

SQL

(Structured Query Language)

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What is SQL

- SQL stands for Structured Query Language
- SQL lets you access and manipulate databases
- SQL lets you perform CRUD operations on databases
- C – Create
- R – Read
- U – Update
- D – Delete

Potential Of SQL

SQL allows you to perform various operations on databases, such as:

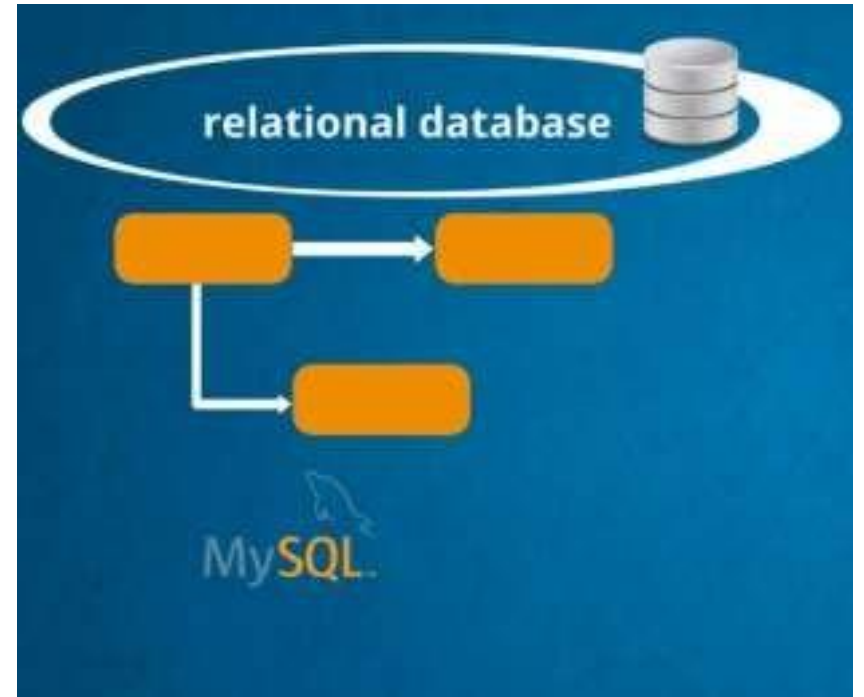
1. Querying data: SQL enables you to retrieve specific data from one or more database tables using the SELECT statement. You can filter, sort, and aggregate data based on specific conditions.
2. Modifying data: SQL provides commands like INSERT, UPDATE, and DELETE to add, update, or delete records in the database tables, respectively.
3. Creating and altering database structures: SQL allows you to define the structure of a database by creating tables, specifying the columns and their data types. You can also modify the structure of existing tables using the ALTER(Change) TABLE statement.

Database

A database is a structured collection of data that is organized and stored in a computer system. It is designed to efficiently manage and store large amounts of information in a way that allows for easy retrieval, modification, and manipulation of the data.

What is Relational Database

A relational database is a type of database that organizes and stores data in tables with predefined relationships between them. It follows the principles of the relational model, which include concepts such as tables, rows, columns, and keys



Basic queries regarding Database

CREATE DATABASE database_name;

SHOW DATABASES;

USE database_name;

DROP DATABASE database_name;

Datatypes in SQL

1. **INTEGER**: Represents whole numbers (positive or negative) without decimal places.
2. **FLOAT/REAL**: Represents floating-point numbers with decimal places.
3. **CHAR(n)**: Represents a fixed-length string of characters with a specific length of n.
4. **VARCHAR(n)**: Represents a variable-length string of characters with a maximum length of n.
5. **DATE**: Represents a date value (year, month, and day).
6. **TIME**: Represents a time value (hour, minute, second).
7. **DATETIME/TIMESTAMP**: Represents a combined date and time value.

Create Table

```
CREATE TABLE table_name (  
  column1 datatype1,  
  column2 datatype2,  
  column3 datatype3,  
  ...  
);
```


Insert Values into tables

First Approach

```
INSERT INTO table_name (column1, column2, column3, ...)  
VALUES (value1, value2, value3, ...);
```

Second Approach

```
INSERT INTO table_name  
VALUES (value1, value2, value3, ...);
```

Select Statement

For complete Data

```
SELECT *  
FROM Table_name;
```

||

For Particular Data

```
SELECT col1,col2  
FROM Table_name;
```

Installing My SQL in your systems

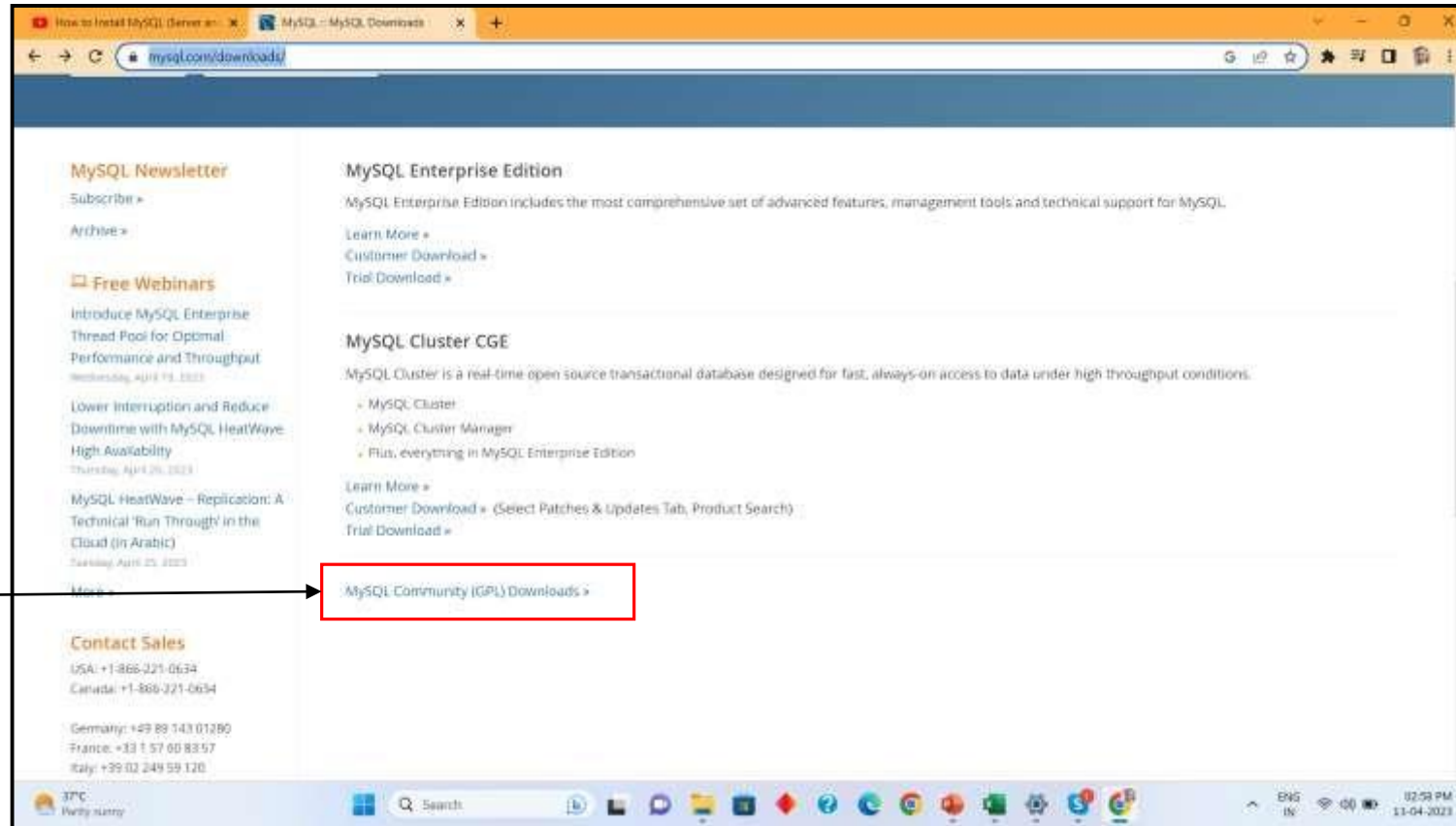
YT Link ---> <https://youtu.be/k5tICunelSU?feature=shared>

Step 1 : Visit the official website

Official website link : <https://www.mysql.com/downloads/>

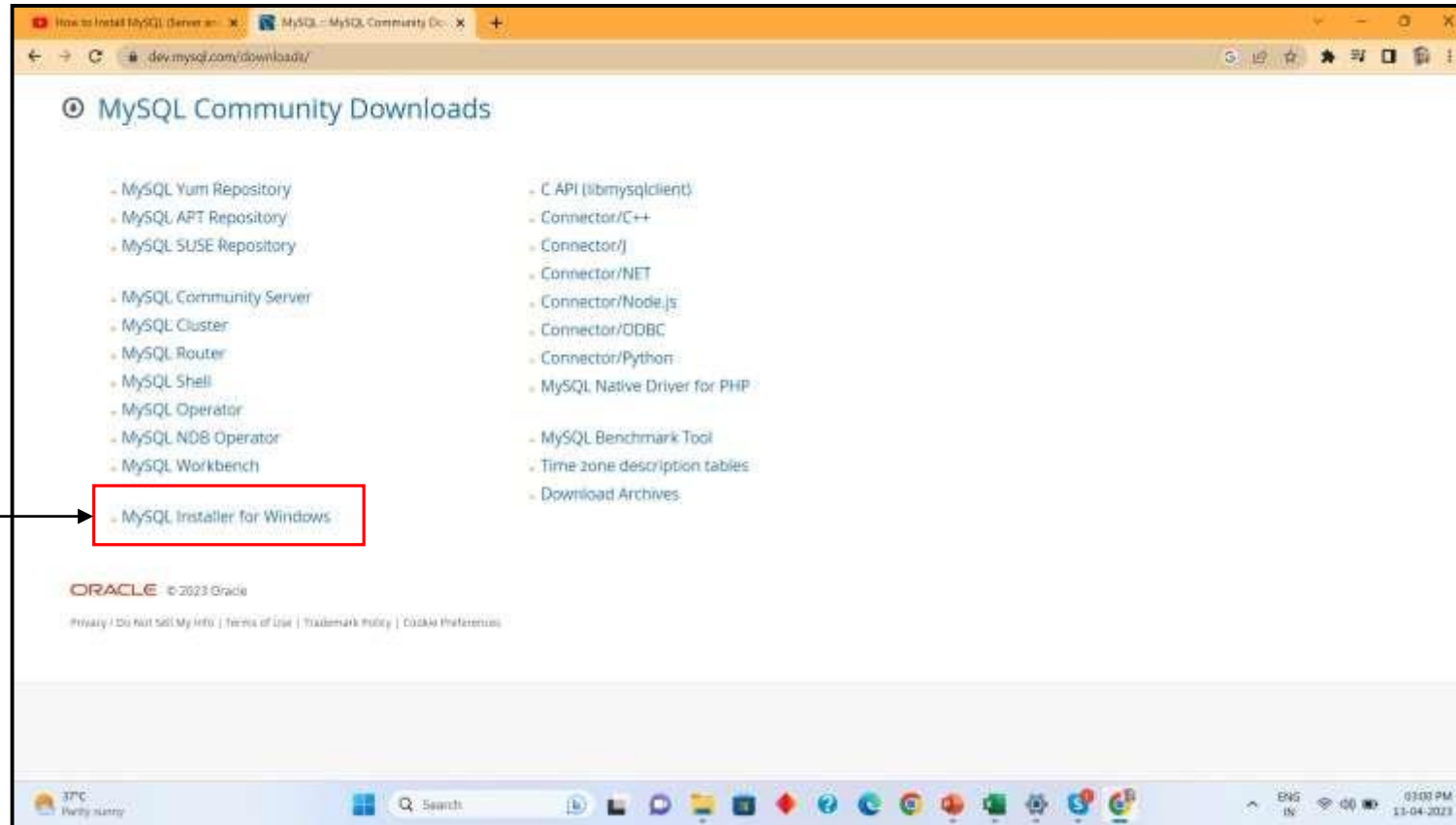


Step 2: Scroll down and select mySQL downloads



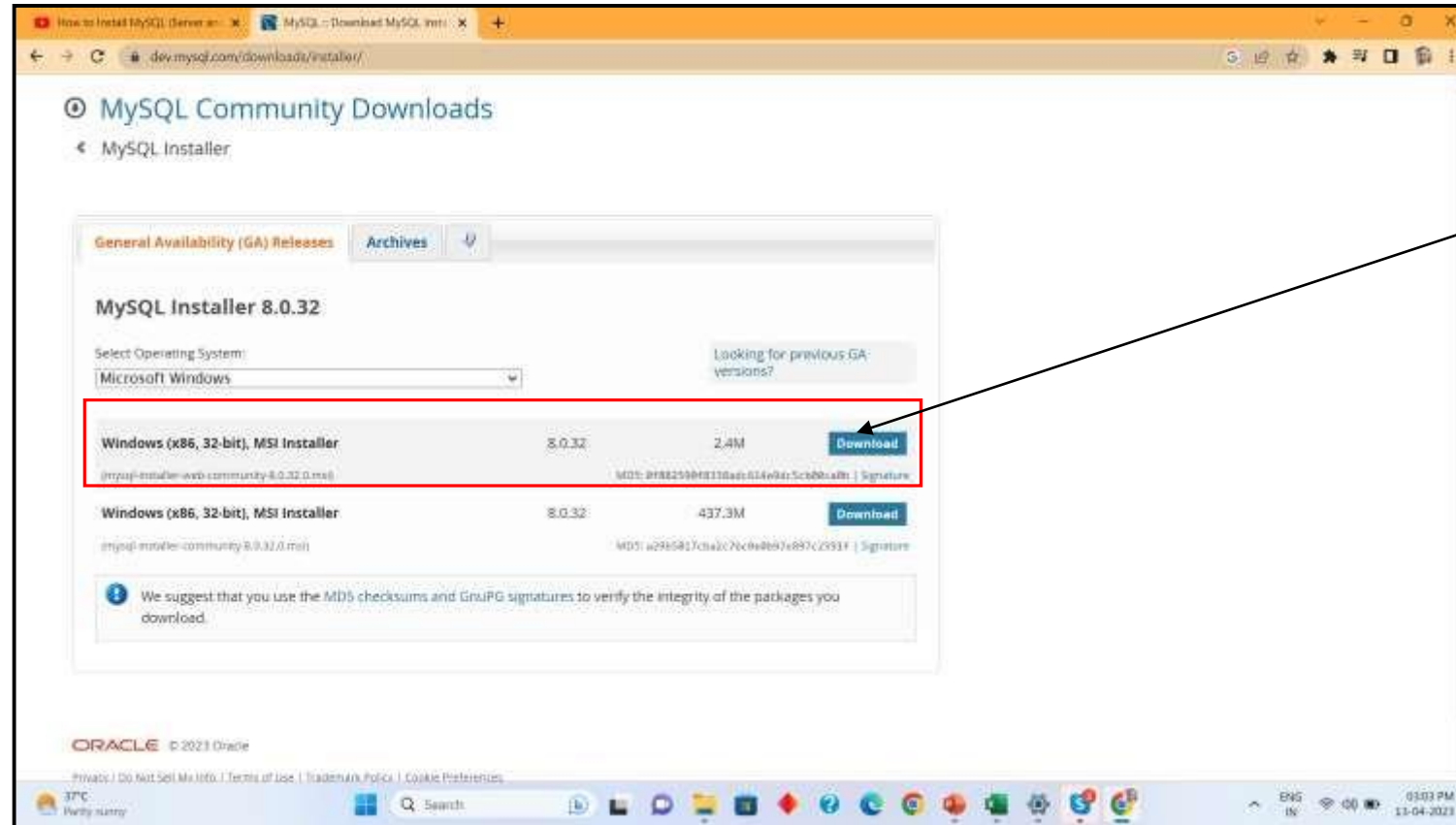
Click
MySQL Community
(GPL) Downloads

Step 3 : Select mySQL installer for windows



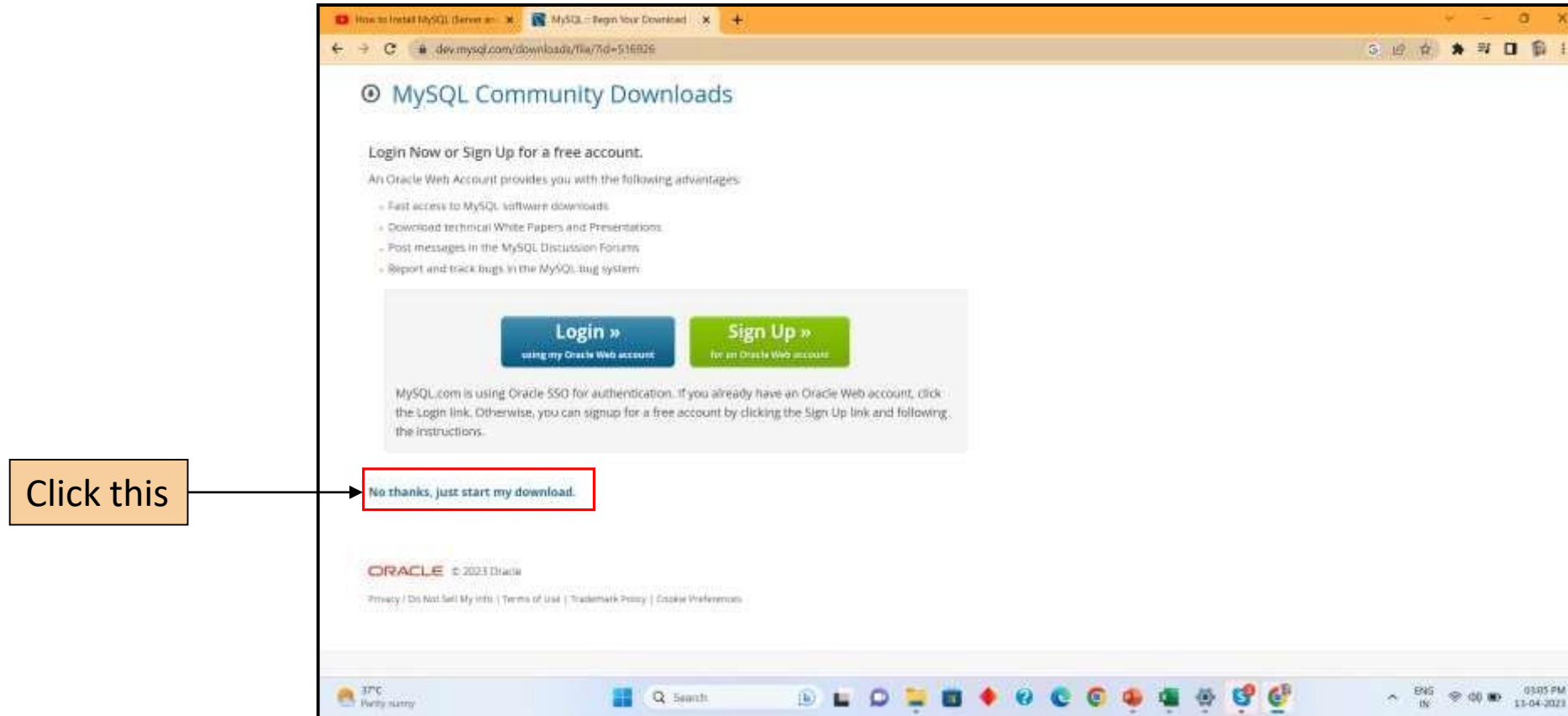
Click
MySQL Installer for
windows

Step 4 : Select first Installer and download



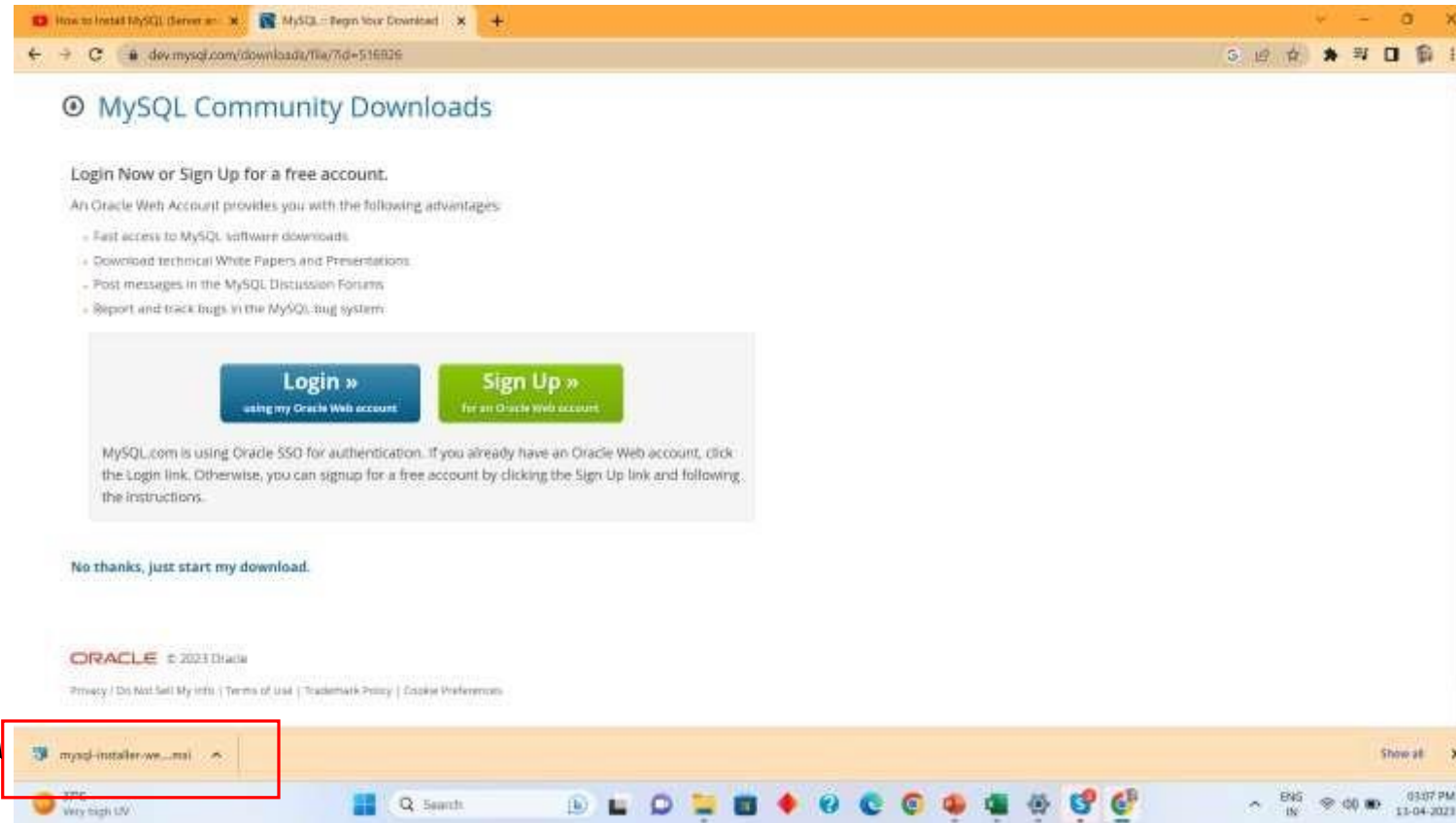
Click on Download Button For First Installer With 2.4 MB size

Step 5 : Click no thanks start my download

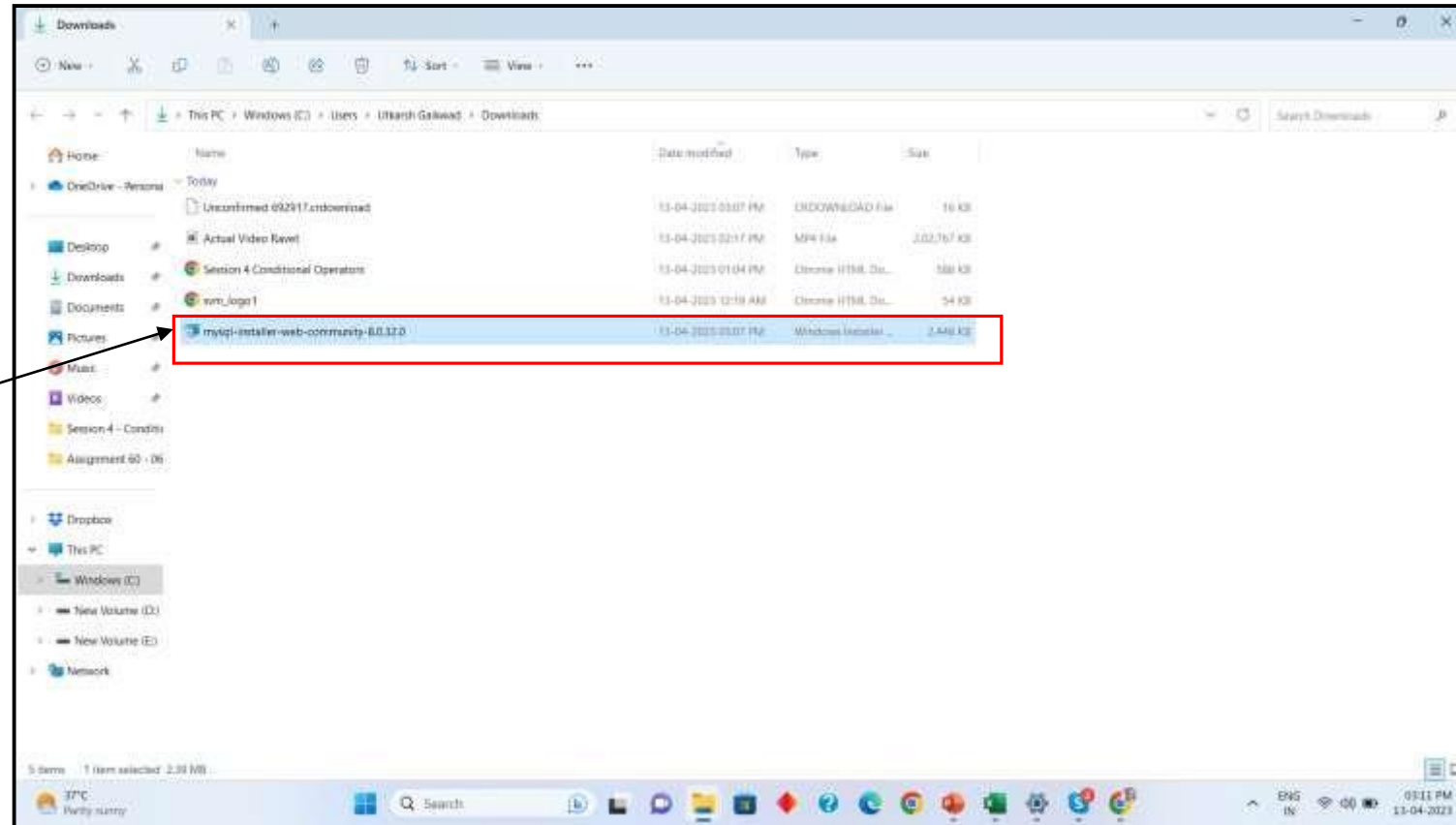


Step 6 : Installer will get downloaded

Installer
is downloaded

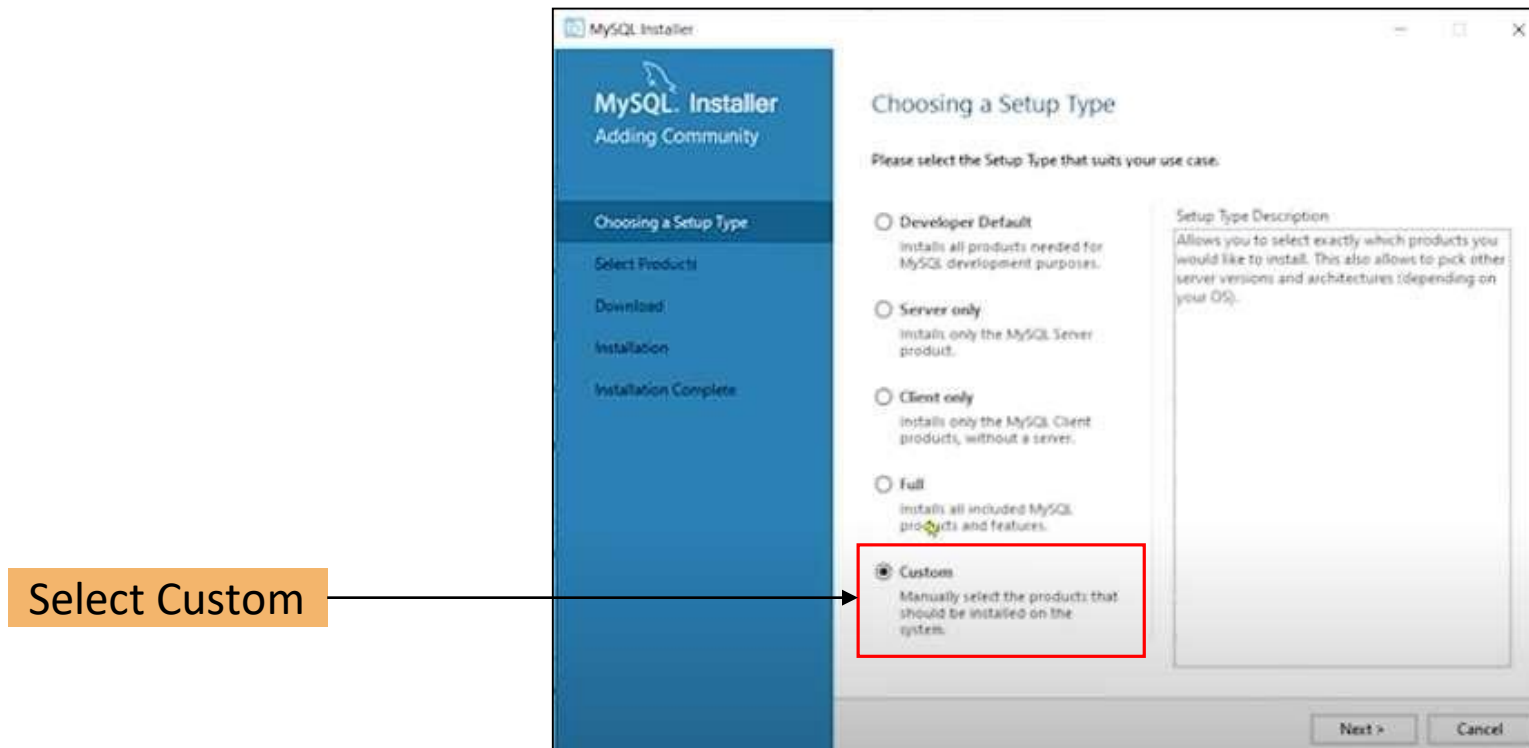


Step 7 : My SQL installer got downloaded in downloads folder click on installer

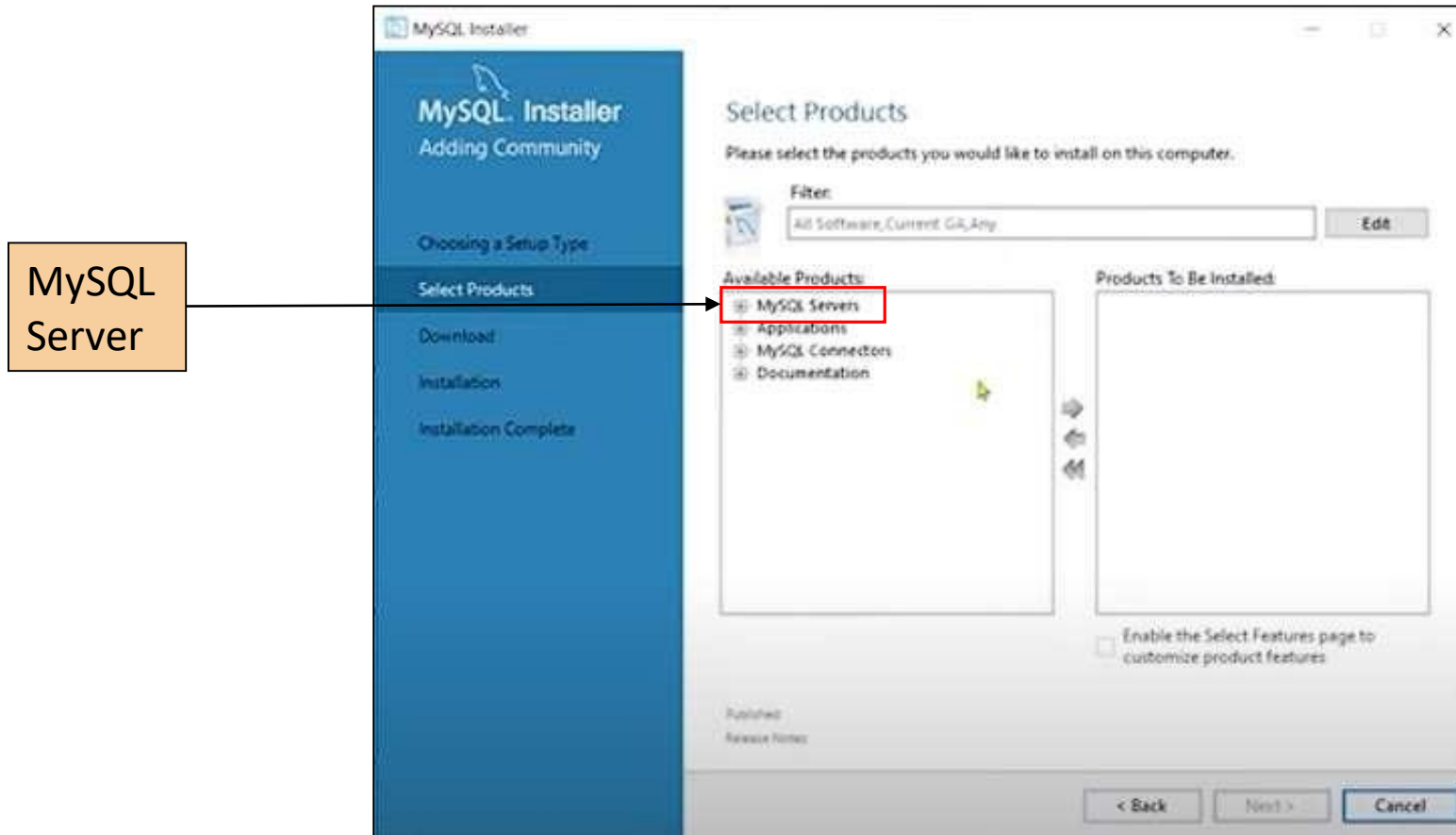


Click on this installer

Step 8 : Press Yes for all permissions and below screen will pop up

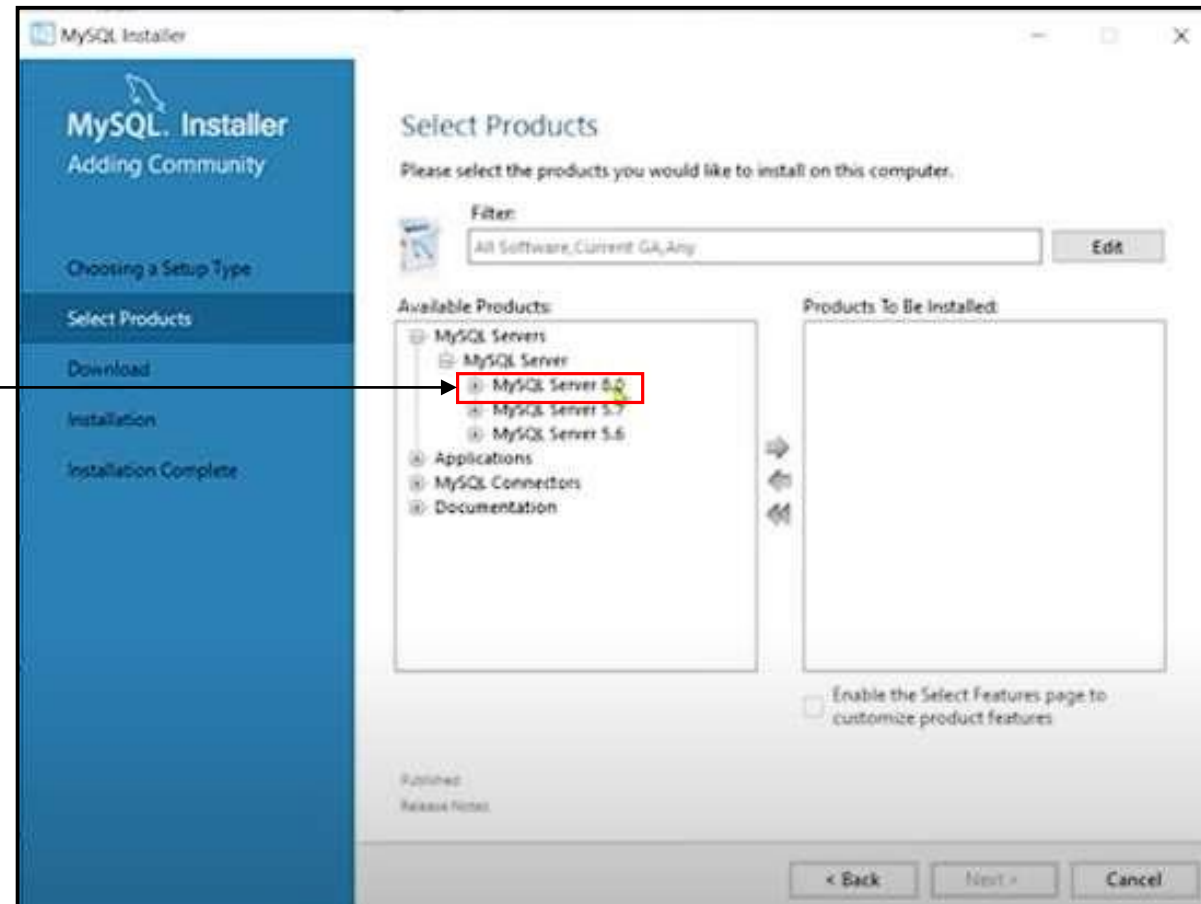


Step 9 : Below window will Popup



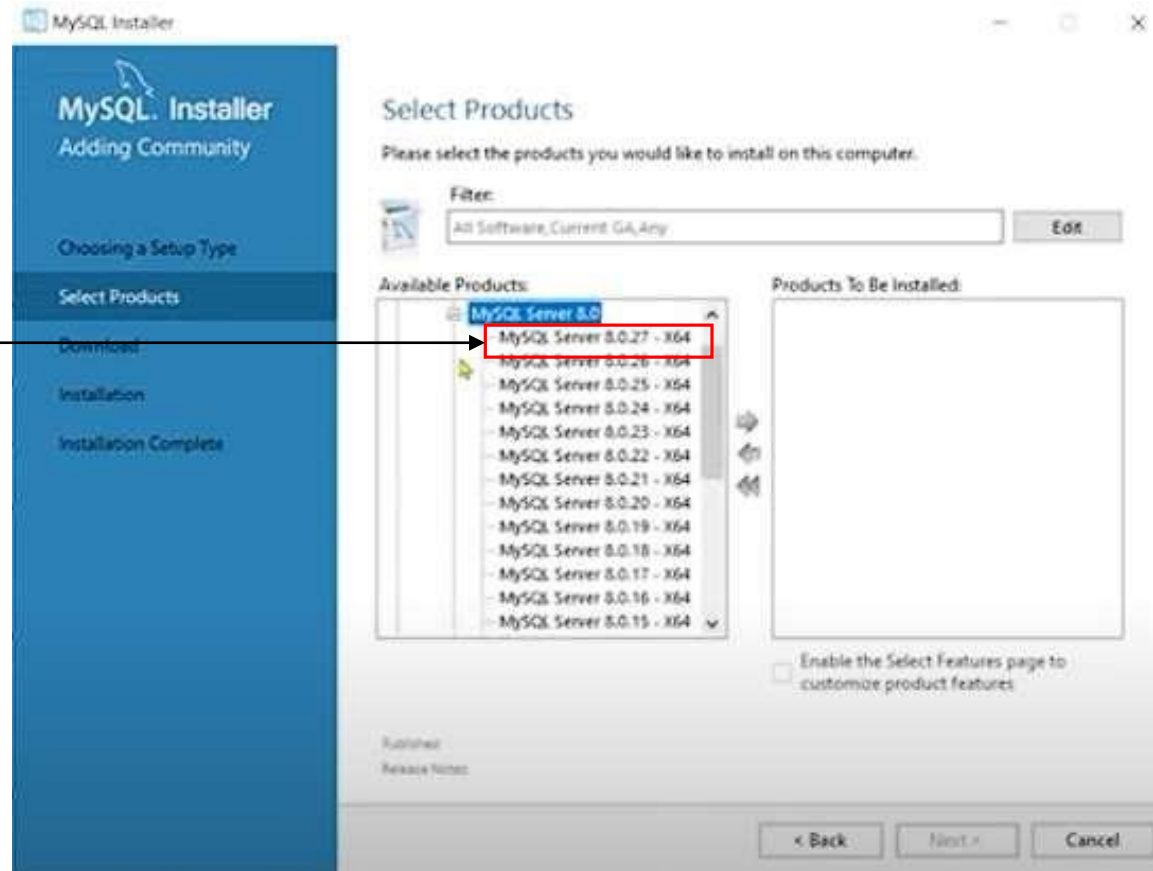
Step 10 : Select latest mySQL server from below

Click Expand
On latest server

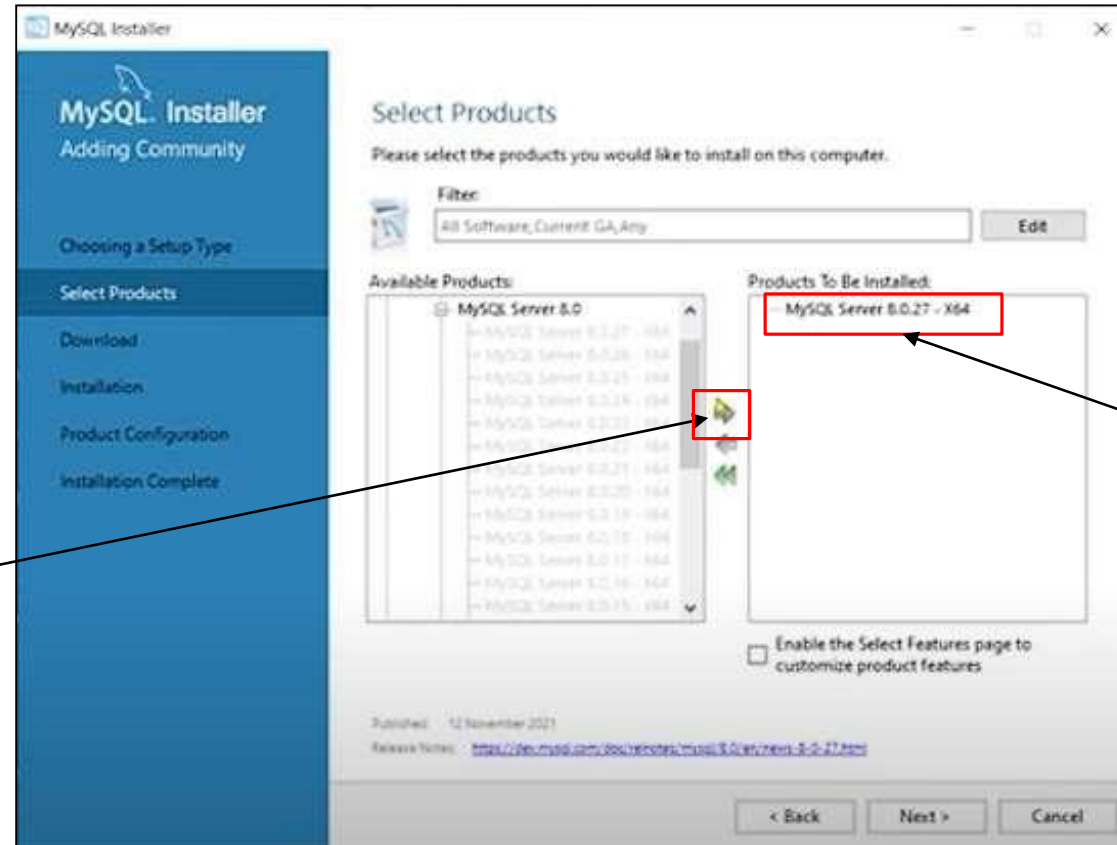


Step 11 : Select latest server in below

mysql Latest
Server selected



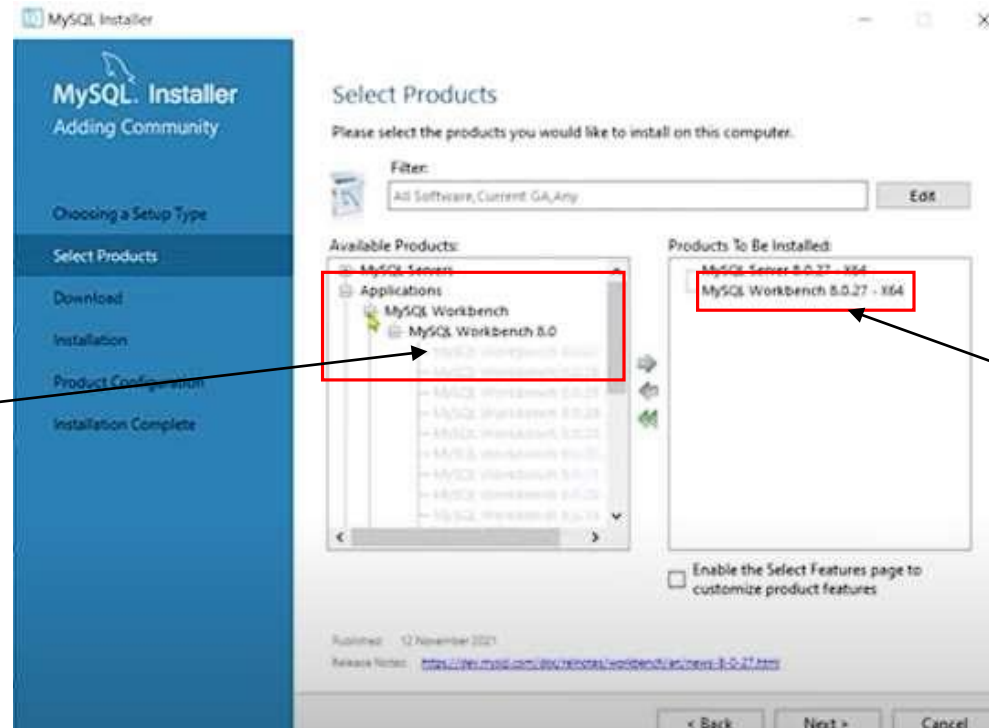
Step 12 : Press green arrow and add the latest server



Click the green Arrow first

mySQL Server should Get added here

Step 13 : Add my SQL Workbench similarly

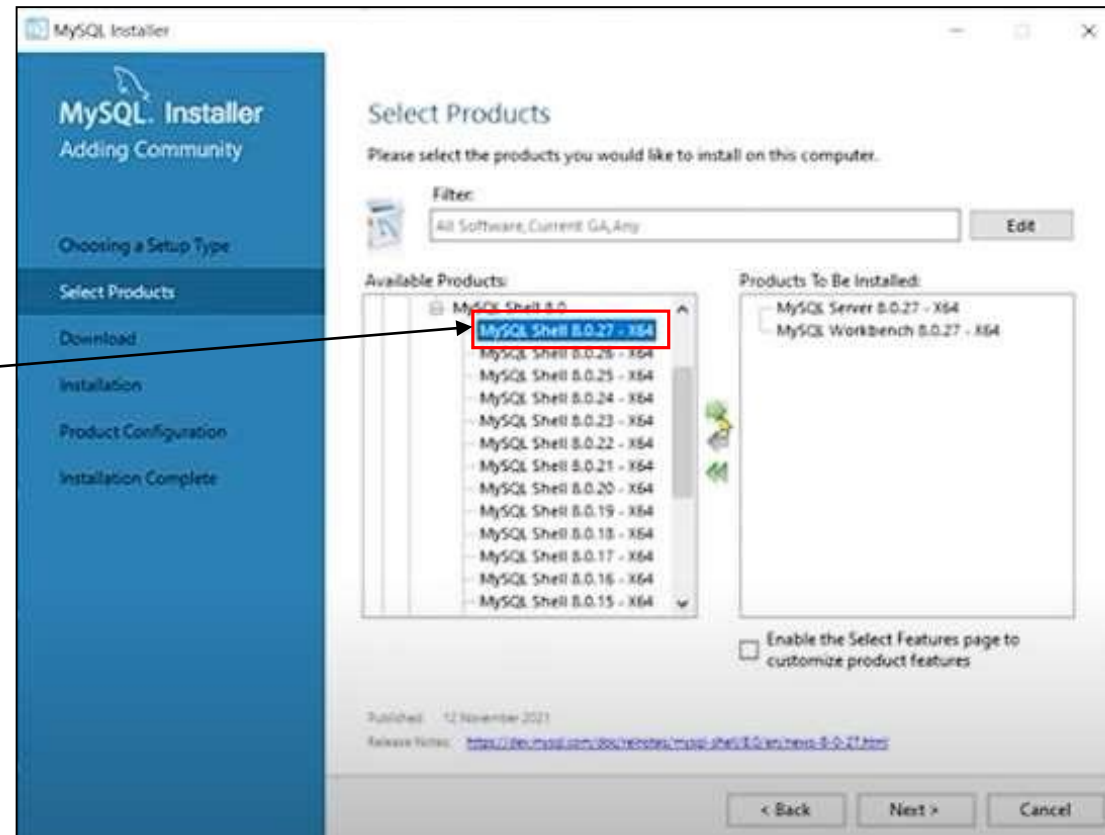


Select Latest
mySQL Workbench and
Add to list

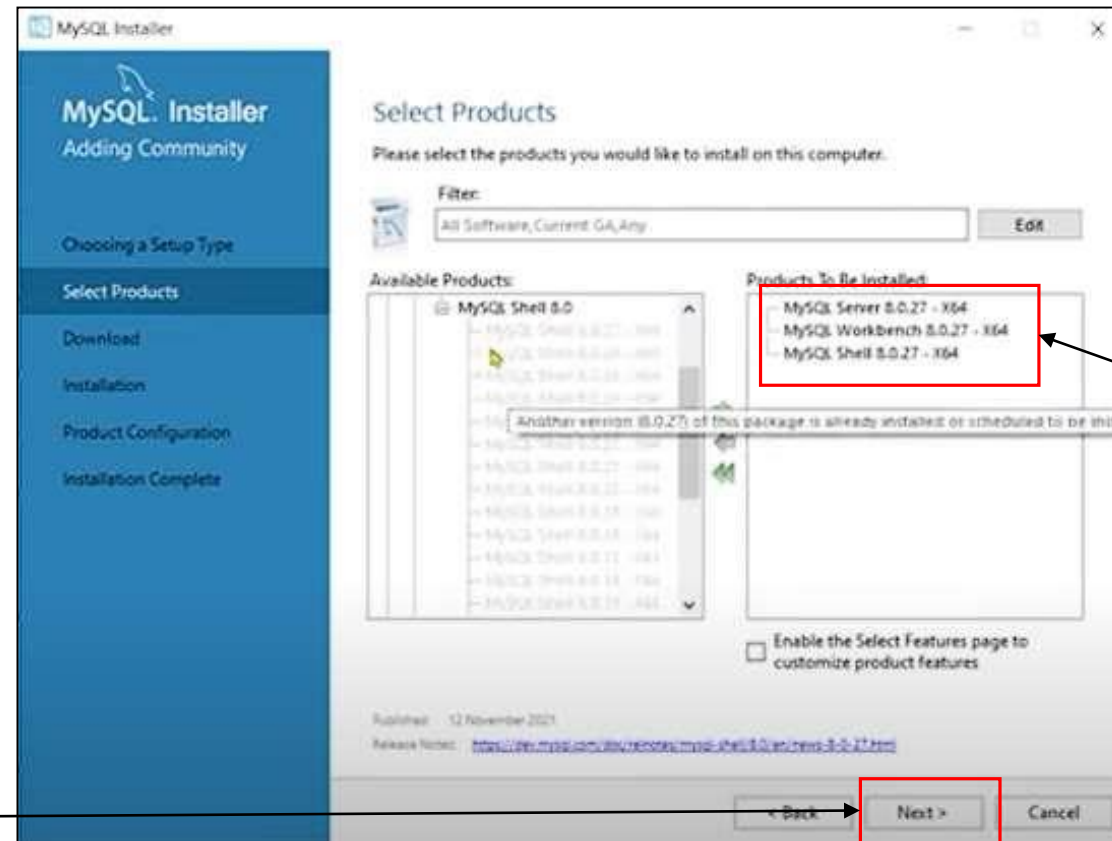
mySQL workbench added here

Step 14: Add mySQL shell in the list

Add MySQL
Shell in list
And press green arrow



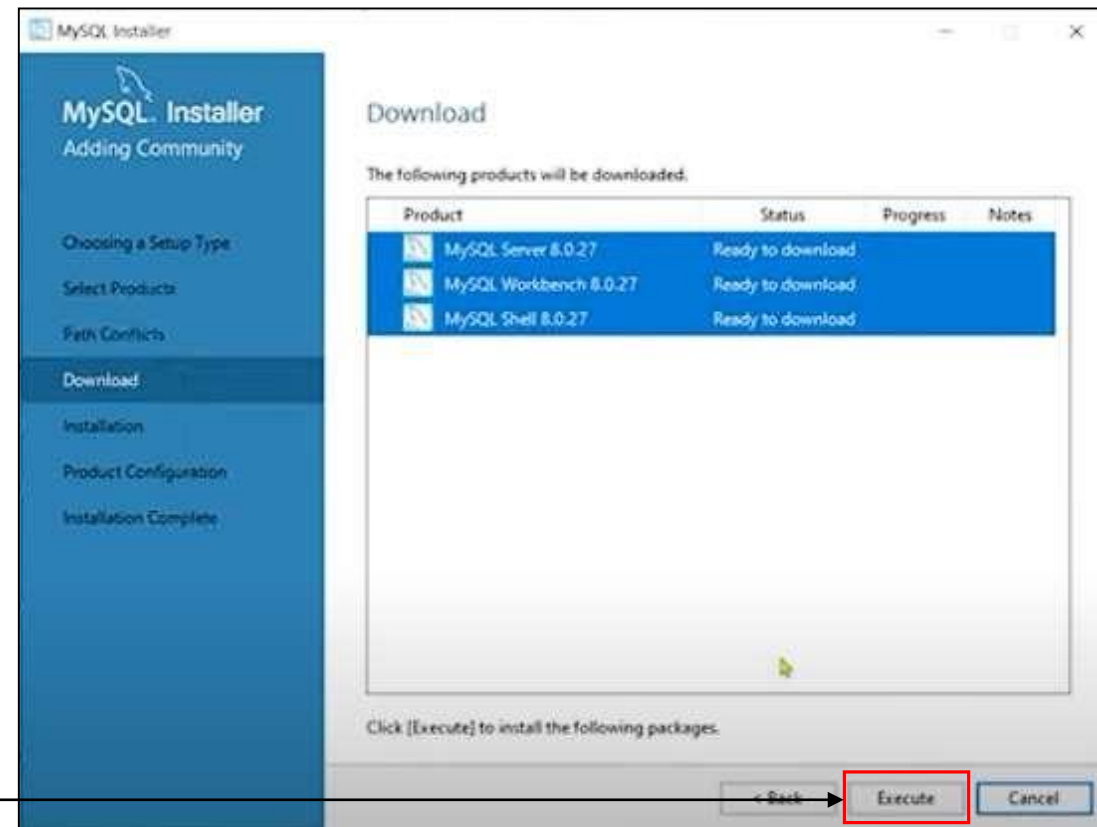
Step 15: Click next



These 3 items should
Now be seen on
Products to be installed

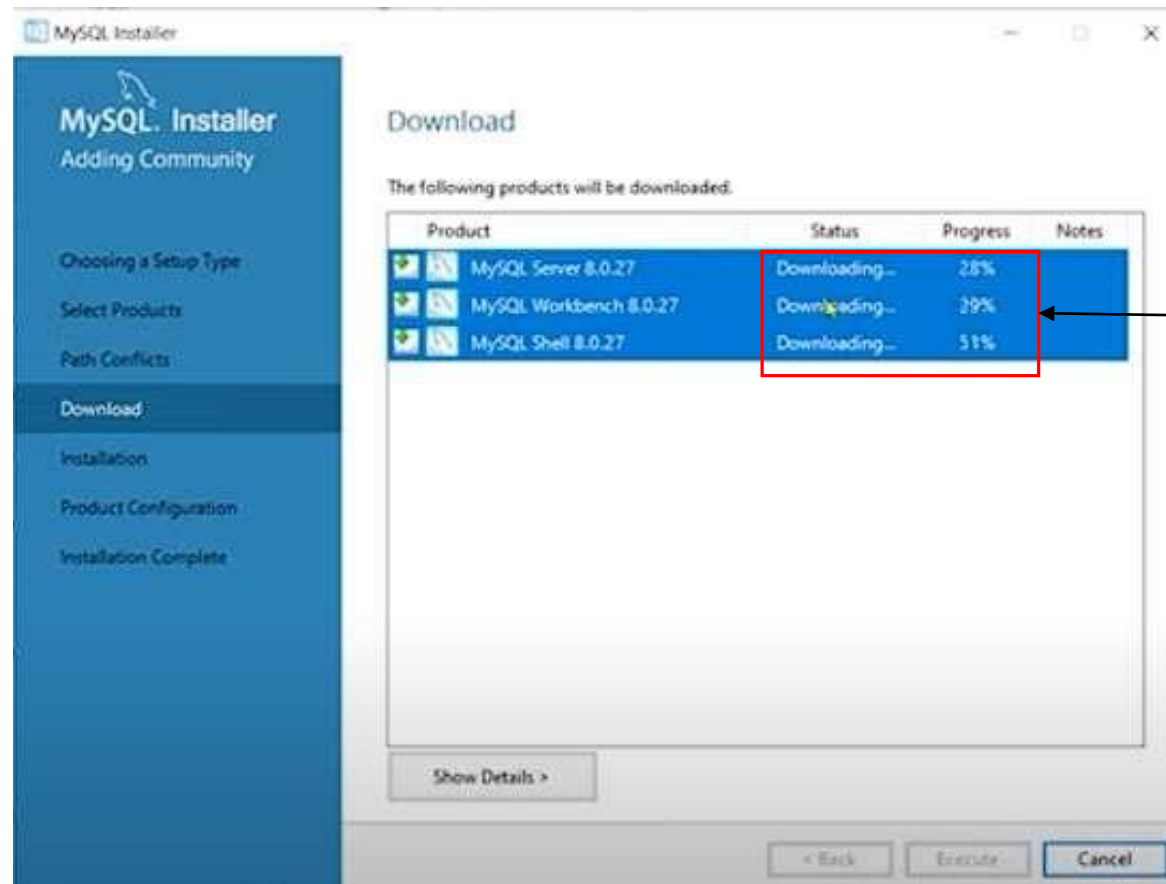
Click Next

Step 16: Below screen will appear click execute



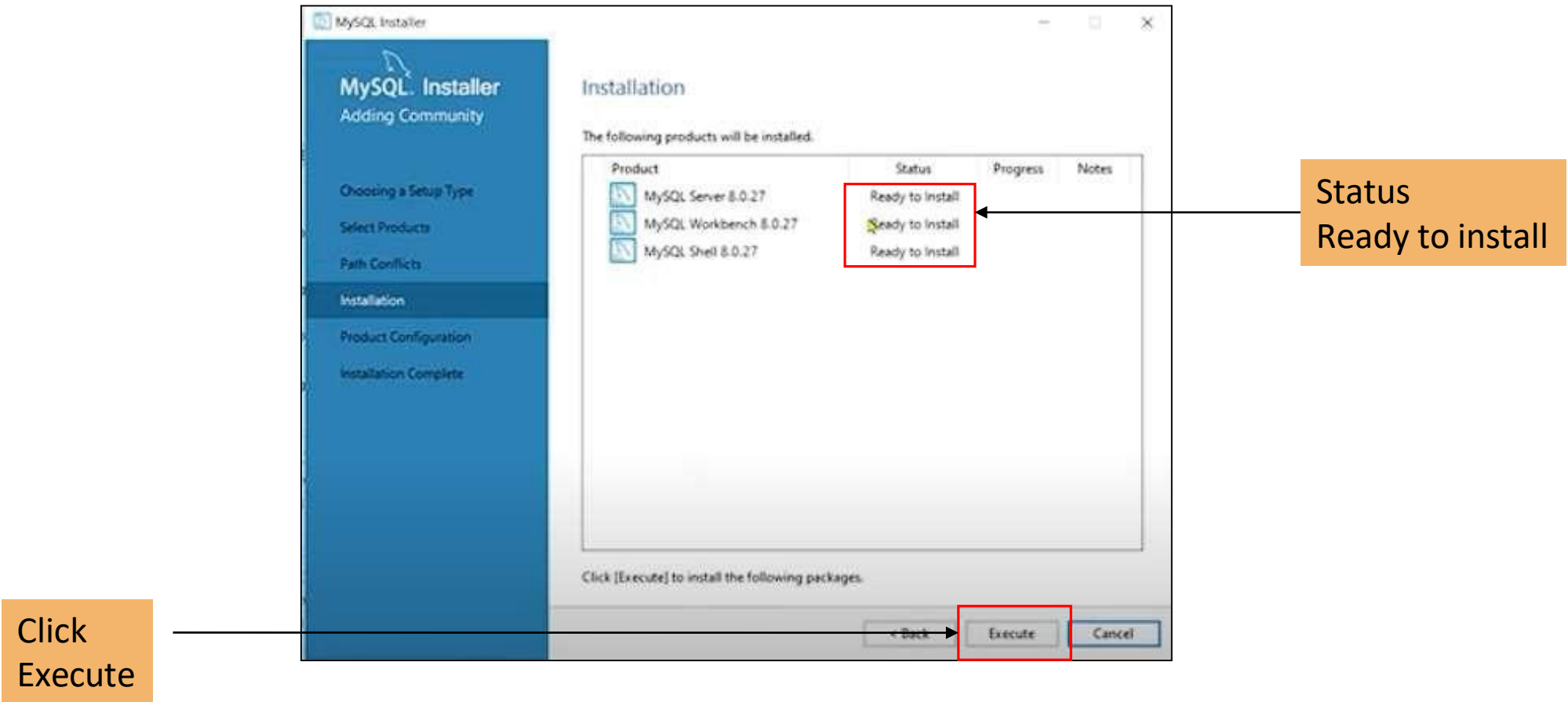
Click Execute

Step 17 : Installer will start downloading

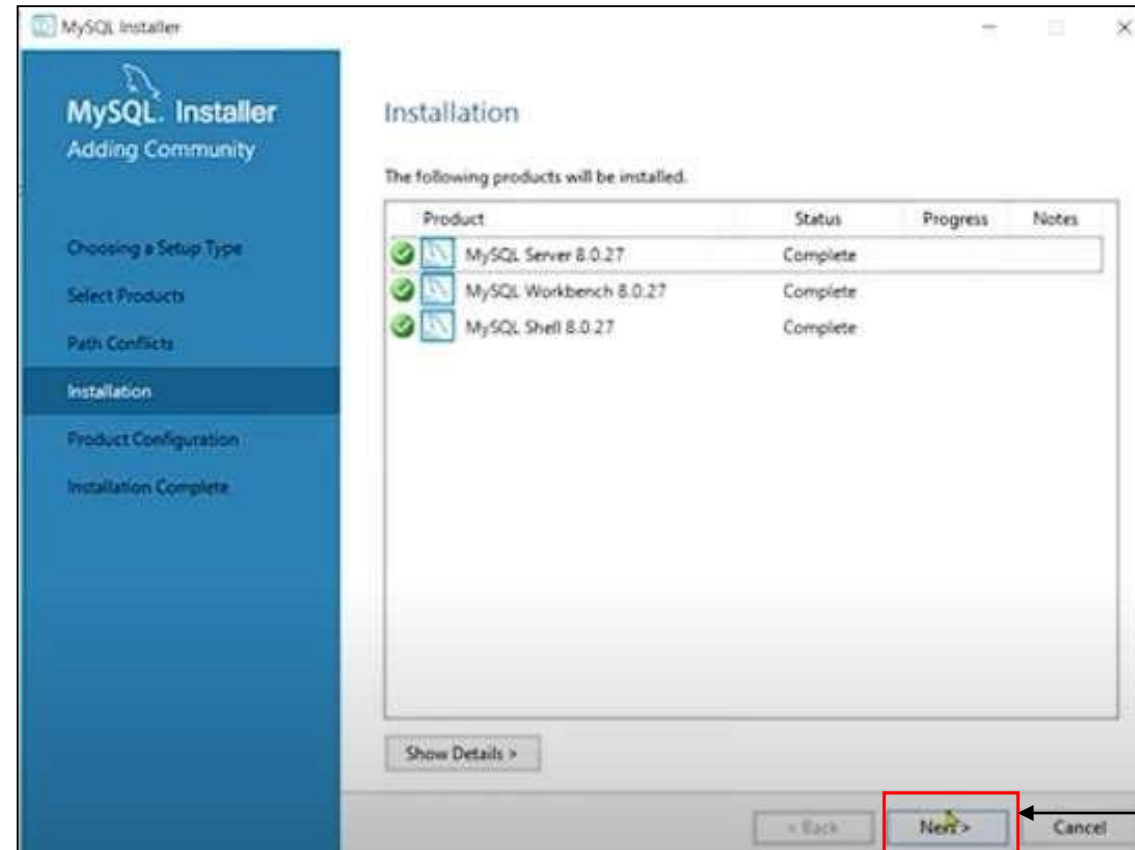


Downloading Started

Step 18 : Once Installing done click execute again

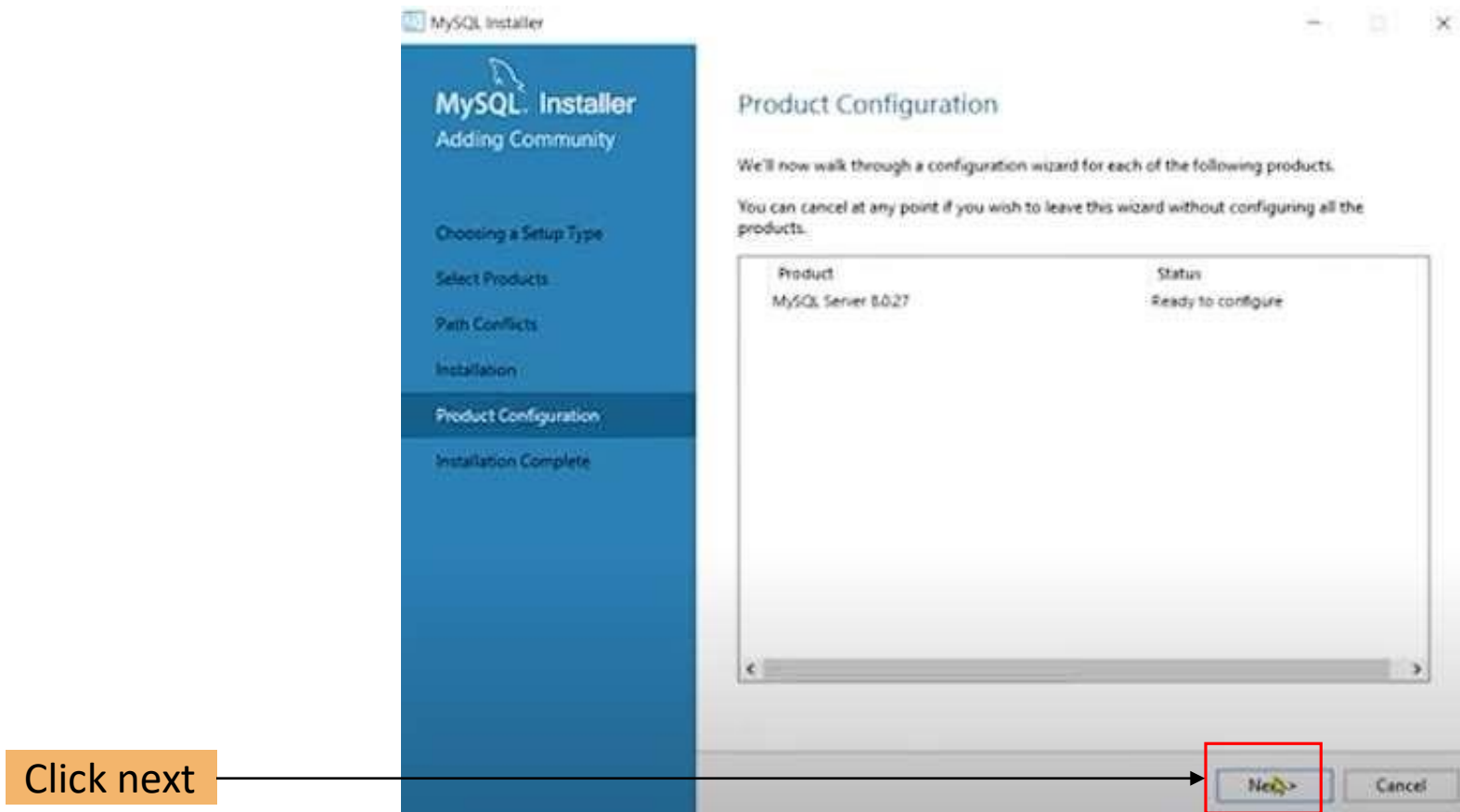


Step 19 : Status is complete click next

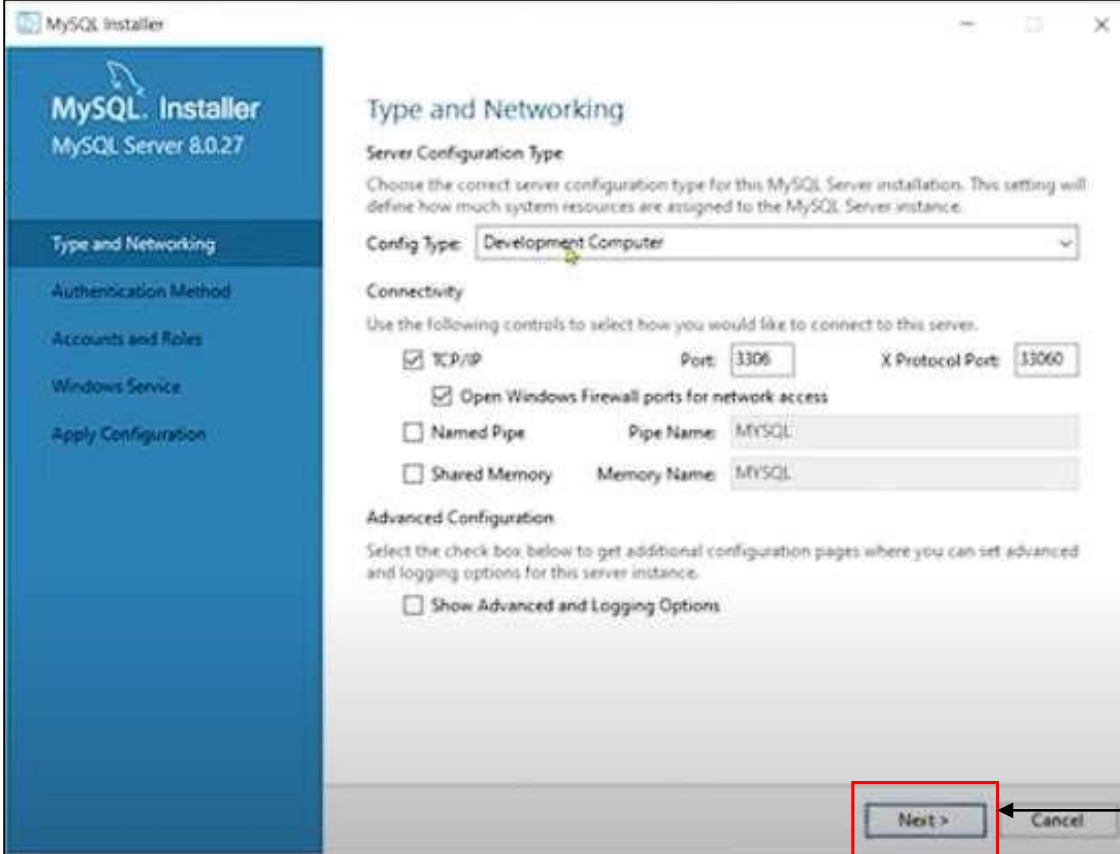


Click next

Step 20 : Product Config Click Next



Step 21 : Type and Networking



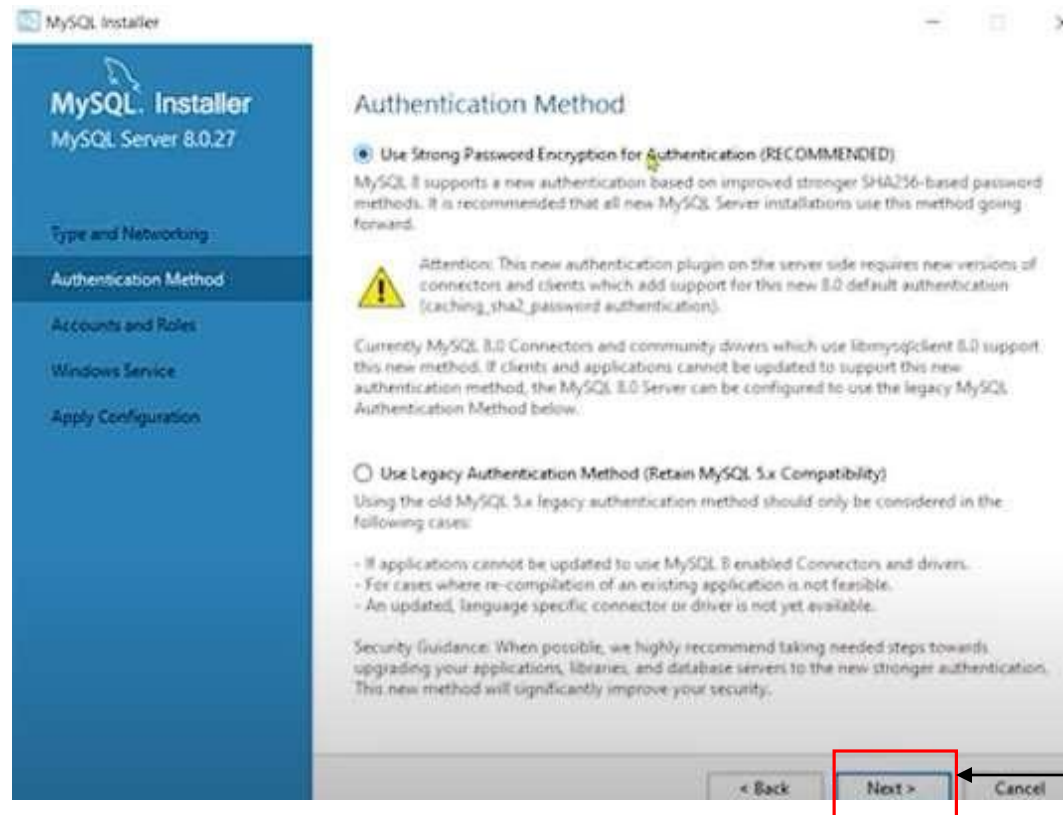
The image shows the 'Type and Networking' configuration window of the MySQL Installer for MySQL Server 8.0.27. The left sidebar contains a list of configuration steps: 'Type and Networking' (selected), 'Authentication Method', 'Accounts and Roles', 'Windows Service', and 'Apply Configuration'. The main area is titled 'Type and Networking' and contains the following sections:

- Server Configuration Type:** A text box with the instruction 'Choose the correct server configuration type for this MySQL Server installation. This setting will define how much system resources are assigned to the MySQL Server instance.' The 'Config Type' dropdown menu is set to 'Development Computer'.
- Connectivity:** A section with the instruction 'Use the following controls to select how you would like to connect to this server.' It includes:
 - ☒ TCP/IP: Port: 3306, X Protocol Port: 33060
 - ☒ Open Windows Firewall ports for network access
 - ☐ Named Pipe: Pipe Name: MYSQL
 - ☐ Shared Memory: Memory Name: MYSQL
- Advanced Configuration:** A section with the instruction 'Select the check box below to get additional configuration pages where you can set advanced and logging options for this server instance.' It includes:
 - ☐ Show Advanced and Logging Options

At the bottom right, there are 'Next >' and 'Cancel' buttons. The 'Next >' button is highlighted with a red rectangle.

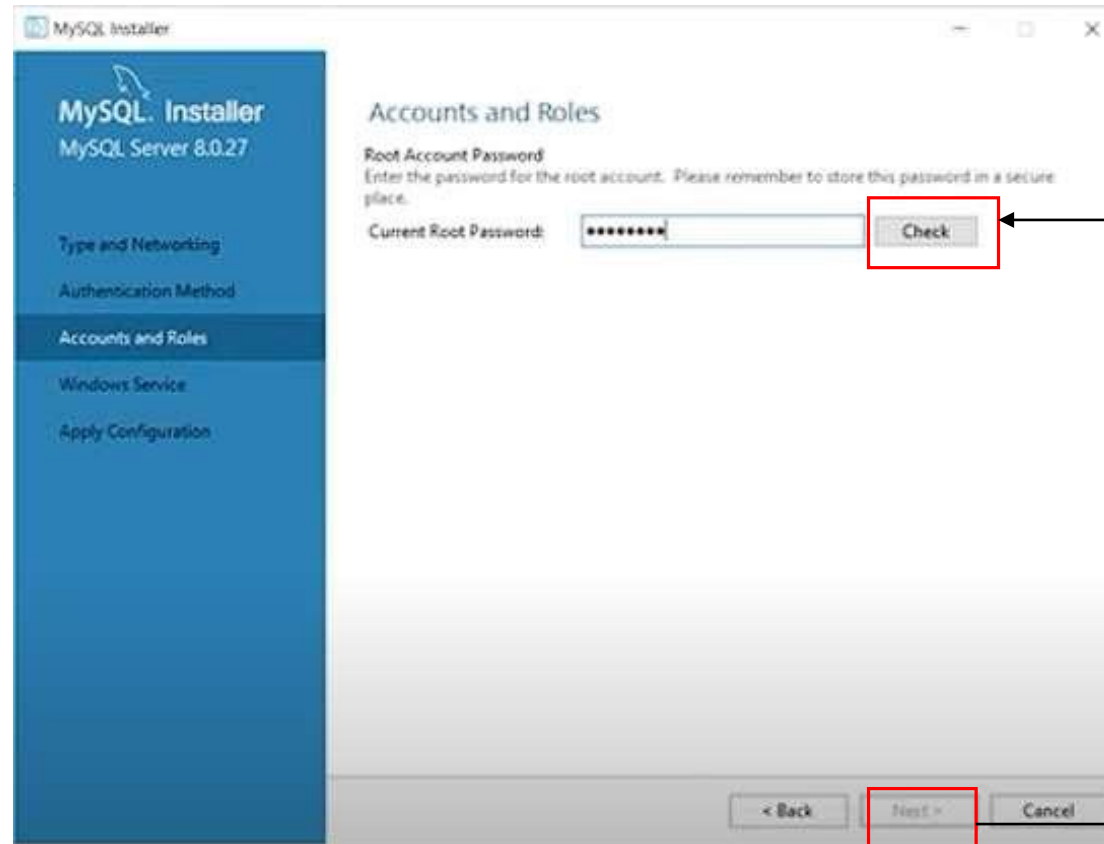
Click next

Step 22 : Use strong authentication



Click next

Step 23 : Give strong password and click check then click next



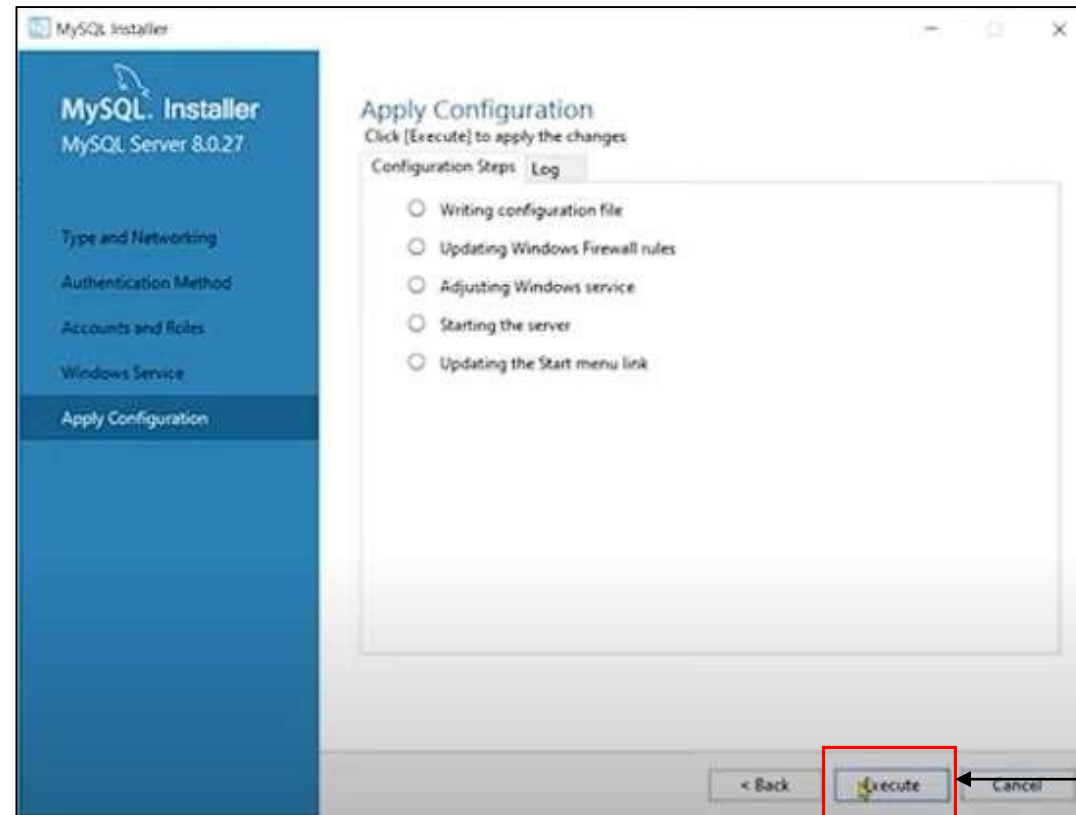
Click Check first

And remember this Password as it is required On every login

Password should be Alphanumeric and contain 1 symbol

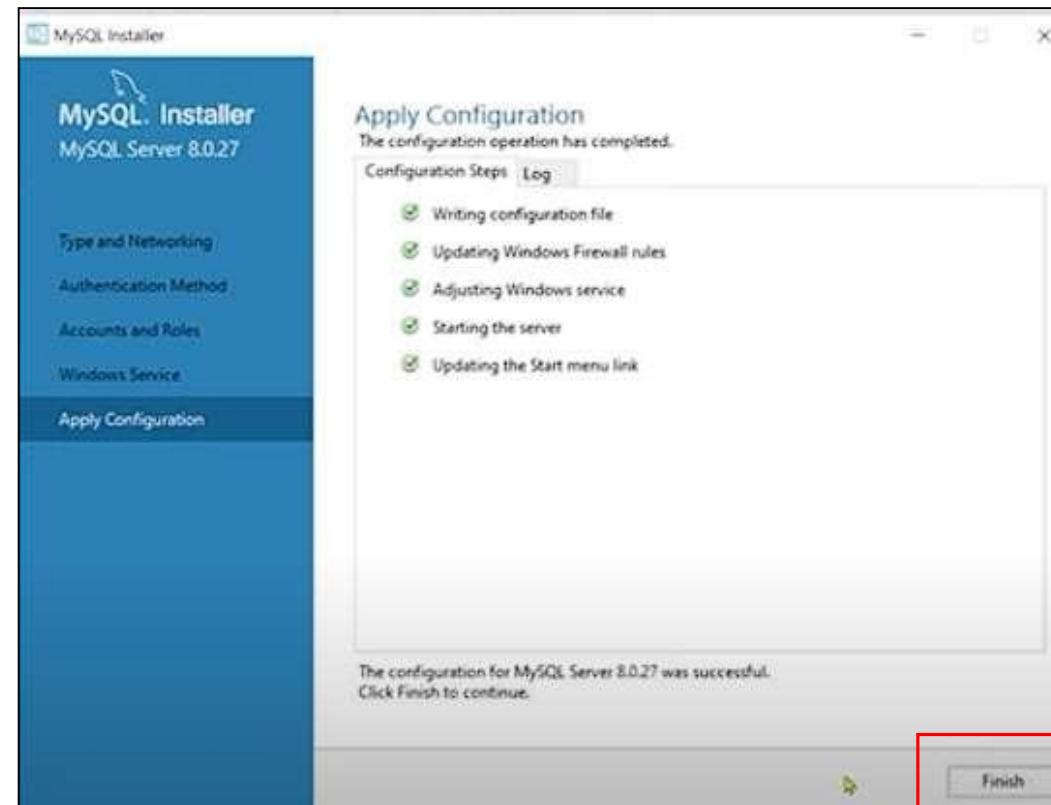
Click next after clicking check

Step 24 : Apply Configuration Click on next



Click Execute

Step 25: Click Finish



Click finish

Final Steps : Click next for everything and complete the installation

Installation for My SQL done

Thank you
