Introduction To SQL

1. Database Fundamentals

(Introduction Data, What kind of data, Database, What is a DBMS?,RDBMS.)

2. Installation MySQL software.

3. What is SQL?

4. SQL Basics(create DB and Tables. all CRUD operation)

5. SQL Data Types

6. Types of SQL commands/dbms languages

7. Normalization

8. Data Sorting

9. Functions

10. Subquery

11. Joins

12. Interview Question.

What is Data?

---In simple words, data can be facts related to any object in consideration.

---For example, your name, age, height, weight, etc. are some data related to you.

---A picture, image, file, pdf, etc. can also be considered data.

What kind of data:

- Data can be different types EX Banking Data,E-commernce Data etc.

Data can be structured data and Unstructured Data.

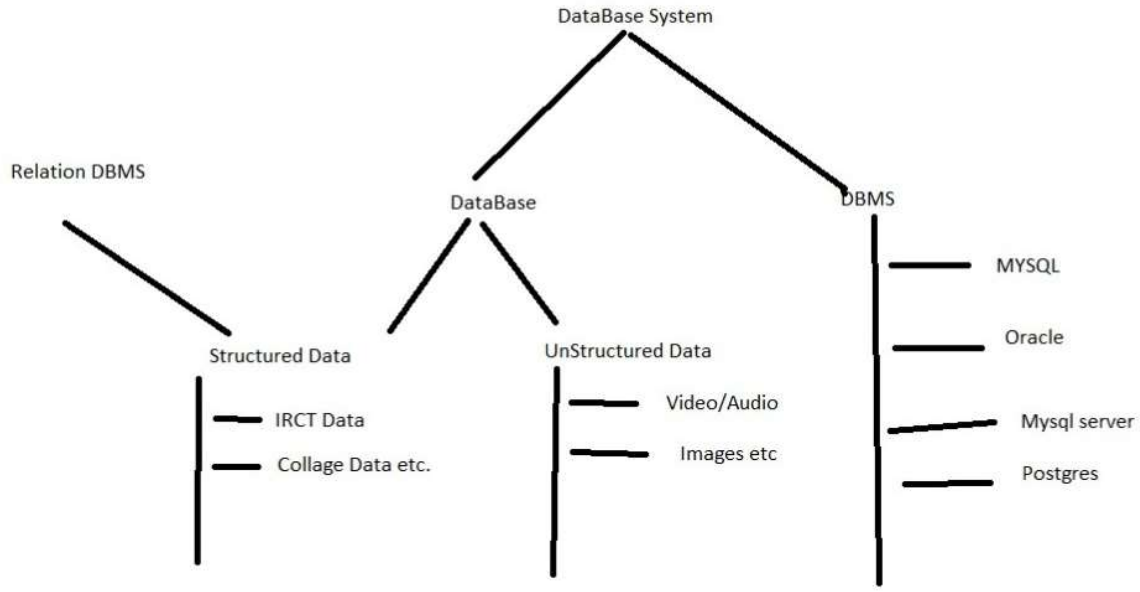
Structured data can be to a tabular format with relationship between the different rows and columns.

---Examples of structured data include names, dates, addresses, credit card numbers etc.

Unstructured data is information that is not arranged according to a pre-set data model or schema

---Examples of unstructured data includes things like video, audio or image files.

Shown below screen.



What is Database?

-- database is a systematic collection of data.

--They support electronic storage and manipulation of data.

-- Databases make data management easy.

Database Management System (DBMS)

-- its system software for creating and managing database.

-- DBMS provides users and programmers with systematic way to creat, read, update and manage data/

--- It also helps to control access to the database.

Examples:Orcale 11/12/19c,Mysql,DB2 and postgres.

FLAT Files/File System: This is a traditional way in which used to store data/information in individual unrelated files.

Drawbacks:

--Data retrieval

-- Data redundancy

--Data Integrity

-- Data security

What is RDBMS?

-- It is a database with relational model

-- developed by E.F. codd.

-- Most relational database use the SQL.

Or

It is basically a program that allows us to create, delete, and update a relational database. Relational Database is a database system that stores and retrieves data in a tabular format organized in the form of rows and columns.

It is a smaller subset of DBMS which was designed by E.F Codd in the 1970s.

The major DBMS like SQL, My-SQL, ORACLE are all based on the principles of relational DBMS.

Example:
The following table STUDENT consists of three columns Roll Number, Name, Section and four records of students 1, 2, 3 and 4 respectively

RollNo	NAME	Section
1	RAjA	A
2	Rajesh	B
3	RAjA	C
4	Ramesha	D

DBMS vs RDBMS

-- DBMS stores data as a file whereas in RDBMS, data is stored in the form of tables.

-- DBMS supports single users, while RDBMS supports multiple users.

-- DBMS does not support client-server architecture but RDBMS supports client-server architecture.

-- DBMS has low software and hardware requirements whereas RDBMS has higher hardware and software requirements.

--In DBMS, data redundancy is common while in RDBMS, keys and indexes do not allow data redundancy.

What is SQL?

---Stand for Structured Query language (SQL) pronounced as “S-Q-L” or sometimes as “See-Quel” is the standard language for dealing with Relational Databases.

--- Designed by Donald Chamberlin and Raymond Boyce 1974.

---A relational database defines relationships in the form of tables.

SQL programming can be effectively used to insert, search, update, and delete database records.

MySQL S/w:

---MySQL is an open-source relational database management system.

---most popular RDBMS.

--- mangaed by oracle.

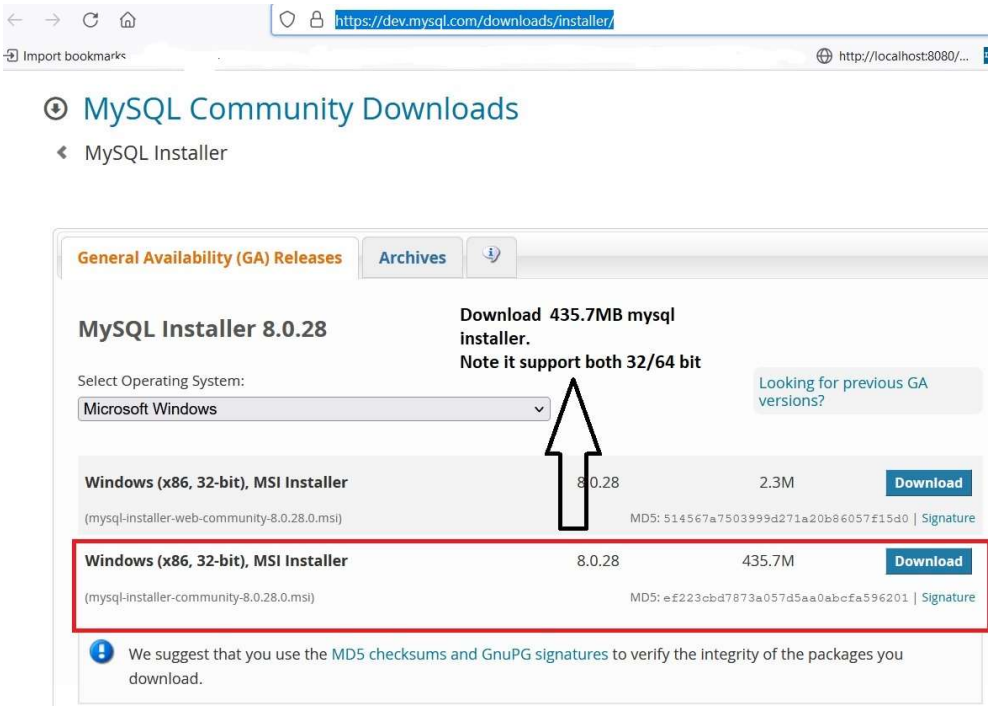
MYSql workbench:

--- User interface foe mysql.

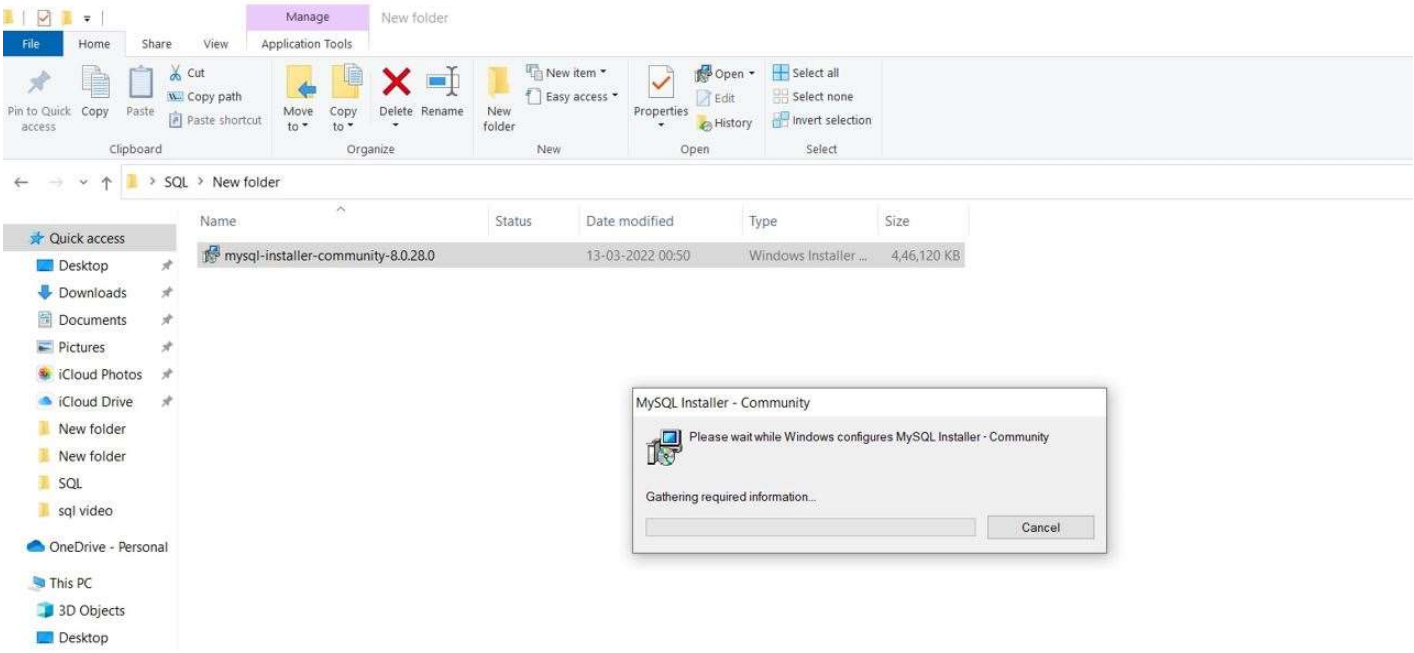
--- used to manage MYSQl In GUI form.

Step to Install MySql Software

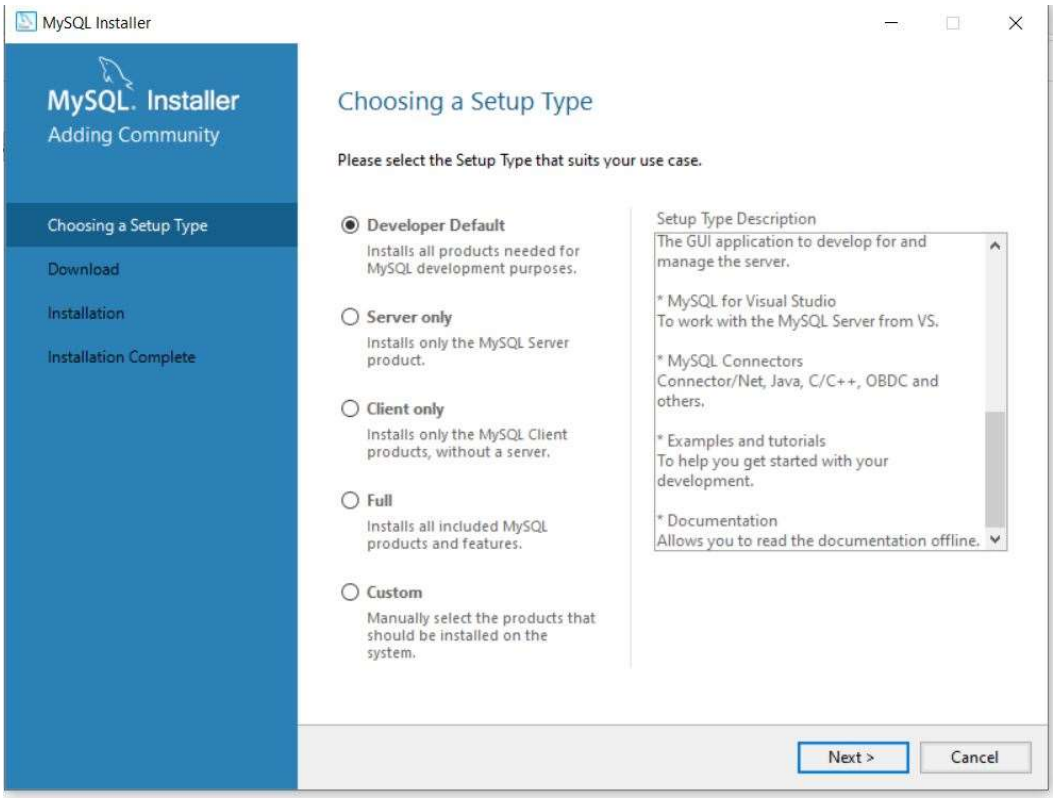
Go to https://dev.mysql.com/downloads/installer/ and download



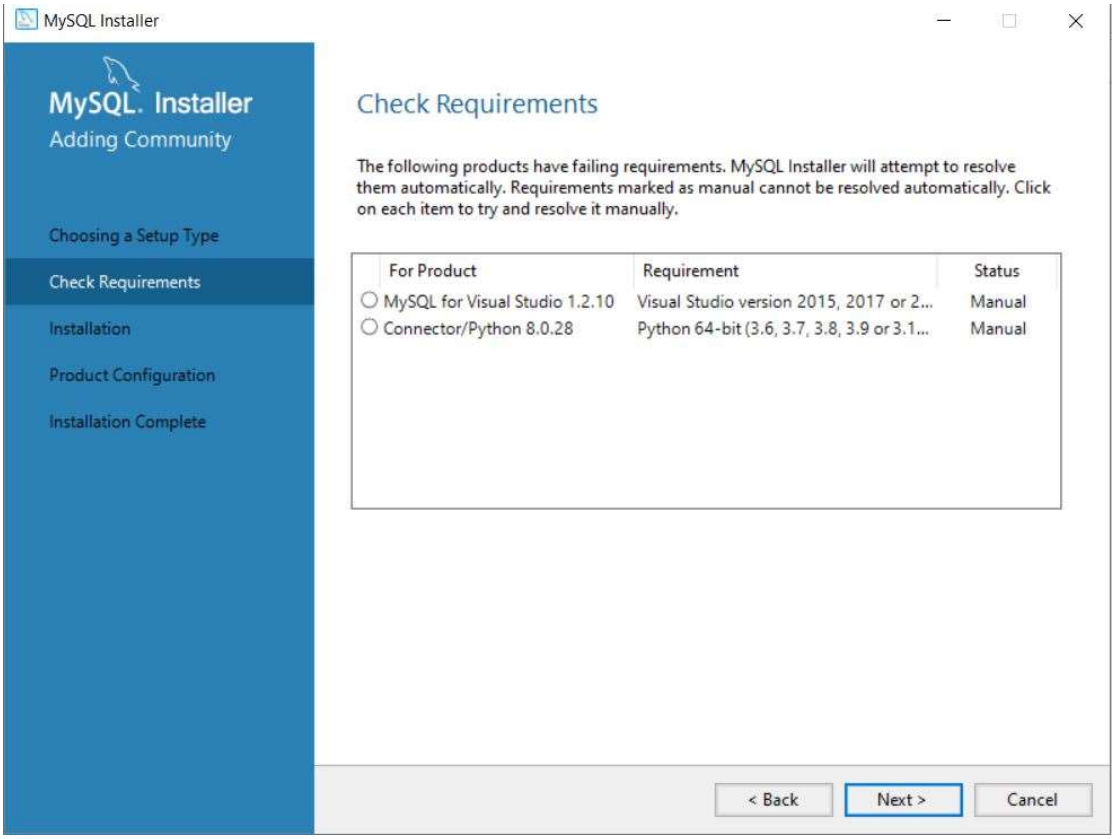
After Downloading Mysql S/w, double click on mysql sw to install



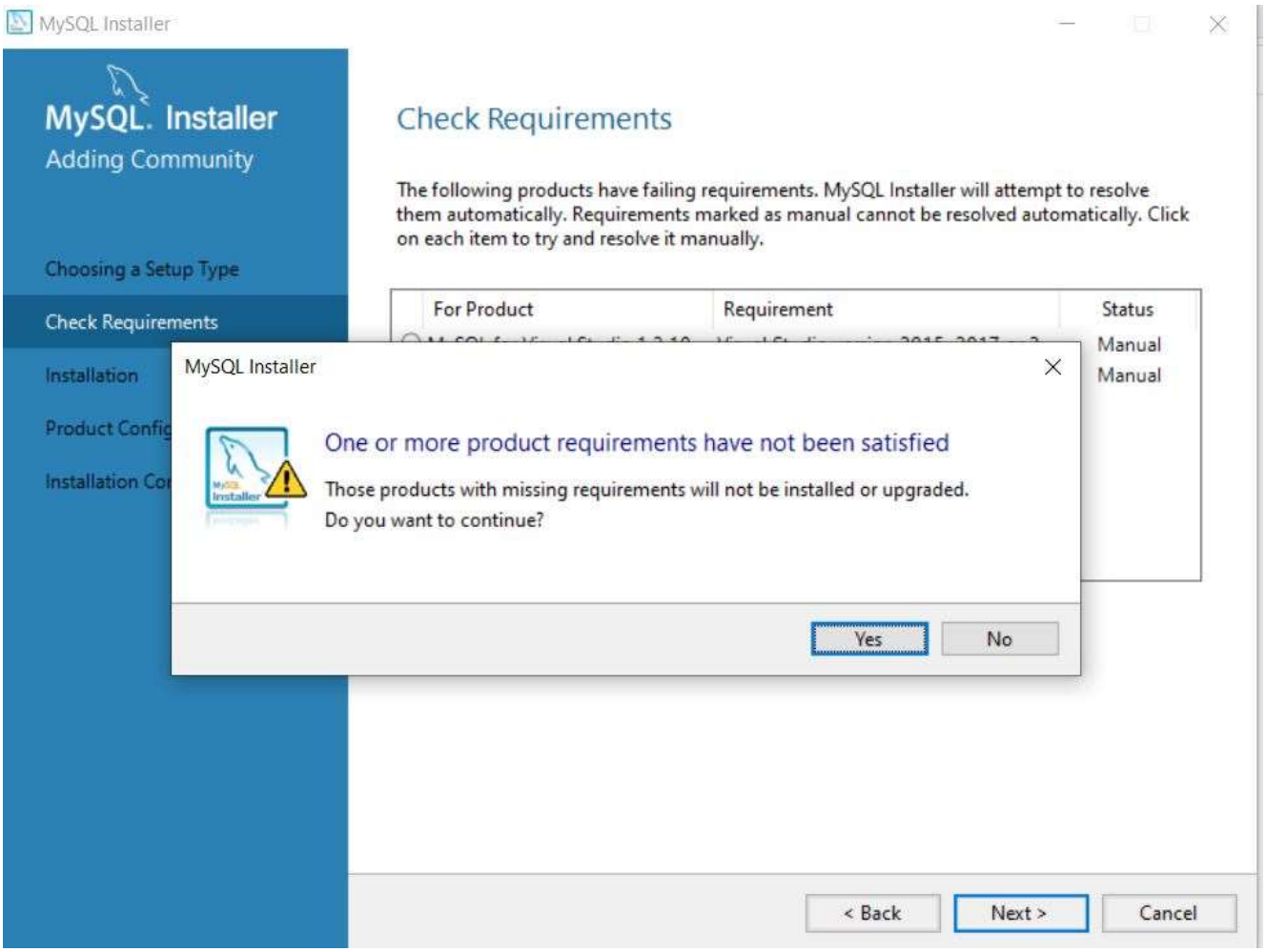
Step3: By default Developer Default option is selected,Click On Next Button



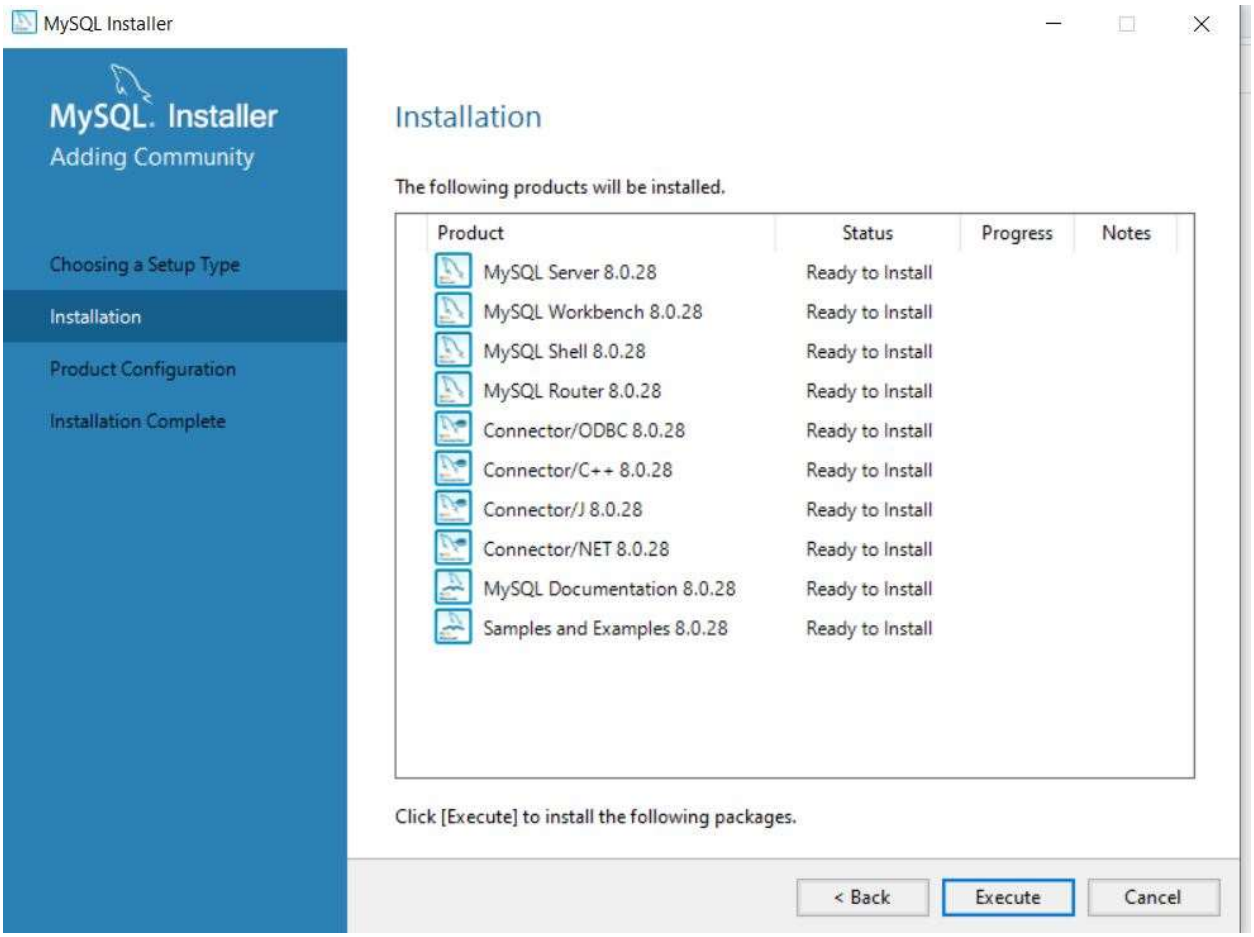
Step4:Click on Next Button



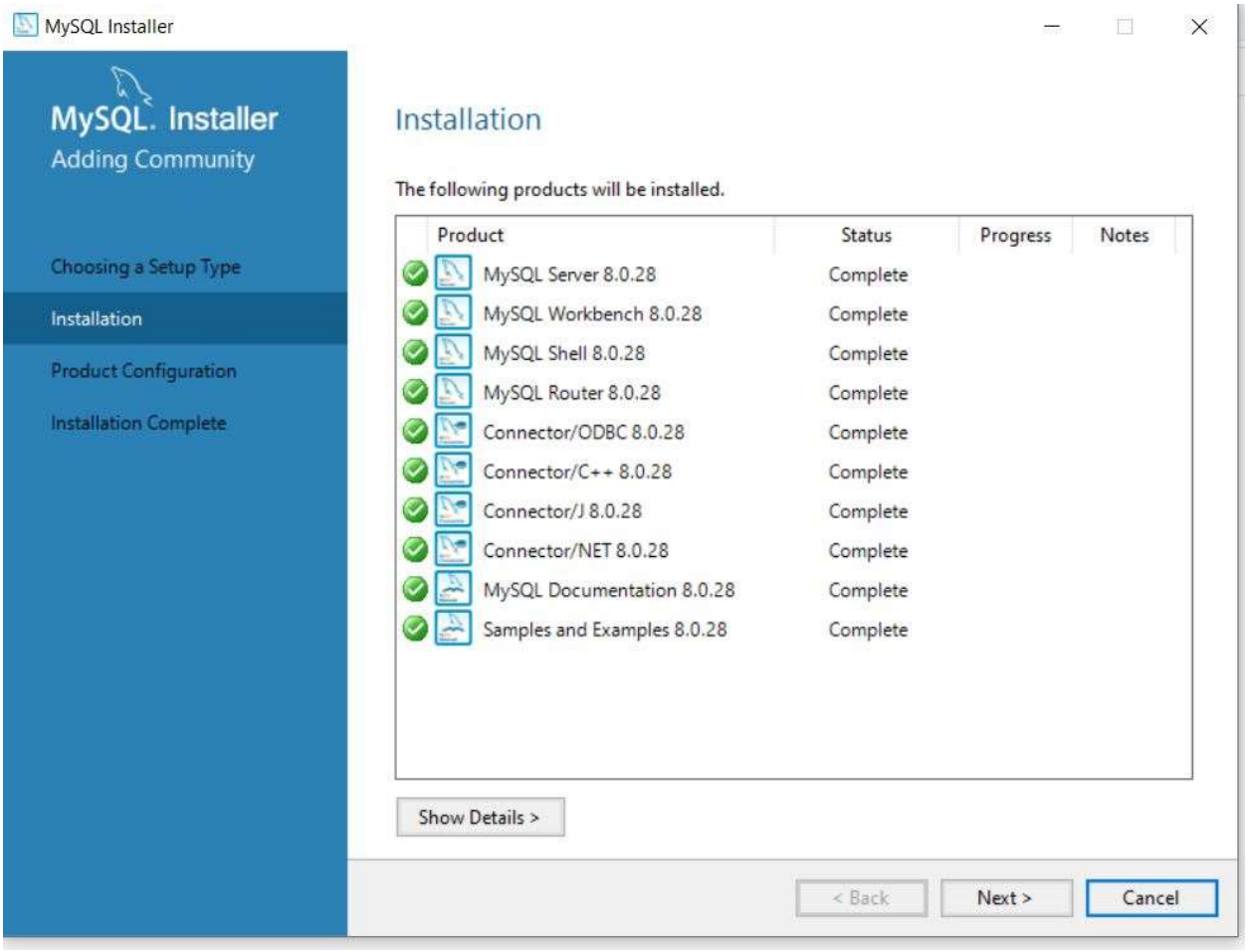
Step5:Click on Yes button, then Click on Next button



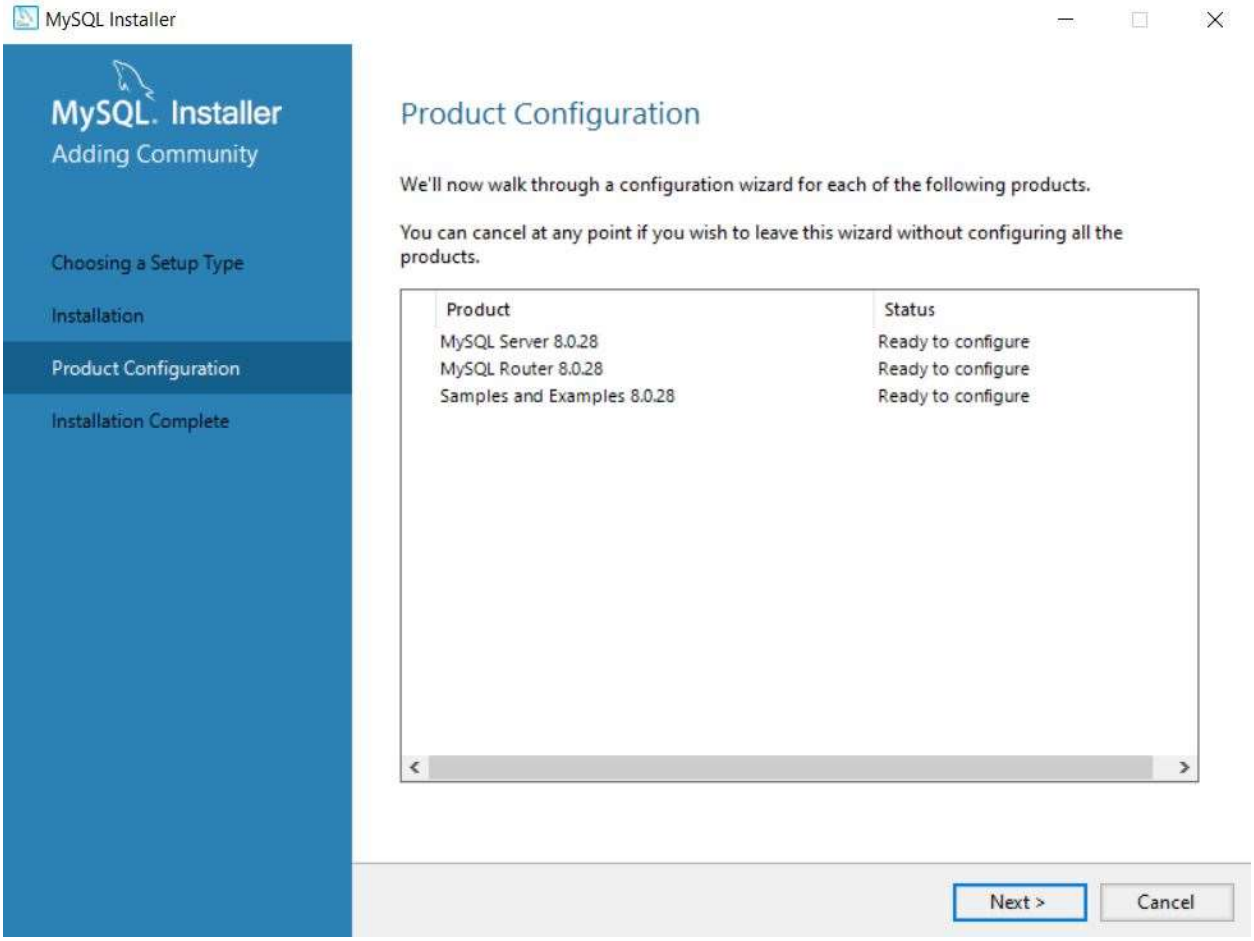
Step6:Click on Next Button



Step 7: Click on Next Button

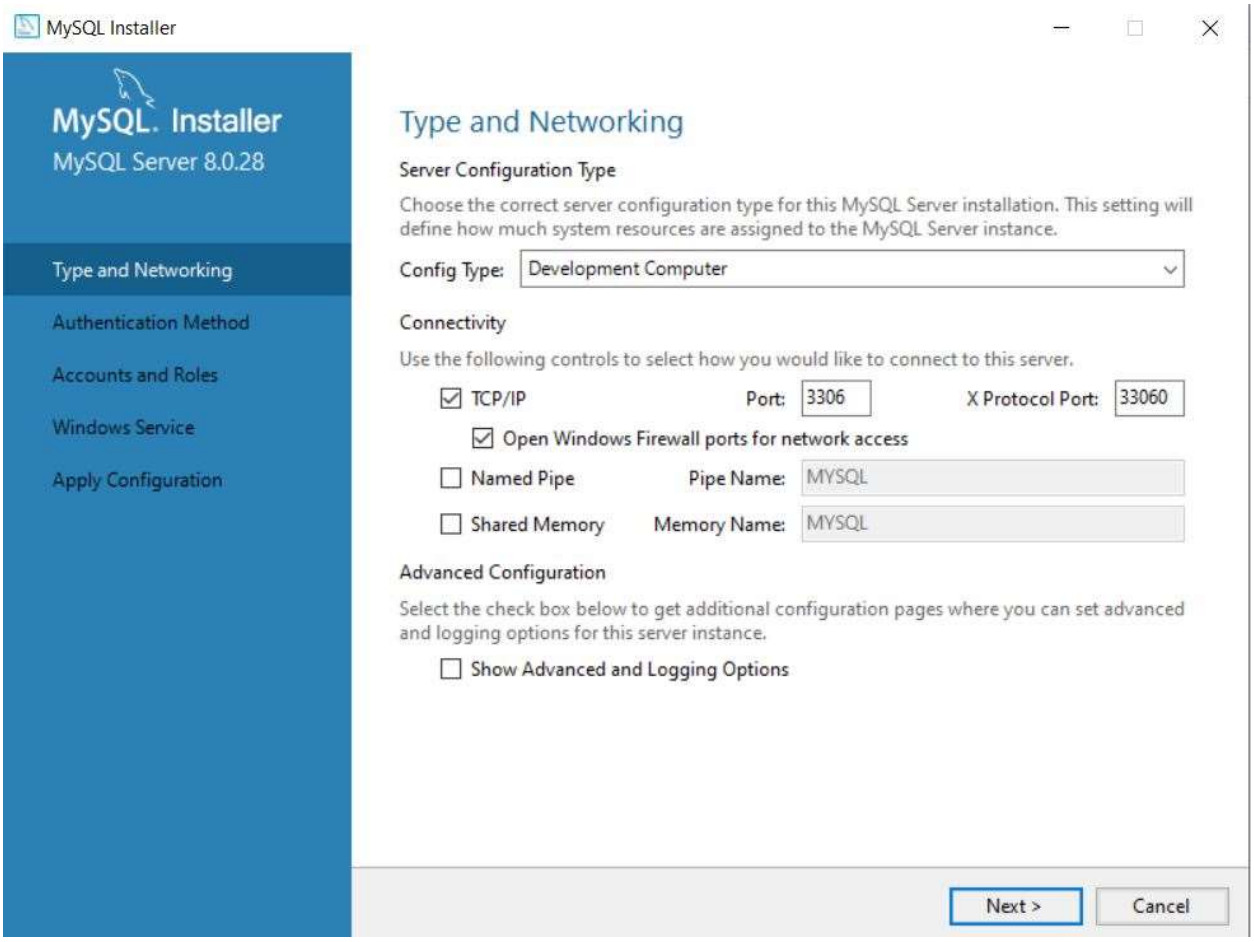


Step8 : Click on Next Button



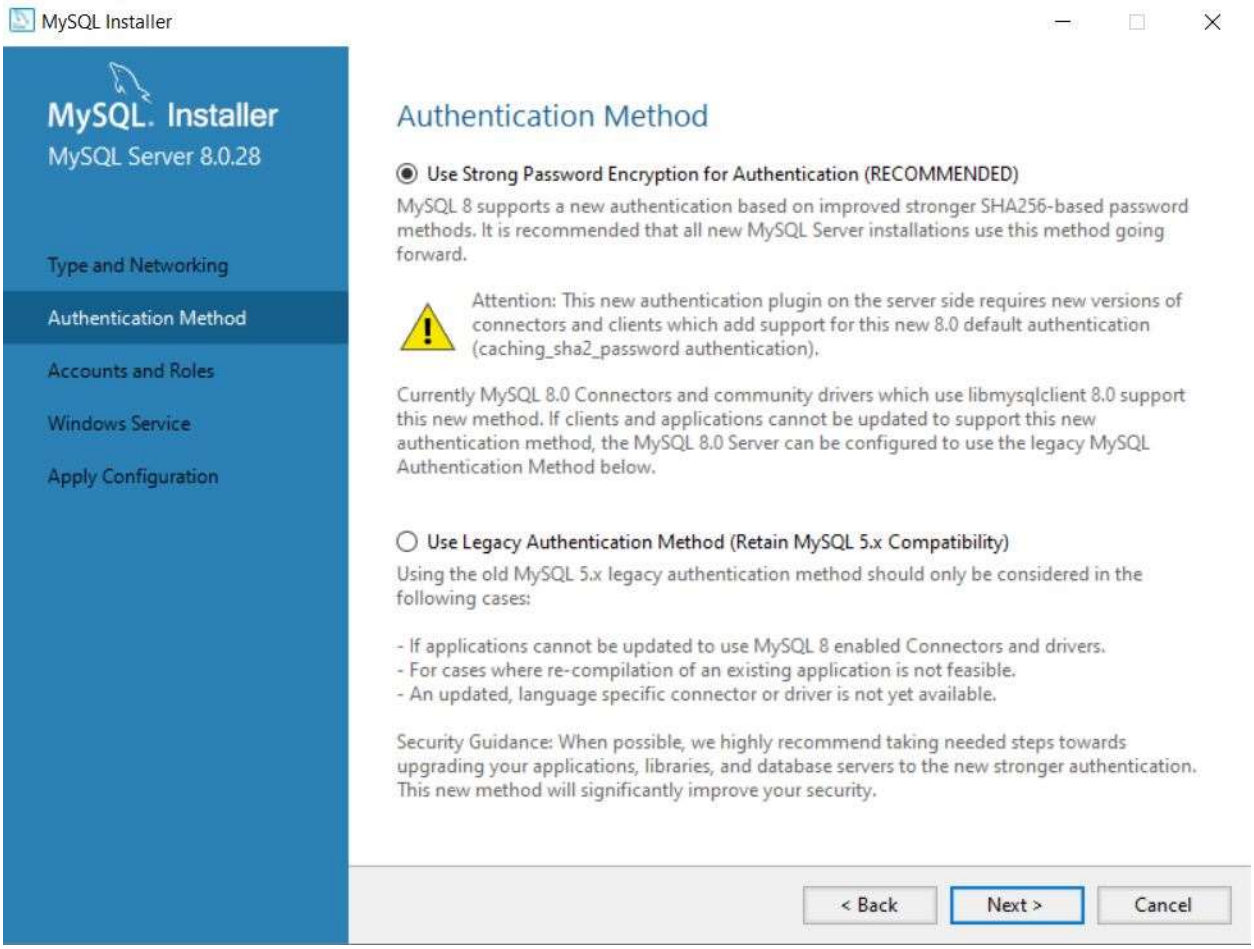
Step9 : Click on Next Button, Keep it as it is.

Note: Don’t Change anything in below screen

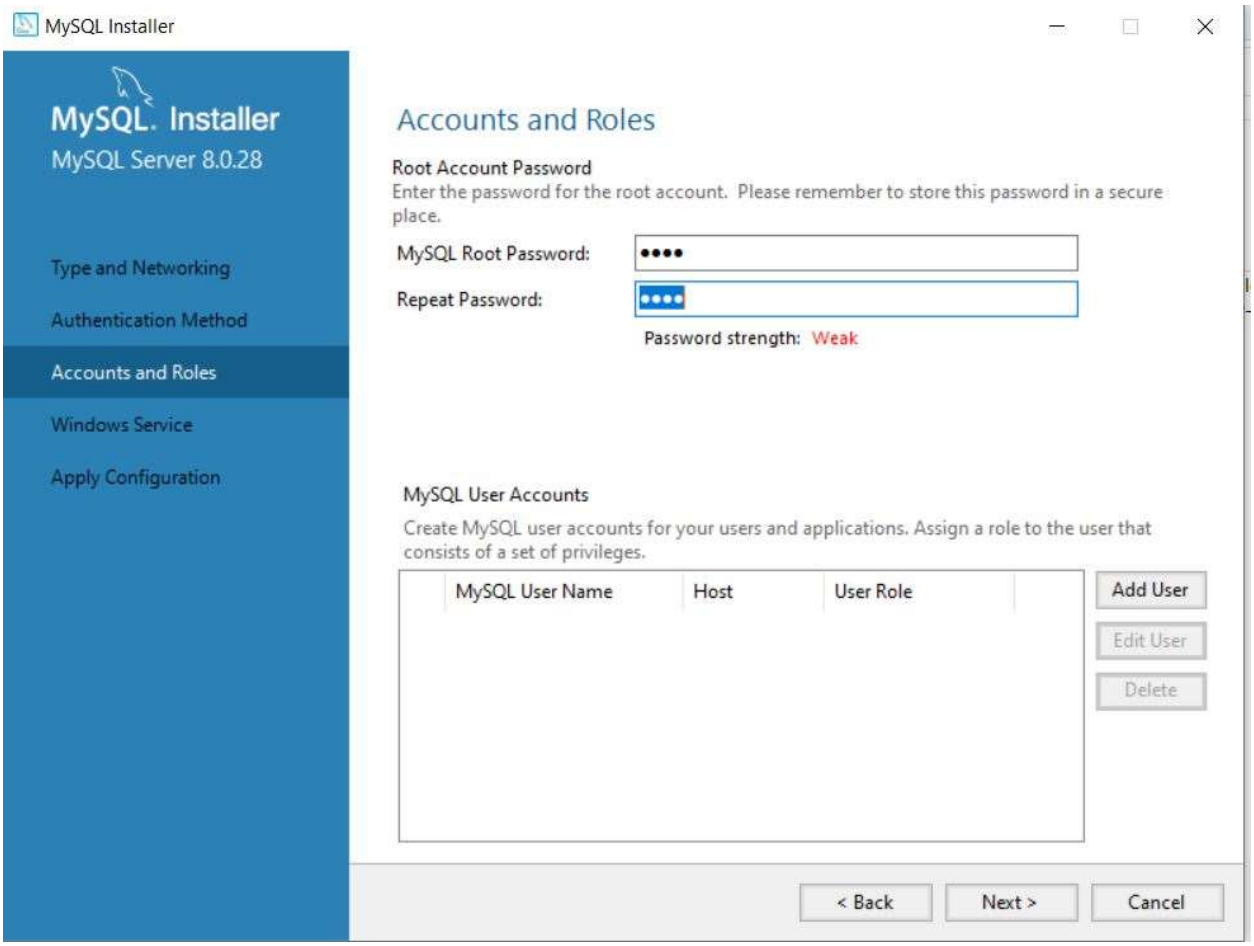


Step10 : Click on Next Button, Keep it as it is.

Note: Don’t Change anything in below screen

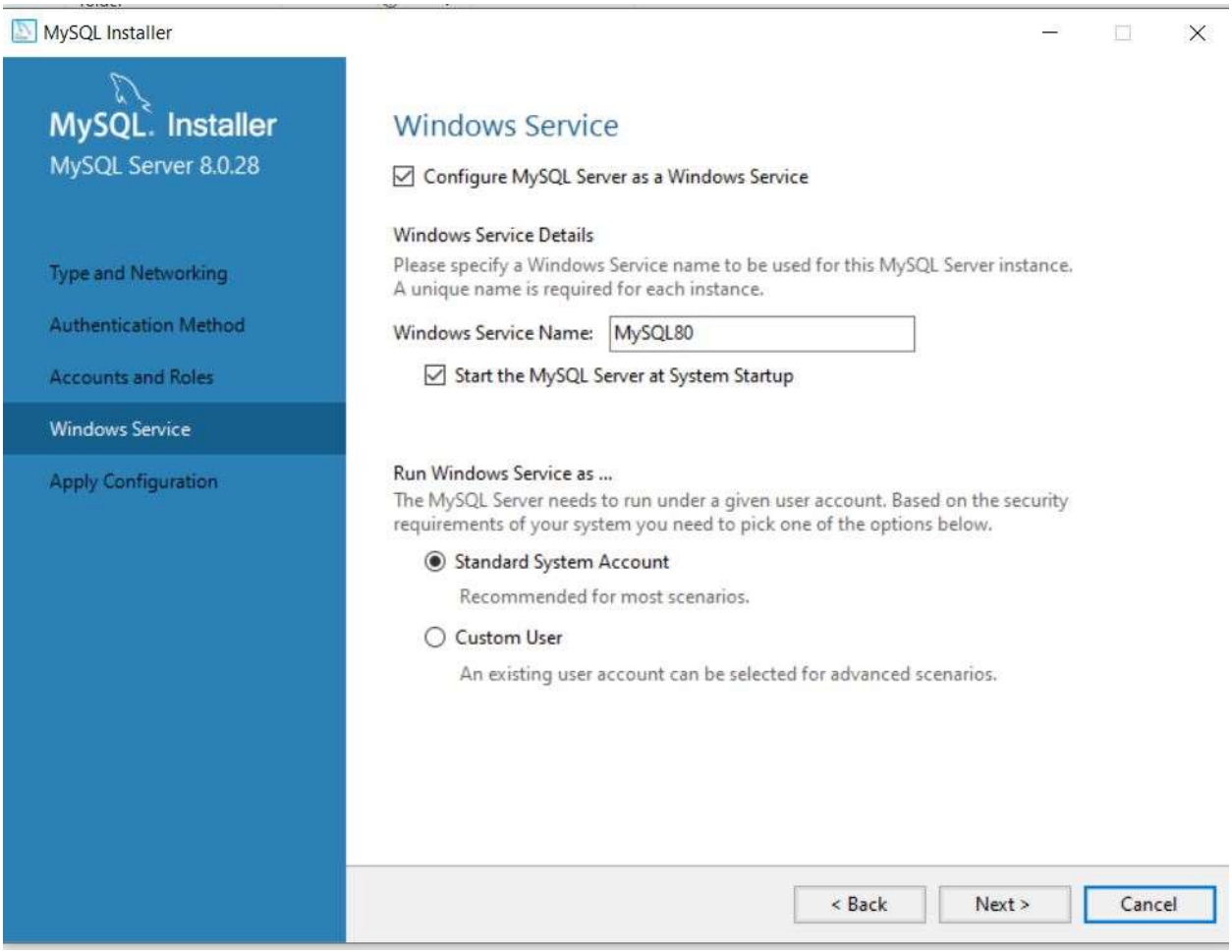


Step11: In below screen Enter password for MYSQL(I have given 4 digit ie. root as password), then click on Next button

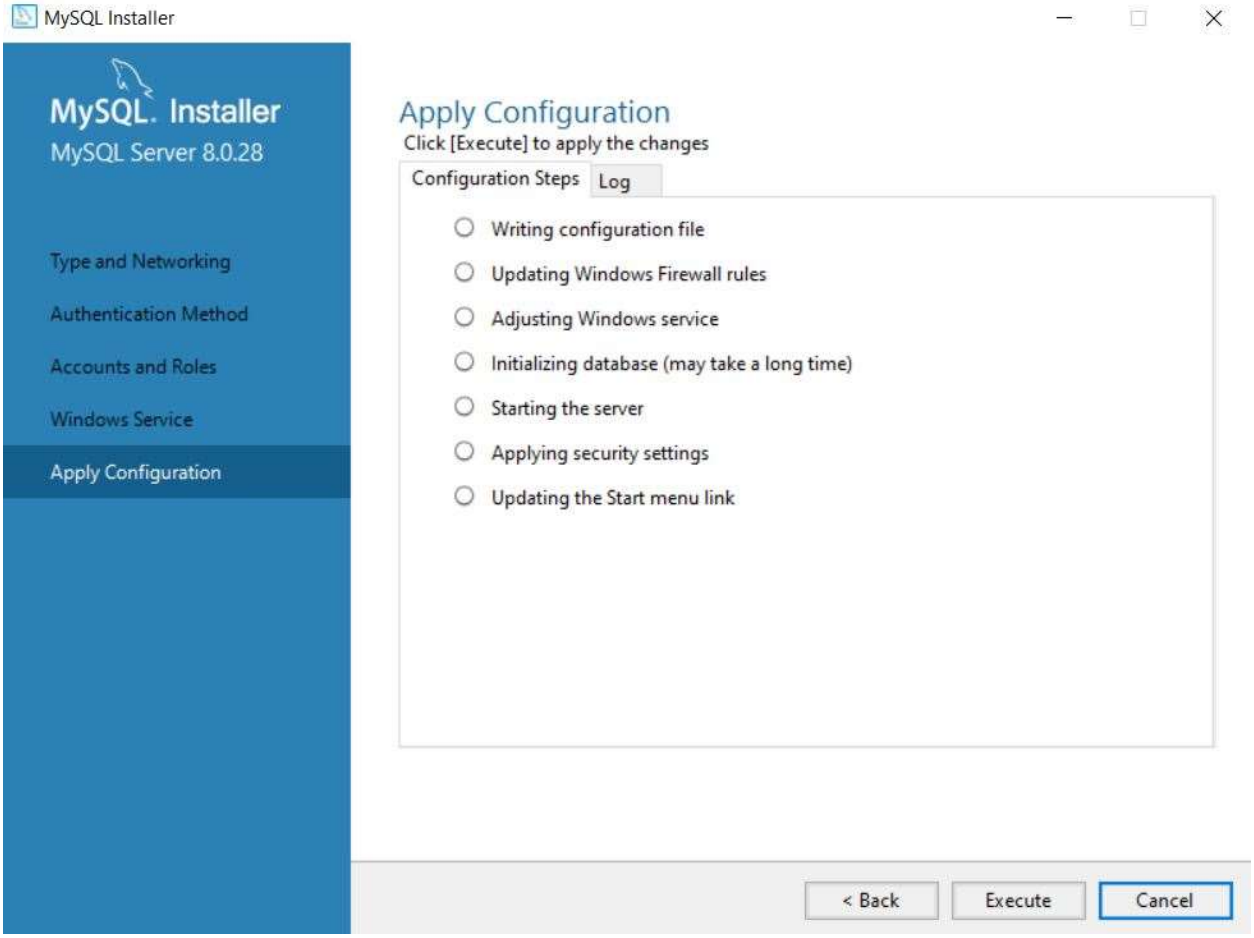


Step12 : Click on Next Button, Keep it as it is.

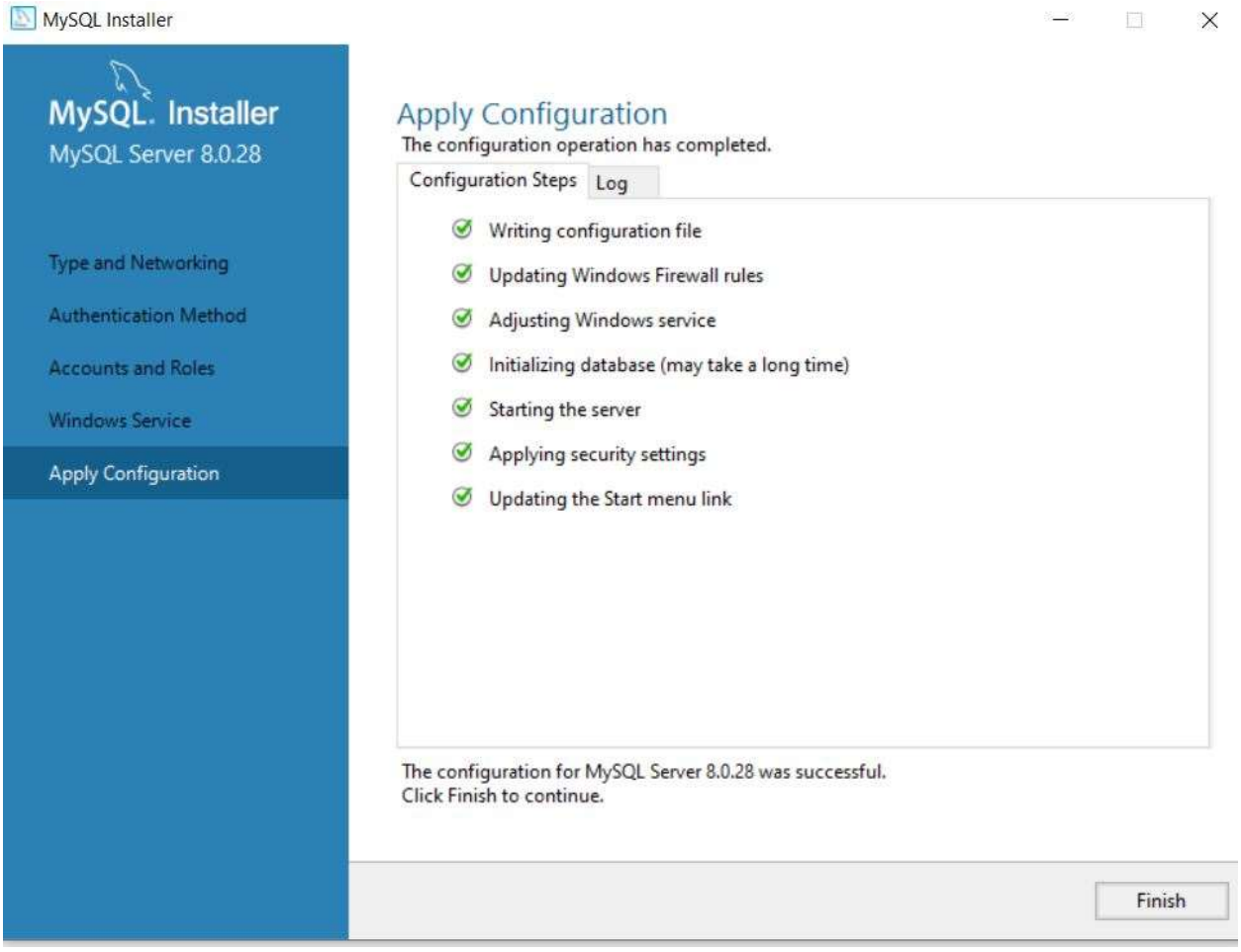
Note: Don’t Change anything in below screen



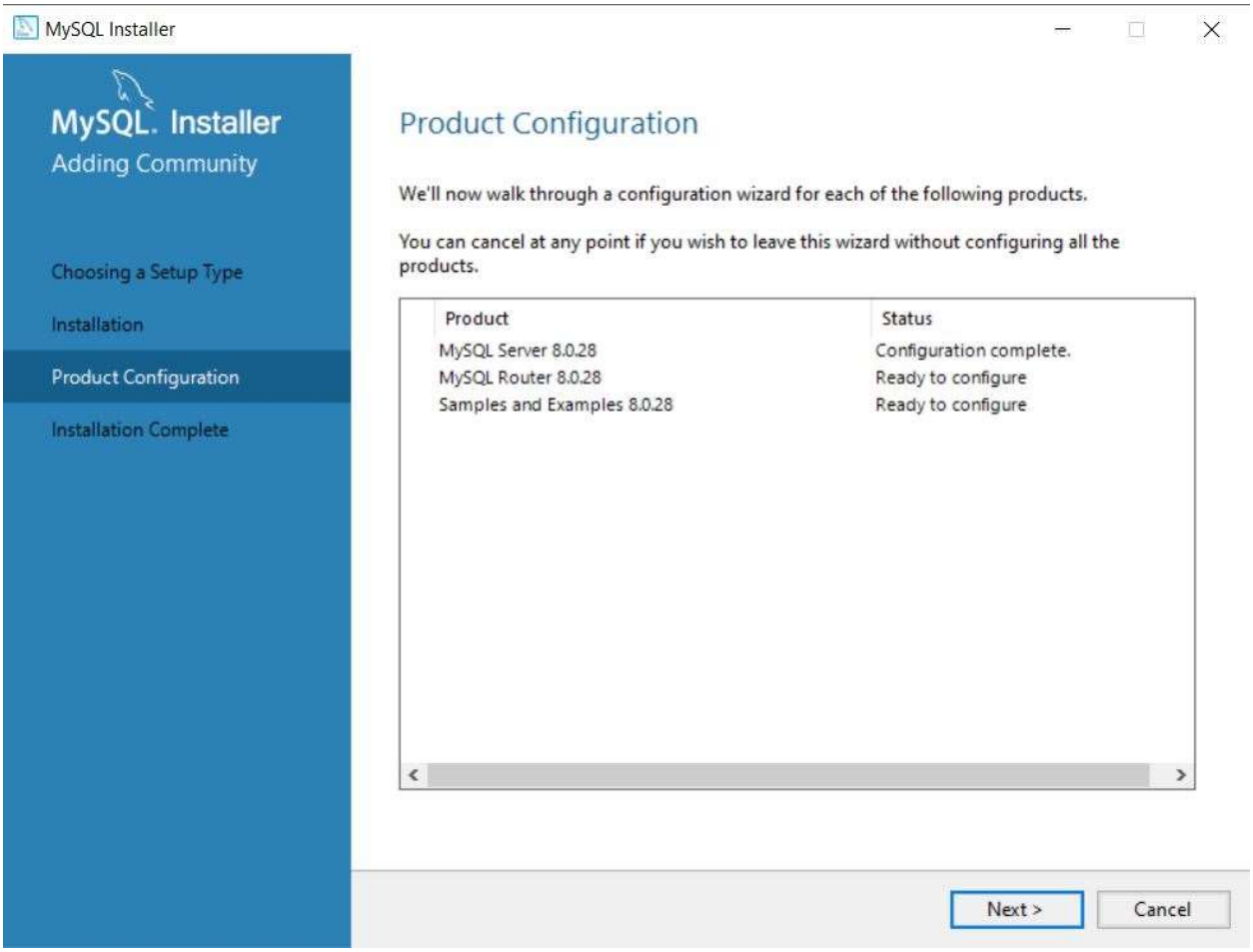
Step13: Click on Execute Button, Keep it as it is.



Step14 : Click on Finish Button, Keep it as it is.

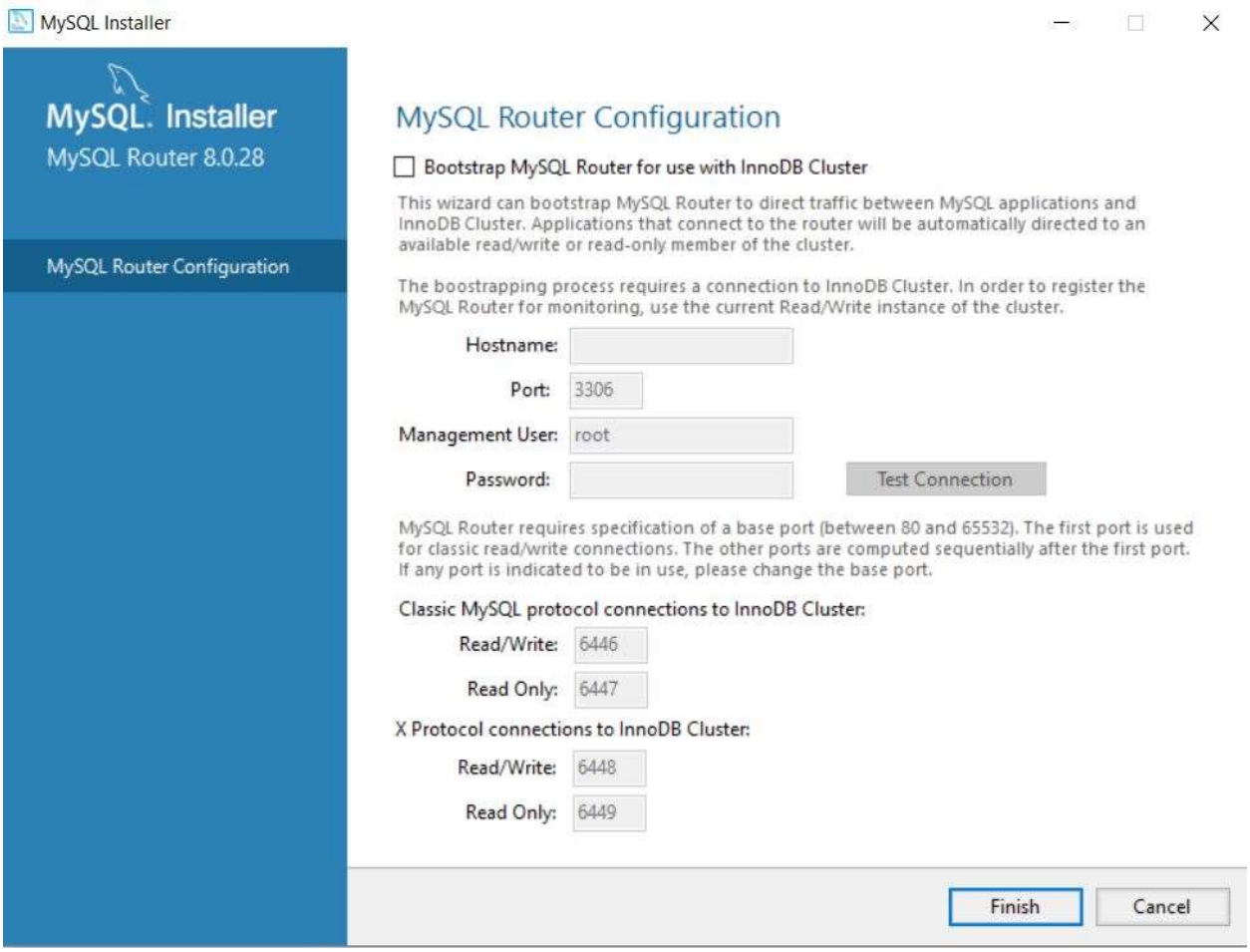


Step15: Click on Next Button, Keep it as it is.

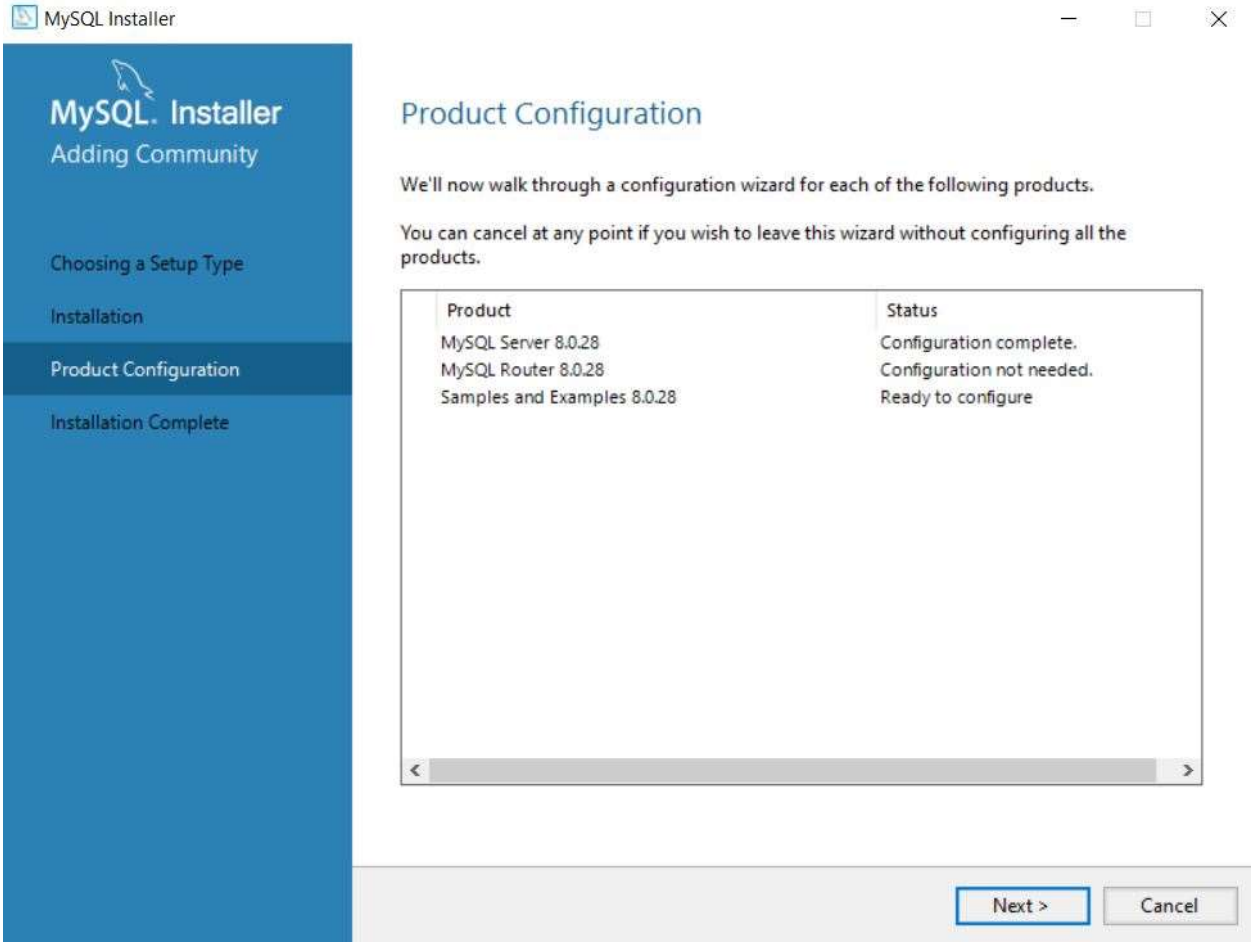


Step16: Click on Next Button, Keep it as it is.

Note: Don’t Change anything in below screen



Step17 : Click on Next Button, Keep it as it is.

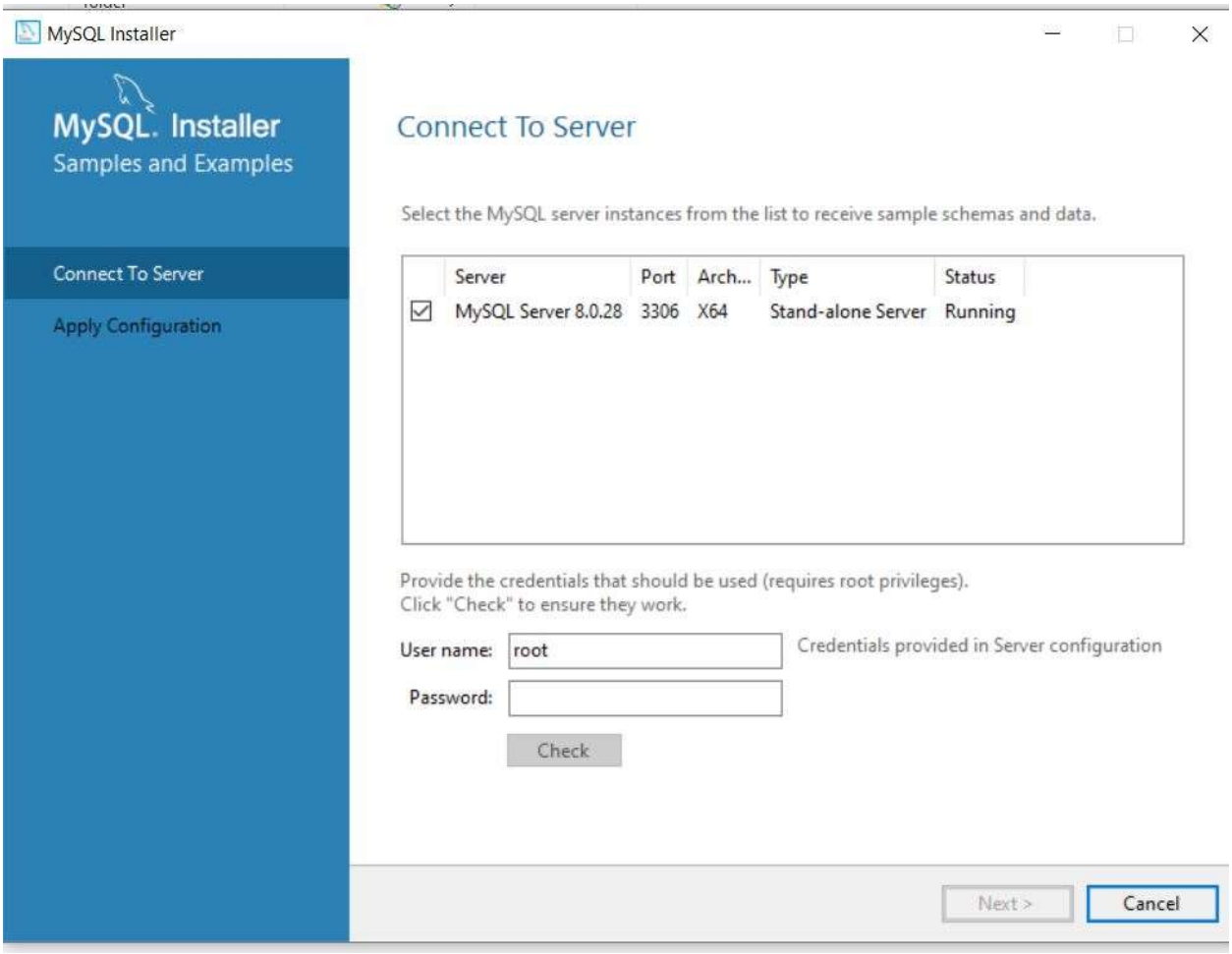


Step18 :

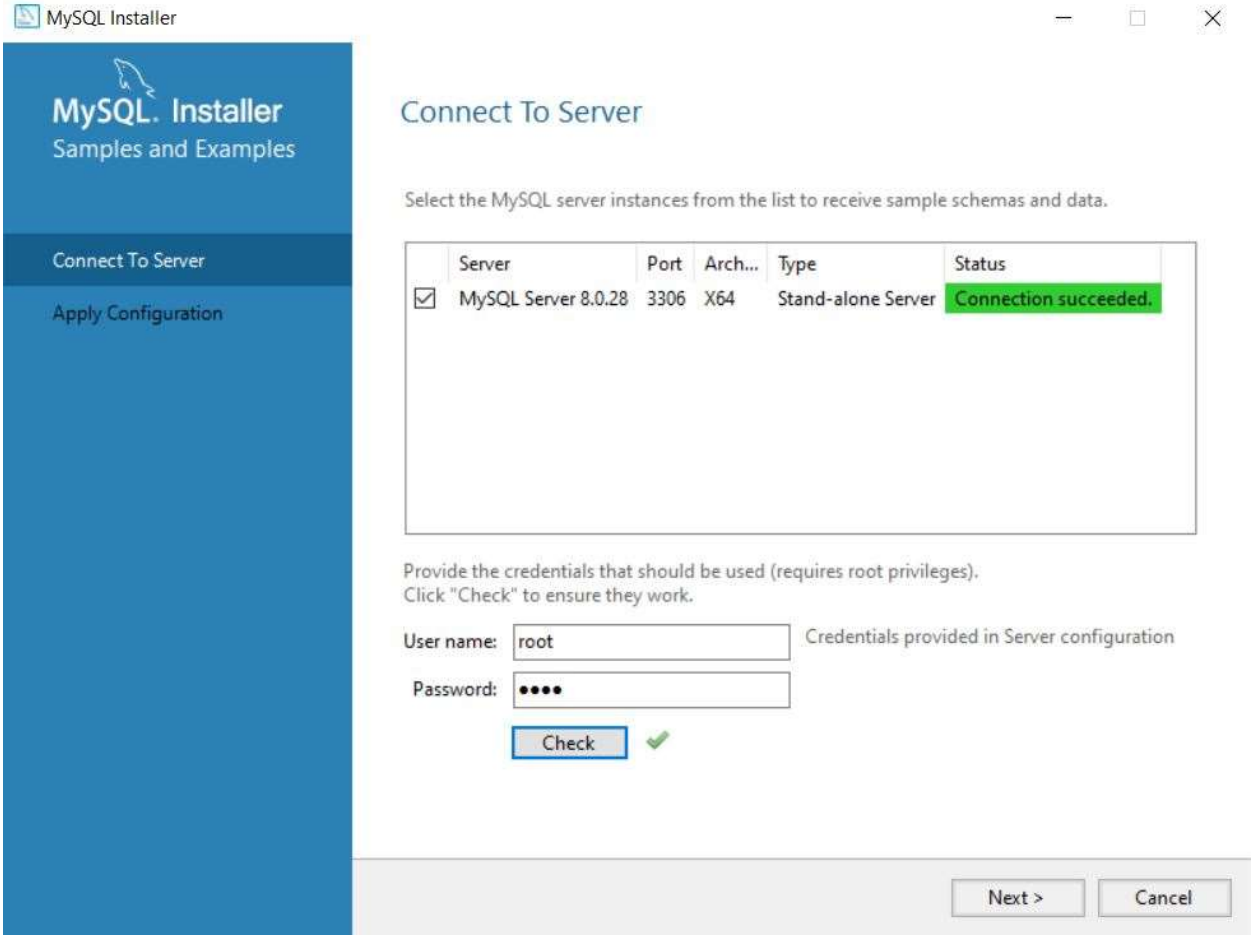
By default user name: root

Password: the password you had given in Step11 is same you enter.

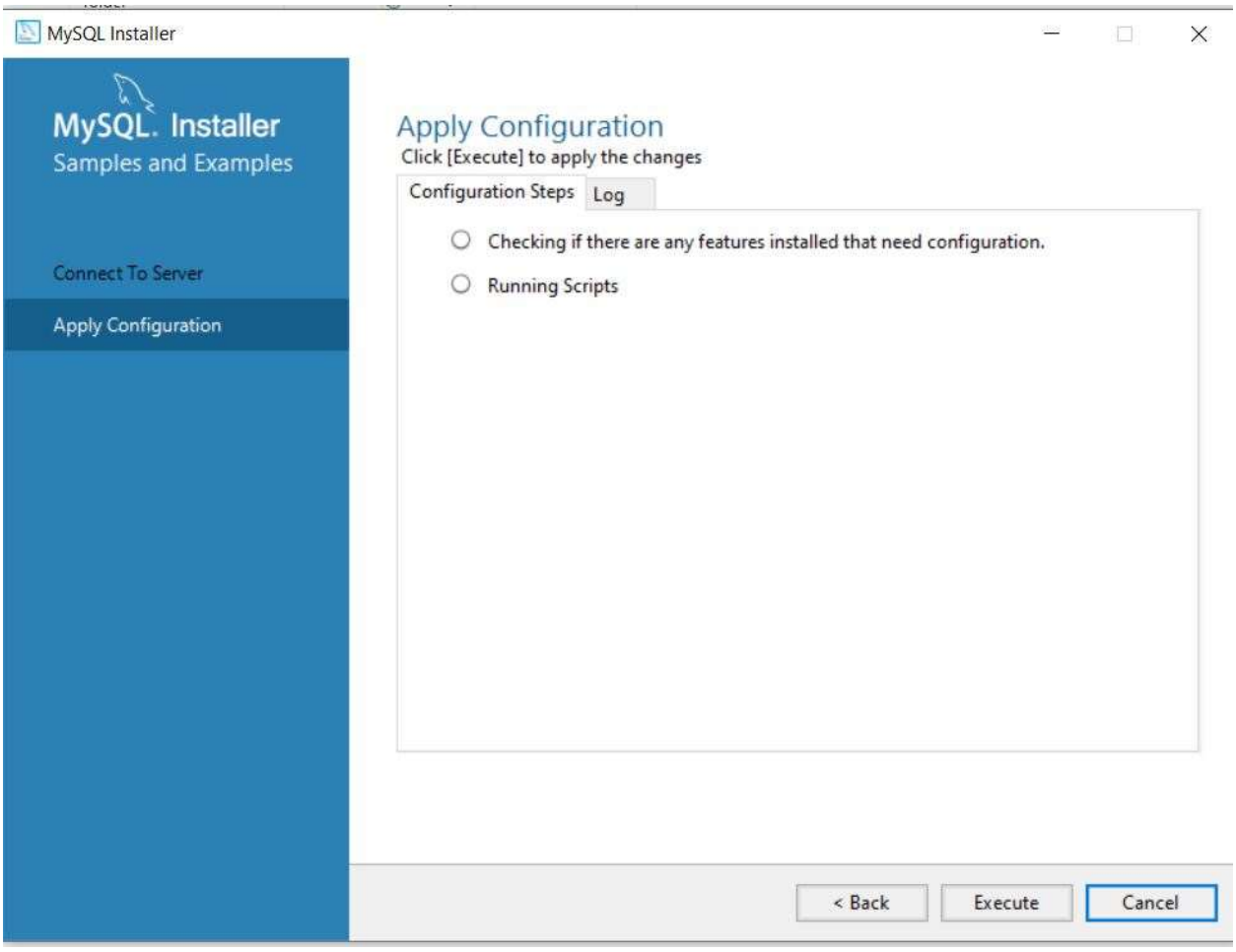
Then click on Check button to test password correct.



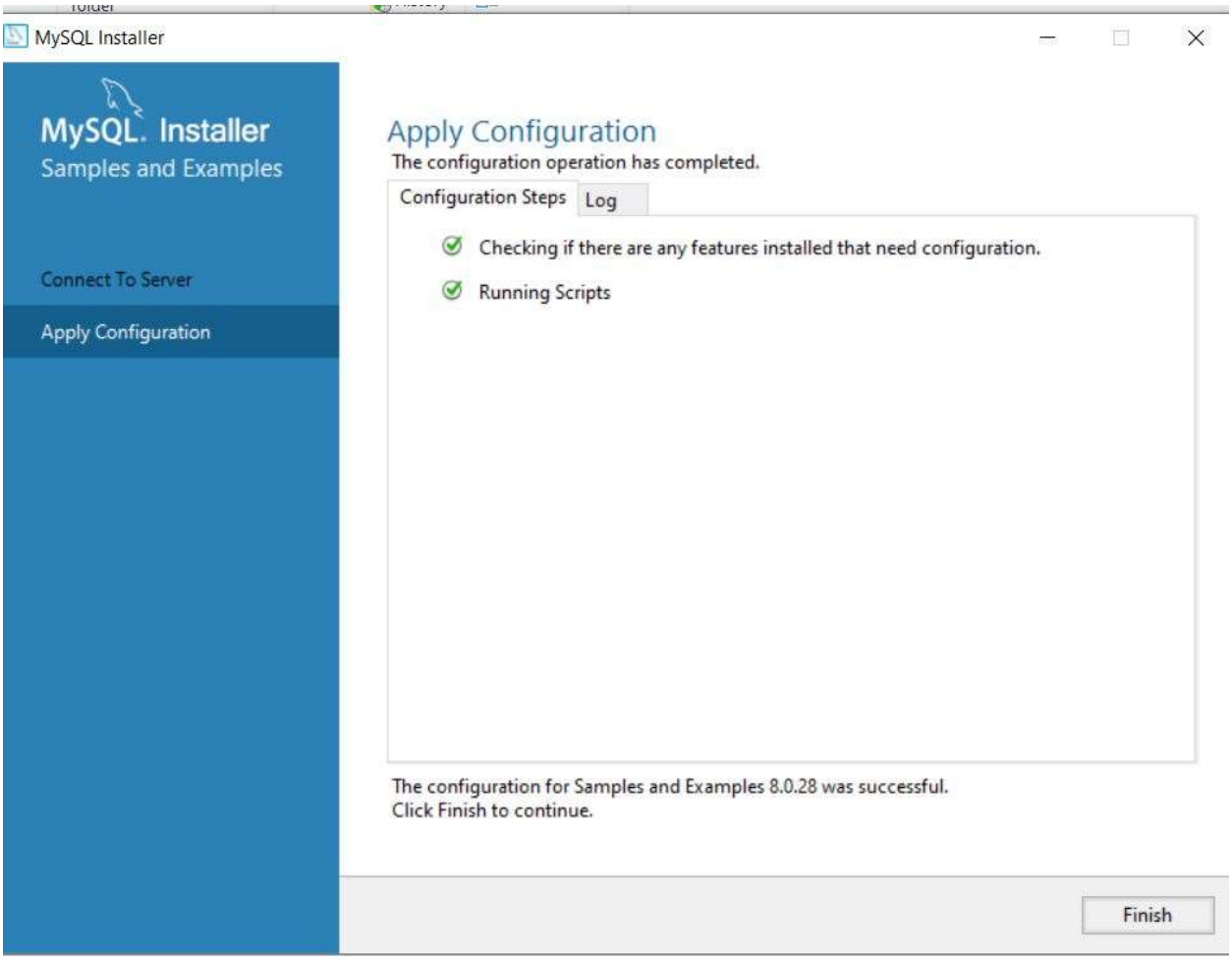
Step19 : Click on Next Button.



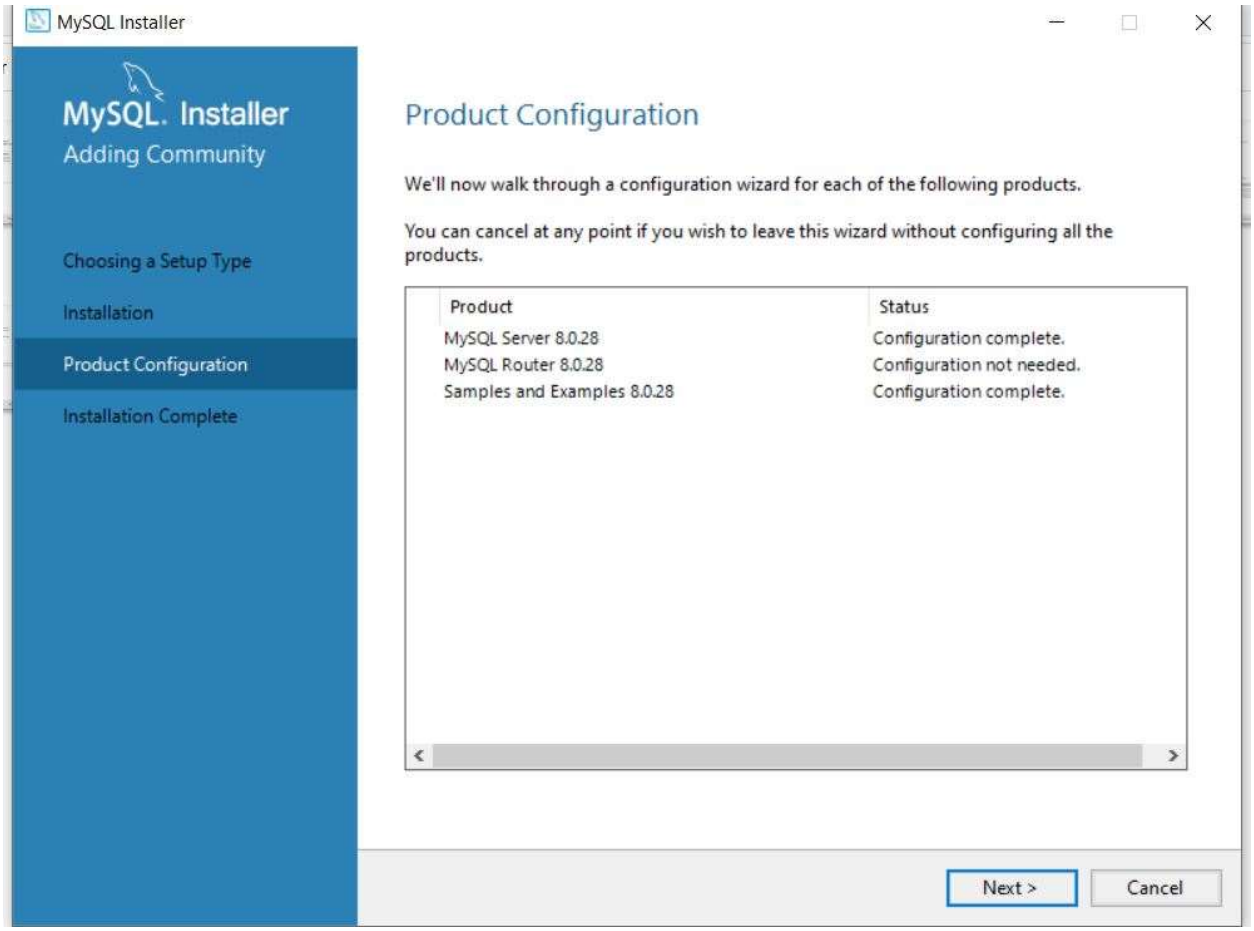
Step19 : Click on Execute Button.



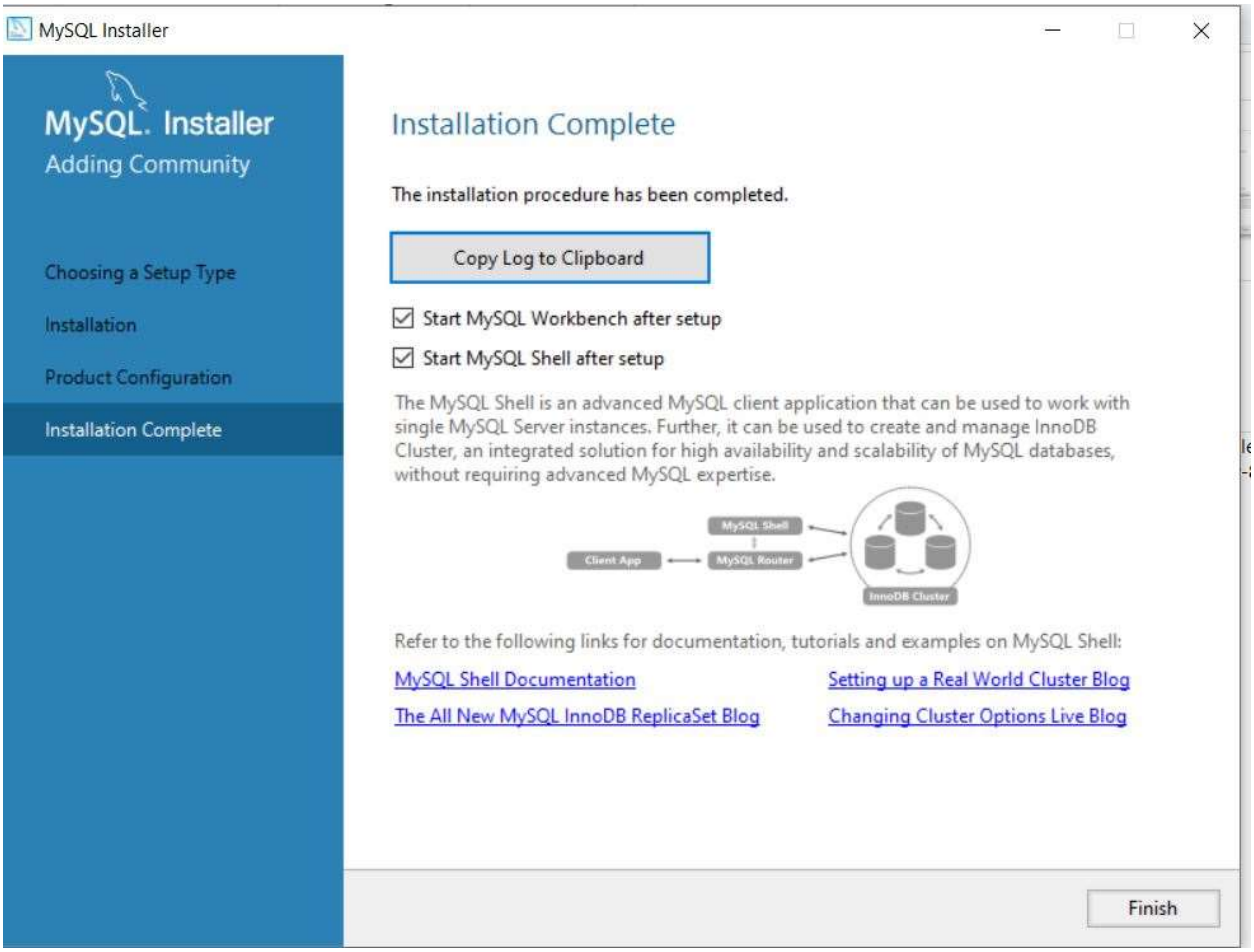
Step20: Click on Finish Button.



Step21 : Click on Next Button.



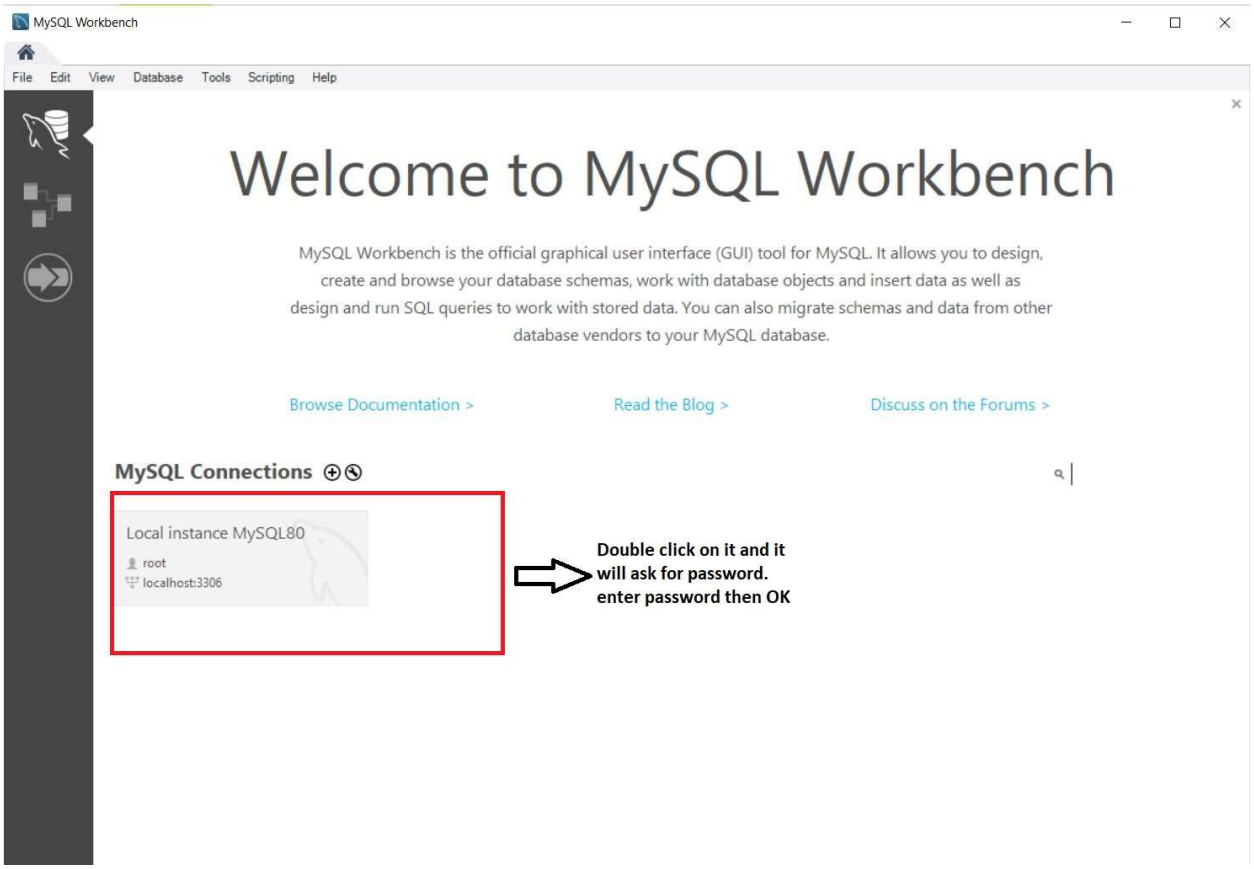
Step22 : Click on Finish Button.

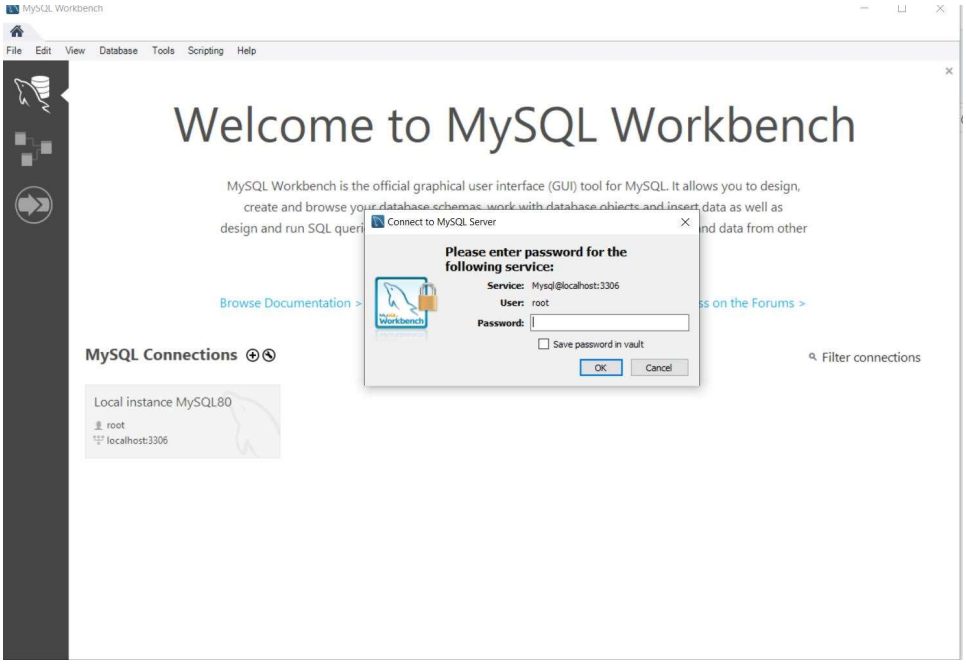


Install is successfully completed.

Then go start option,type Mysql workbench,open it.

The below screen shown





There You go to create Database in console