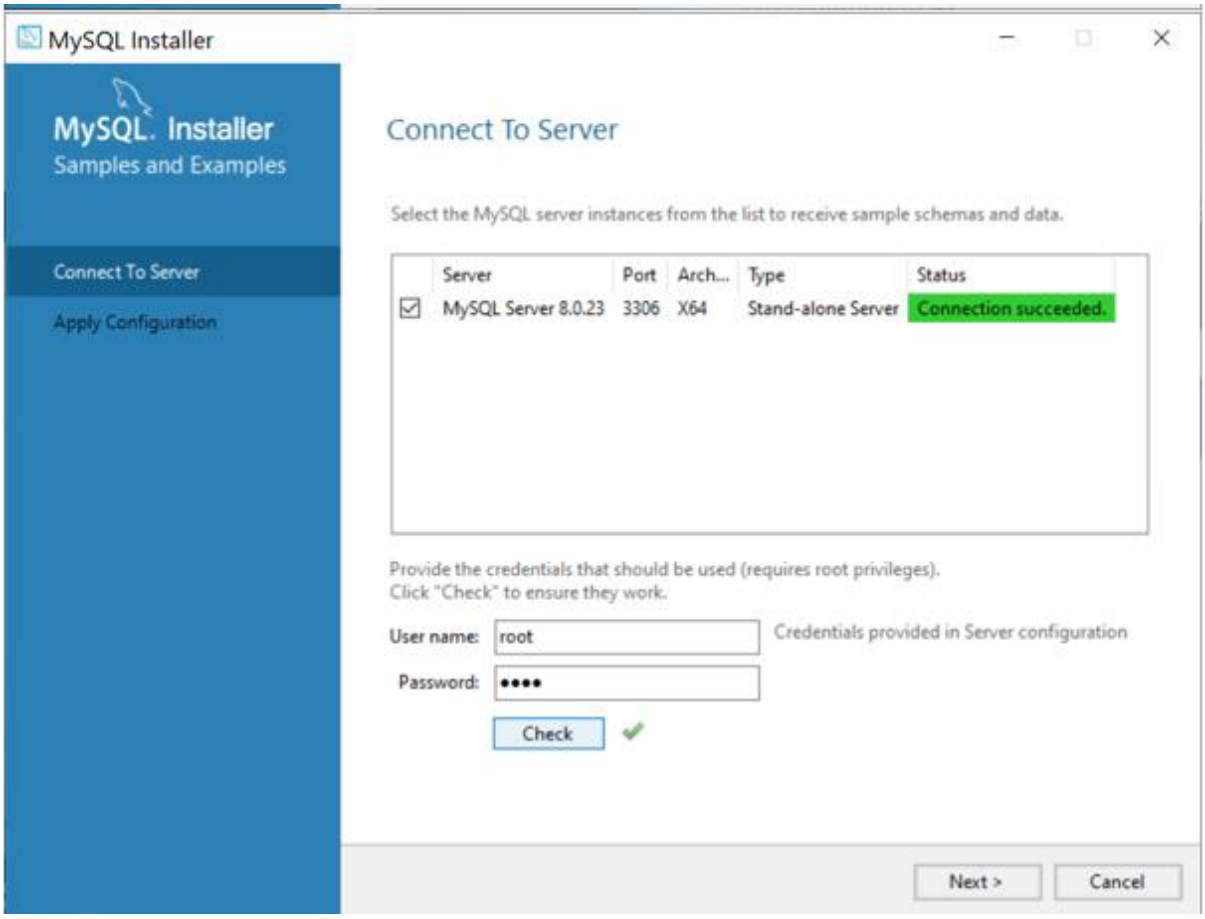

MySQL Installer
MySQL. Installer
Adding Community
Choosing a Setup Type
Path Conflicts
Installation
Product Configuration
Installation Complete
Product Configuration
We'll now walk through a configuration wizard for each of the following products.
You can cancel at any point if you wish to leave this wizard without configuring all the products.
Product
Status
MySQL Server 8.0.23
Ready to configure
MySQL Router 8.0.23
Ready to configure
Samples and Examples 8.0.23
Ready to configure
Next >
Cancel

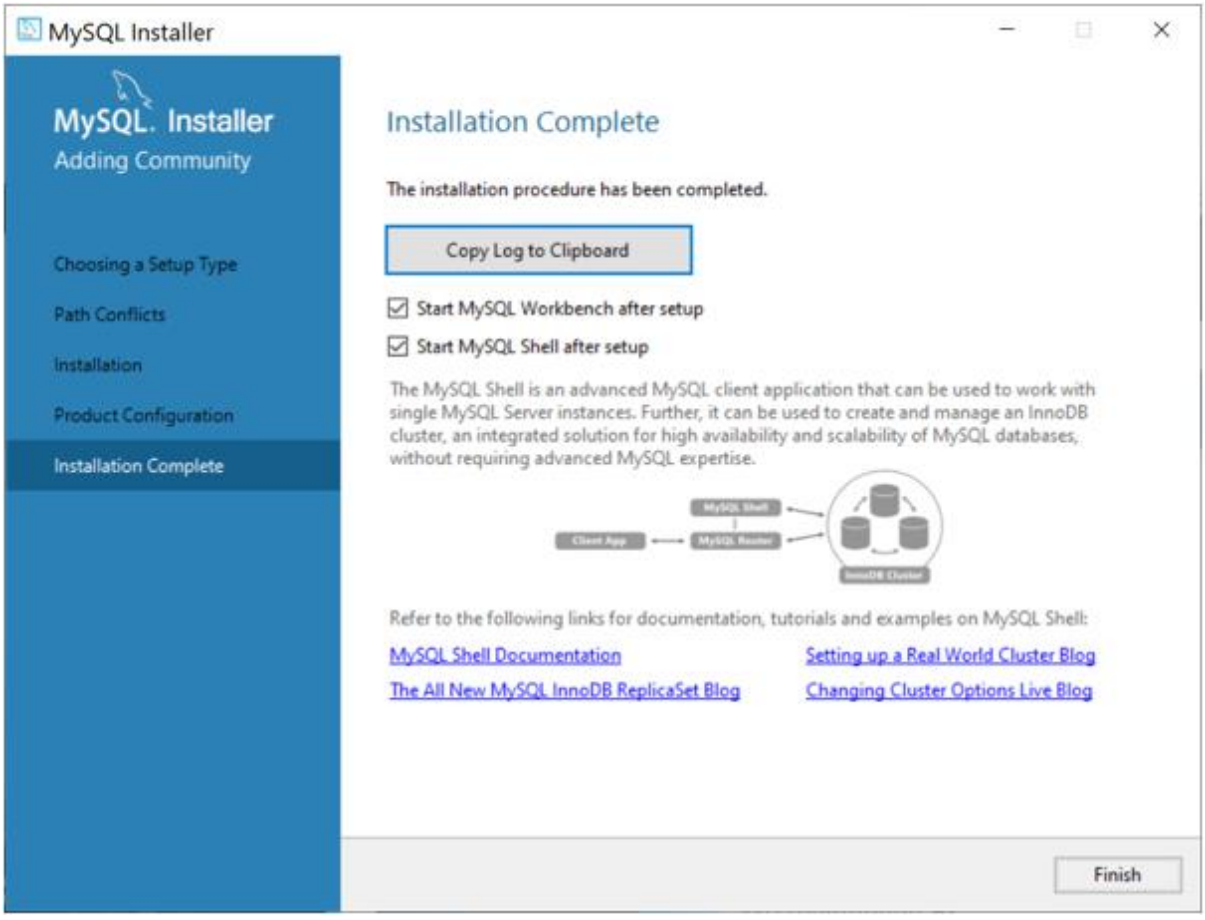

MySQL Installer
MySQL. Installer
MySQL Server 8.0.23
Type and Networking
Authentication Method
Accounts and Roles
Windows Service
Apply Configuration
Accounts and Roles
Root Account Password
Enter the password for the root account. Please remember to store this password in a secure place.
Current Root Password:
Check
< Back
Next >
Cancel


MySQL Installer
MySQL. Installer
MySQL Server 8.0.23
Type and Networking
Authentication Method
Accounts and Roles
Windows Service
Apply Configuration
Windows Service
Configure MySQL Server as a Windows Service
Windows Service Details
Please specify a Windows Service name to be used for this MySQL Server instance.
A unique name is required for each instance.
Windows Service Name:
MYSQL80
Start the MySQL Server at System Startup
Run Windows Service as ...
The MySQL Server needs to run under a given user account. Based on the security requirements of your system you need to pick one of the options below.
Standard System Account
Recommended for most scenarios.
Custom User
An existing user account can be selected for advanced scenarios.
< Back
Next >
Cancel


MySQL Installer
MySQL. Installer
MySQL Server 8.0.23
Type and Networking
Authentication Method
Accounts and Roles
Windows Service
Apply Configuration
Apply Configuration
Click [Execute] to apply the changes
Configuration Steps
Log
Writing configuration file
Updating Windows Firewall rules
Adjusting Windows service
Starting the server
Updating the Start menu link
< Back
Execute
Cancel


MySQL Installer
MySQL. Installer
MySQL Server 8.0.23
Type and Networking
Authentication Method
Accounts and Roles
Windows Service
Apply Configuration
Apply Configuration
The configuration operation has completed.
Configuration Steps
Log
Writing configuration file
Updating Windows Firewall rules
Adjusting Windows service
Starting the server
Updating the Start menu link
The configuration for MySQL Server 8.0.23 was successful.
Click Finish to continue.
Finish


MySQL Installer
MySQL. Installer
Samples and Examples
Connect To Server
Apply Configuration
Connect To Server
Select the MySQL server instances from the list to receive sample schemas and data.
Server
Port
Arch...
Type
Status
MySQL Server 8.0.23
3306
X64
Stand-alone Server
Connection succeeded.
Provide the credentials that should be used (requires root privileges).
Click "Check" to ensure they work.
User name:
root
Credentials provided in Server configuration
Password:
Check
Next >
Cancel


MySQL Installer
MySQL. Installer
Adding Community
Choosing a Setup Type
Path Conflicts
Installation
Product Configuration
Installation Complete
Installation Complete
The installation procedure has been completed.
Copy Log to Clipboard
Start MySQL Workbench after setup
Start MySQL Shell after setup
The MySQL Shell is an advanced MySQL client application that can be used to work with single MySQL Server instances. Further, it can be used to create and manage an InnoDB cluster, an integrated solution for high availability and scalability of MySQL databases, without requiring advanced MySQL expertise.
Refer to the following links for documentation, tutorials and examples on MySQL Shell:
MySQL Shell Documentation
Setting up a Real World Cluster Blog
The All New MySQL InnoDB ReplicaSet Blog
Changing Cluster Options Live Blog
Finish

Conclusion:

In this assignment, we saw how to use MySQL Connector and Oracle connector /Python to integrate a MySQL database and Oracle database with our Python application. Along the way, we learned some programming best practices that are worth considering when it comes to establishing a connection, creating tables, and inserting and updating records in a database application.

References:

1. https://www.oracle.com/tools/downloads/sqldev-downloads.html
2. https://www.oracle.com/in/database/technologies/xe-downloads.html