Exp6. Creation of 3 tier application using jsp and database. For conducting online examination.

Softwares Required :

- Tomcat Server (any version)
- Mysql (new version prefered)

Mysql Installation and Setup:

Step1: Installation

**Vist official website to download mysql installer file url :
https://dev.mysql.com/downloads/installer/**

```
Select Version:
8.0.35

Select Operating System:
Microsoft Windows
```

Windows (x86, 32-bit), MSI Installer	8.0.35	2.1M	Download
(mysql-installer-web-community-8.0.35.0.msi)		214df2ccdf83eb5edc6ca7c115792406		MD5: Signature
Windows (x86, 32-bit), MSI Installer	8.0.35	288.6M	Download
(mysql-installer-community-8.0.35.0.msi)		2cfda448a2971b6b5323775ef9e8d012		MD5: Signature
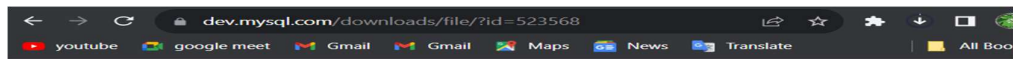
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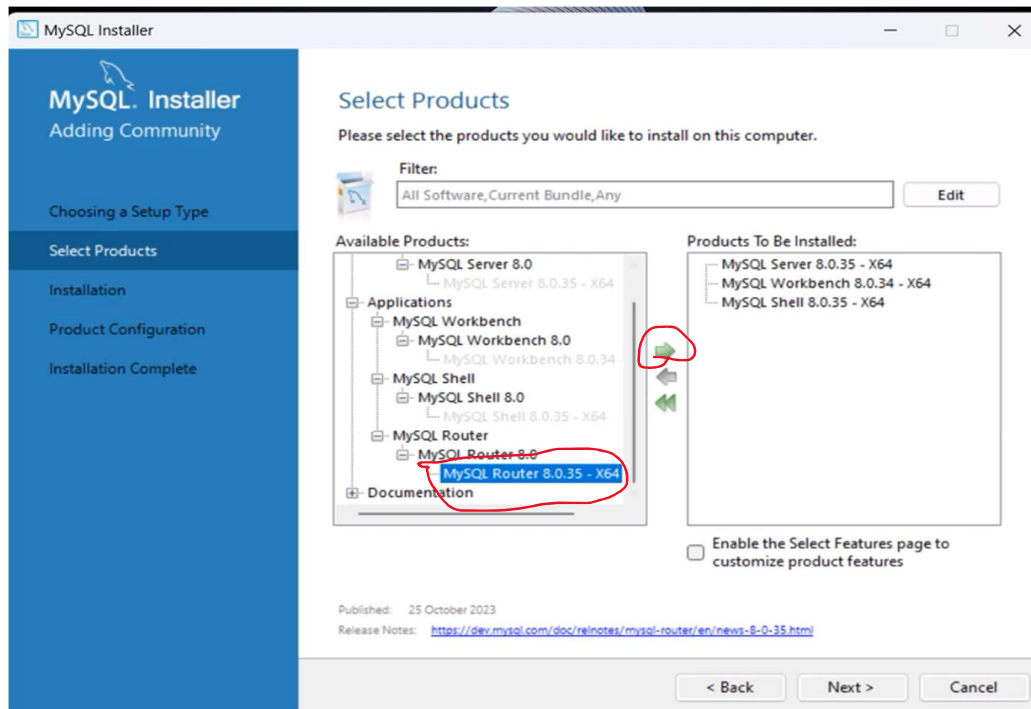
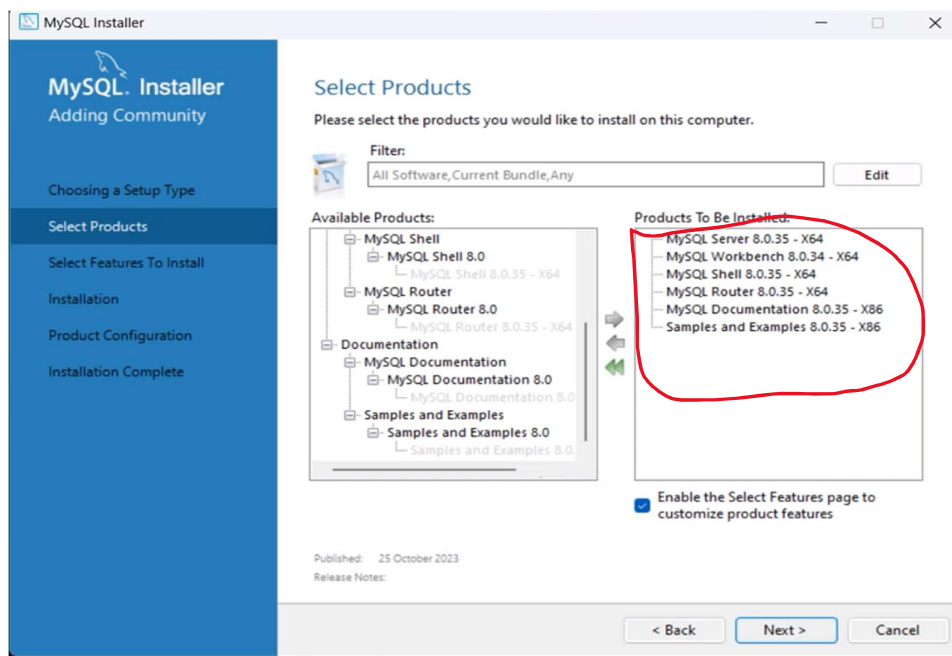No thanks, just start my download.

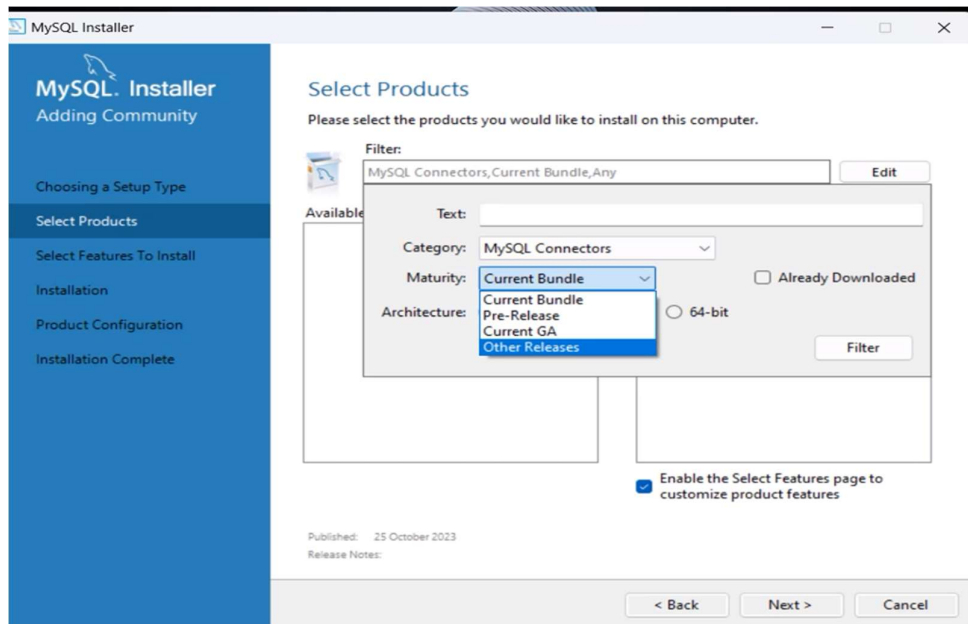Step2: Double click the mysql installer. To install follow the following steps.
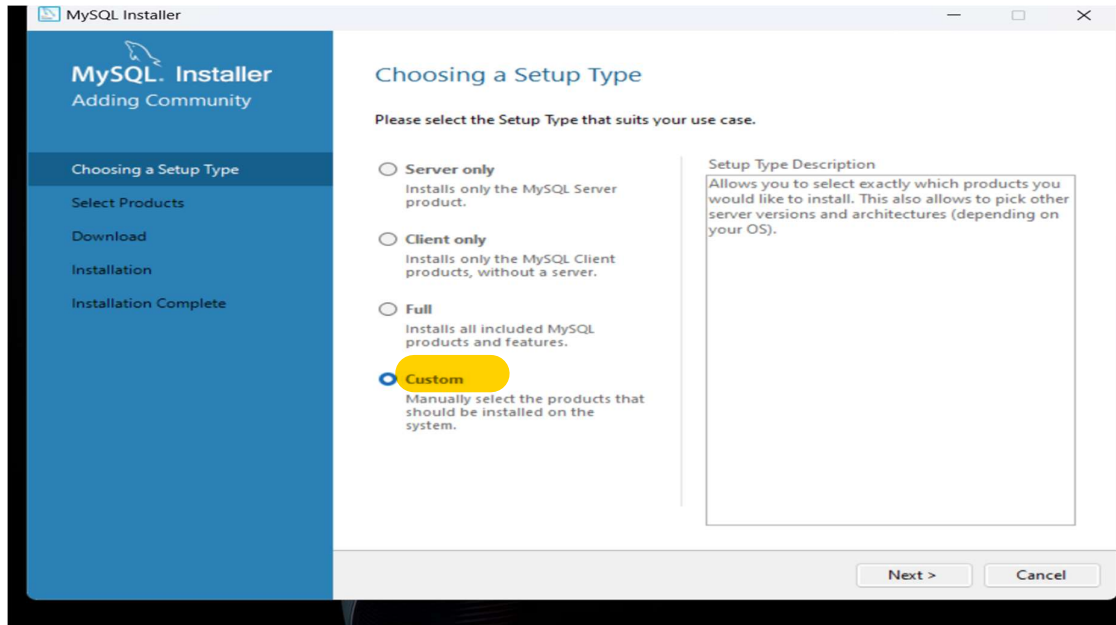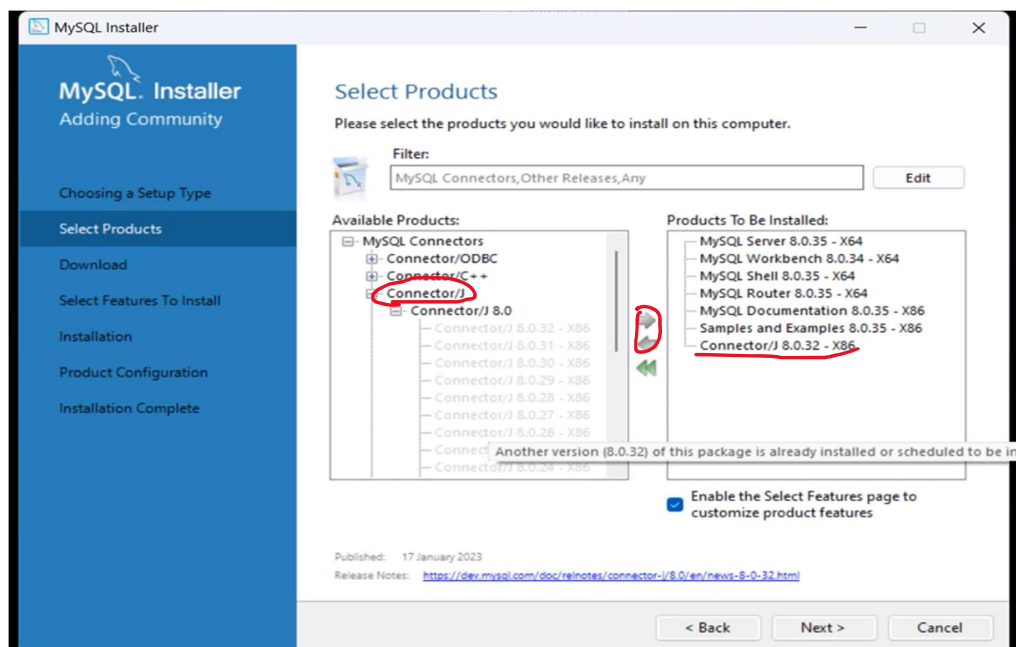

Click on custom install.
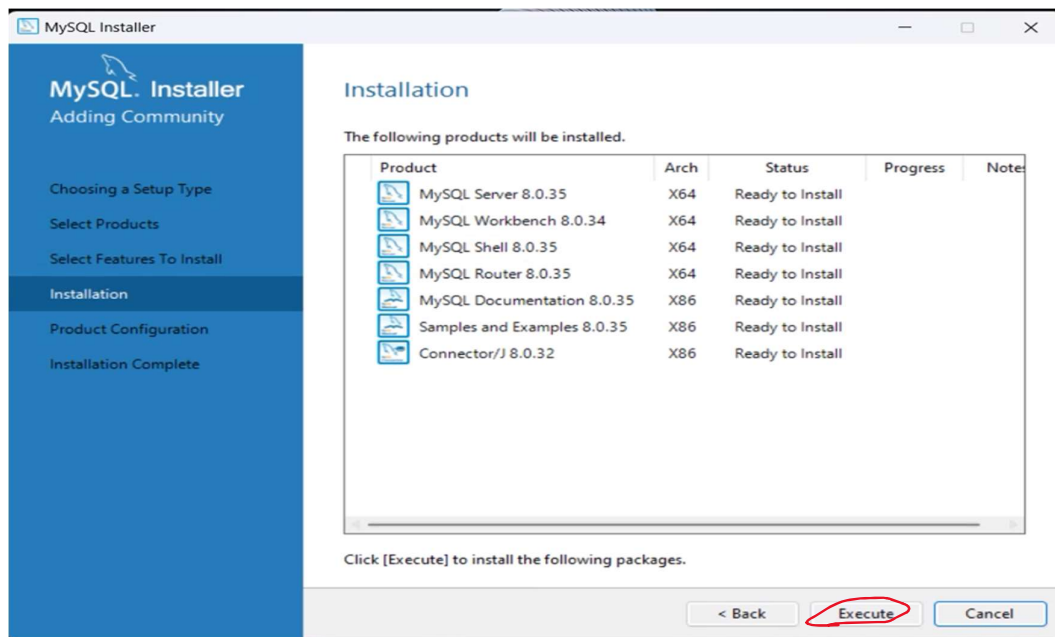
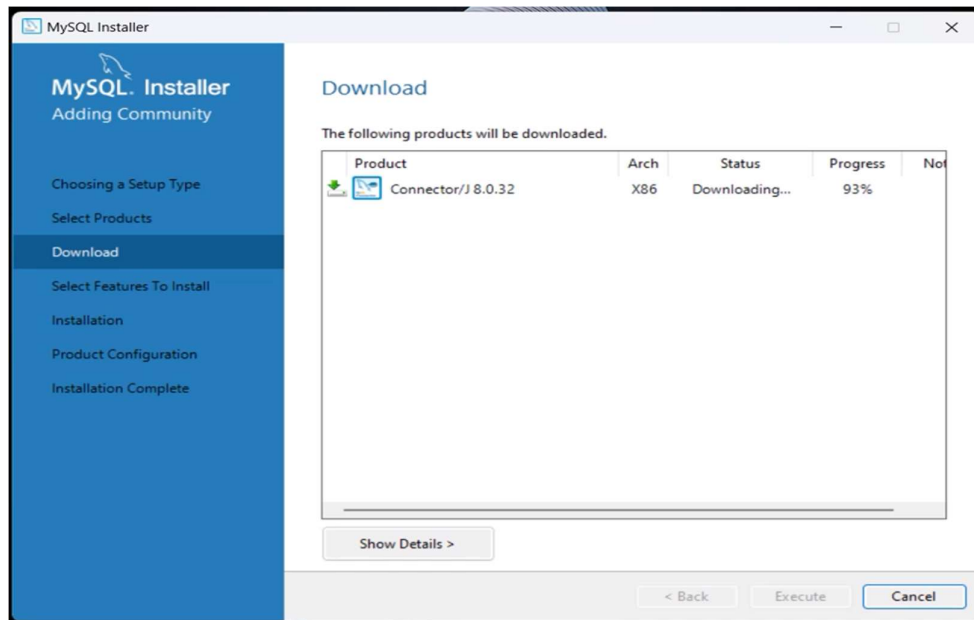Select products and push them to install section.

Add all the required products to the install section.
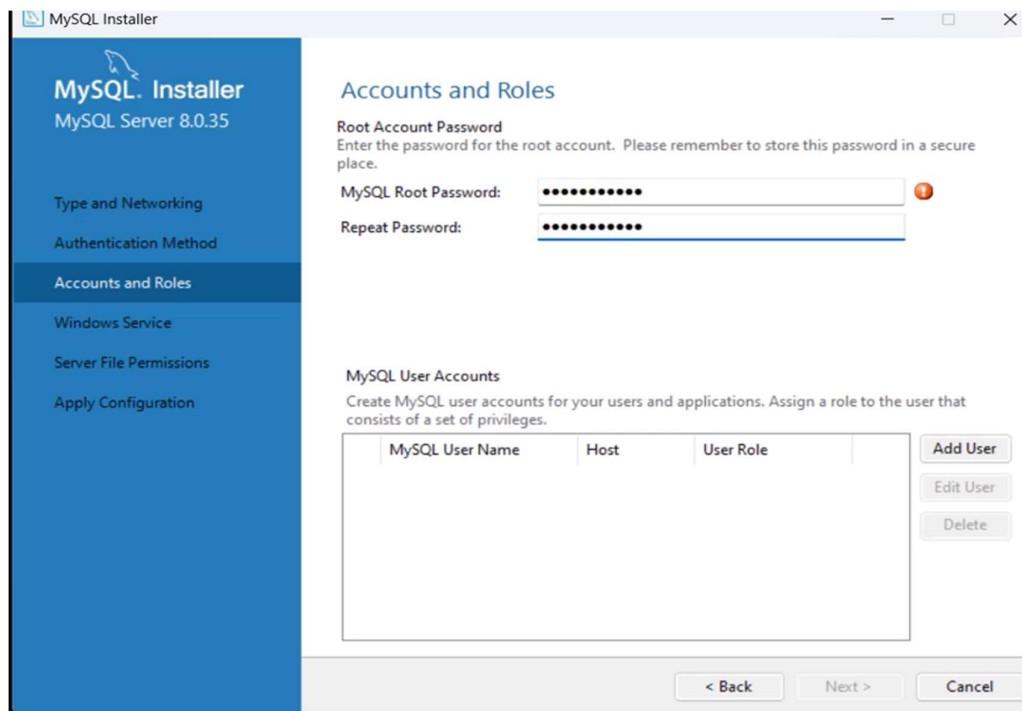
To install mysql connector **goto Filter>category (Mysql connector)> Maturity (Other Release).**
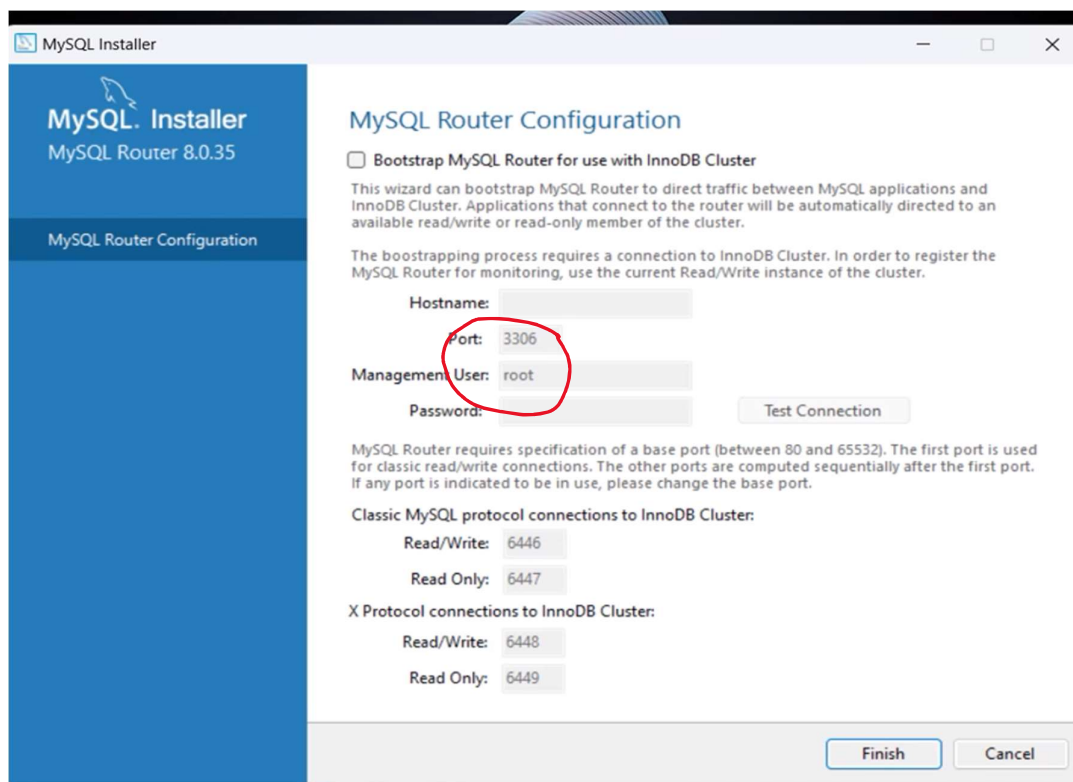

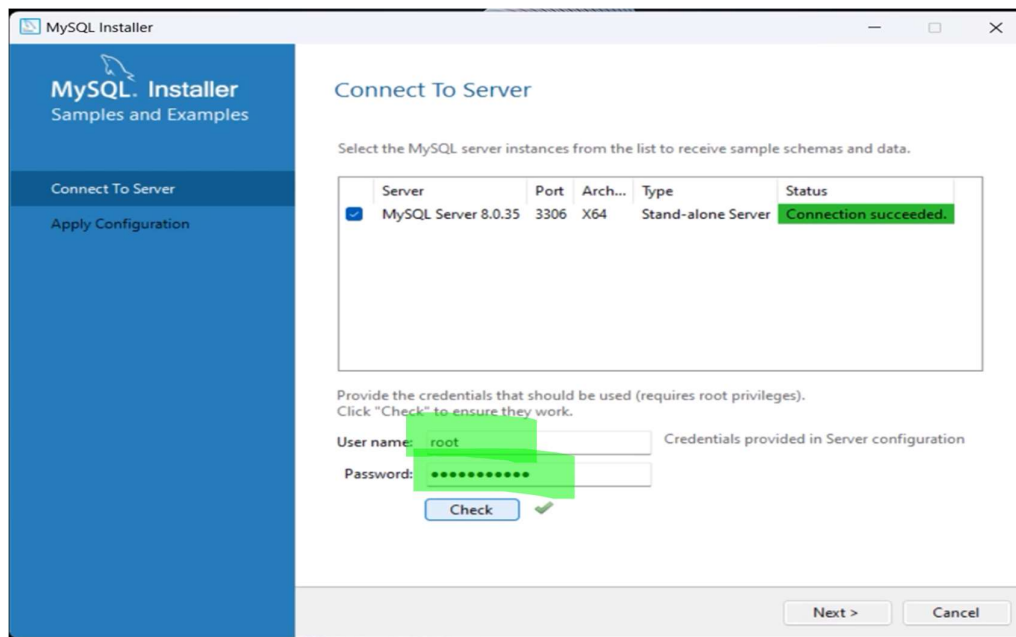Select Connector/J package and push to the install section.
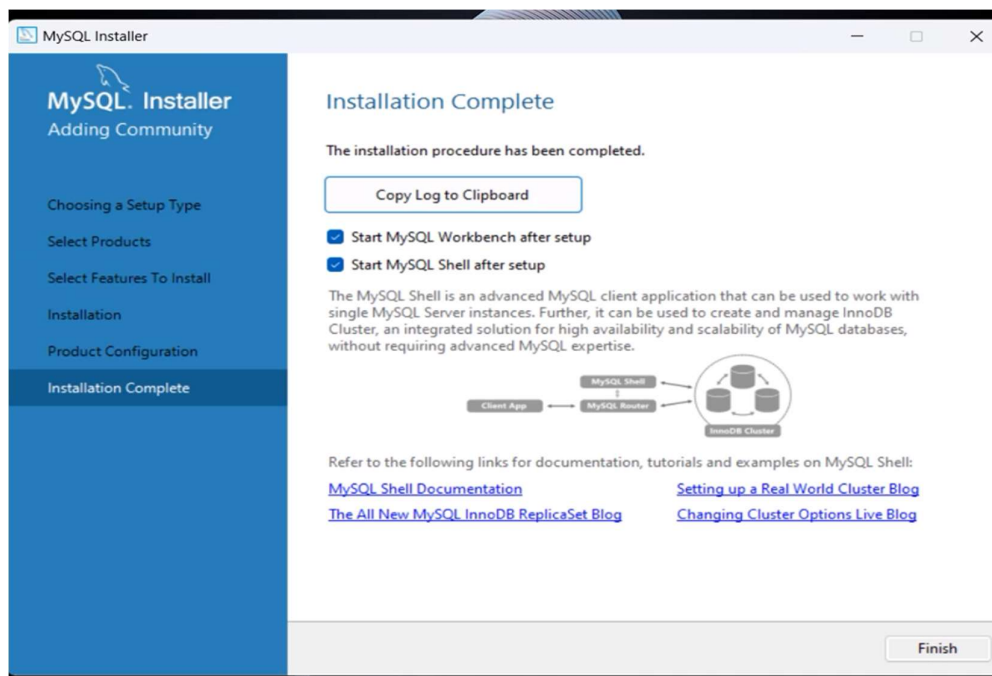
Click execute to install

Setup a password for your root user (Remember the password).

Note the port number before clicking finish.

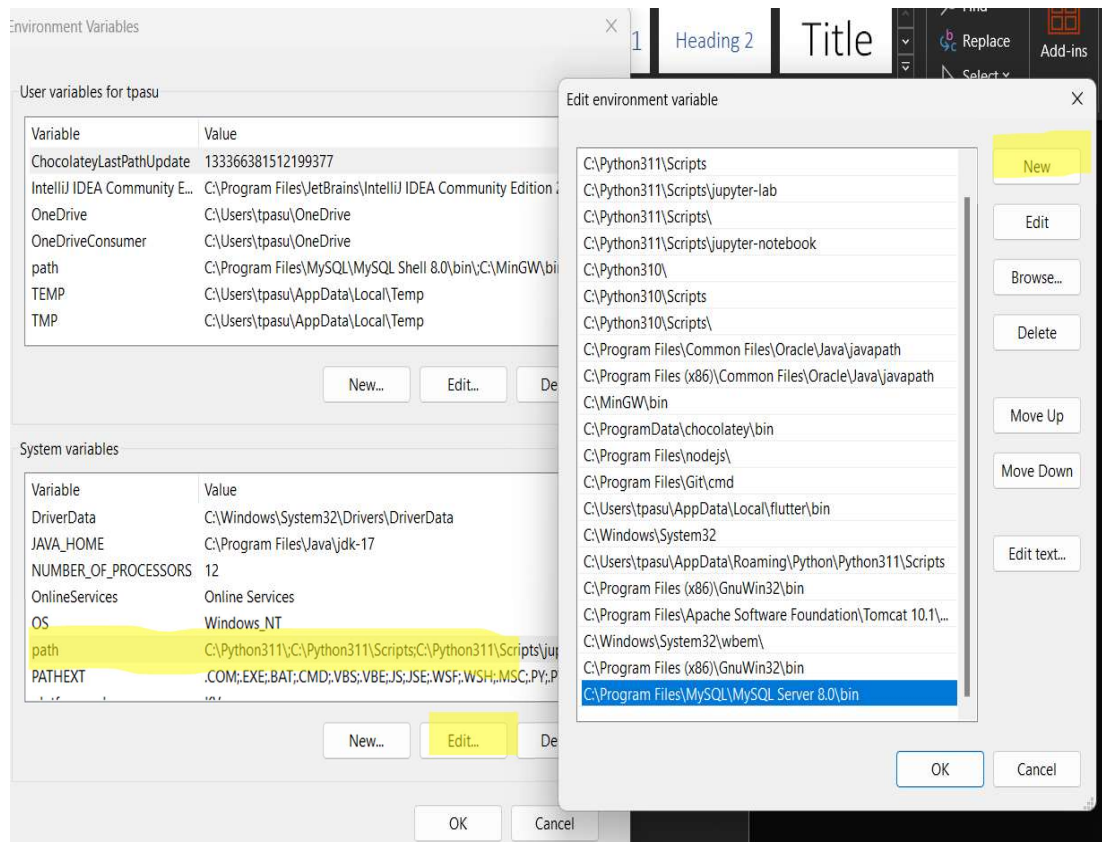Type your password and click check. Then click next.

Click finish and check weather the mysql works.

Step2: Setup environiment variable.

Copy the bin folder path of the mysql server.

Eg: C:\Program Files\MySQL\MySQL Server 8.0\bin

Paste the link in the environiment variable named path.

To check the installation open cmd and type the following command.

mysql –version

Step3: Creating database and table in mysql.

Connect to mysql.

>mysql -u root -p

Hit enter and type your password used during installation.

```
C:\Users\tpasu>mysql -u root -p
Enter password: ***********
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 25
Server version: 8.0.35 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.
```

Create database:

>create database examDB;

```
mysql> create database examDB;
Query OK, 1 row affected (0.01 sec)
```

Move to the created database:

>use examDB;

```
mysql> use examDB;
Database changed
```

Create table named examTAB:

\>create table examTAB(answer VARCHAR(50));

```
mysql> create table examTAB(
    -> answer VARCHAR(50)
    -> );
Query OK, 0 rows affected (0.02 sec)

mysql> show tables;
+-------------------+
| Tables_in_examdb  |
+-------------------+
| examtab           |
+-------------------+
1 row in set (0.00 sec)
```

Insert values to table:

\>insert into examTAB (answer) values("Operating System");

```
mysql> insert into examTAB (answer) values("Operating System");
Query OK, 1 row affected (0.01 sec)

mysql> insert into examTAB (answer) values("Personal Computer");
Query OK, 1 row affected (0.00 sec)

mysql> insert into examTAB (answer) values("Dennis Ritchie");
Query OK, 1 row affected (0.01 sec)

mysql> select * from examTAB;
+-------------------+
| answer            |
+-------------------+
| Operating System  |
| Personal Computer |
| Dennis Ritchie    |
+-------------------+
3 rows in set (0.00 sec)

mysql>
```
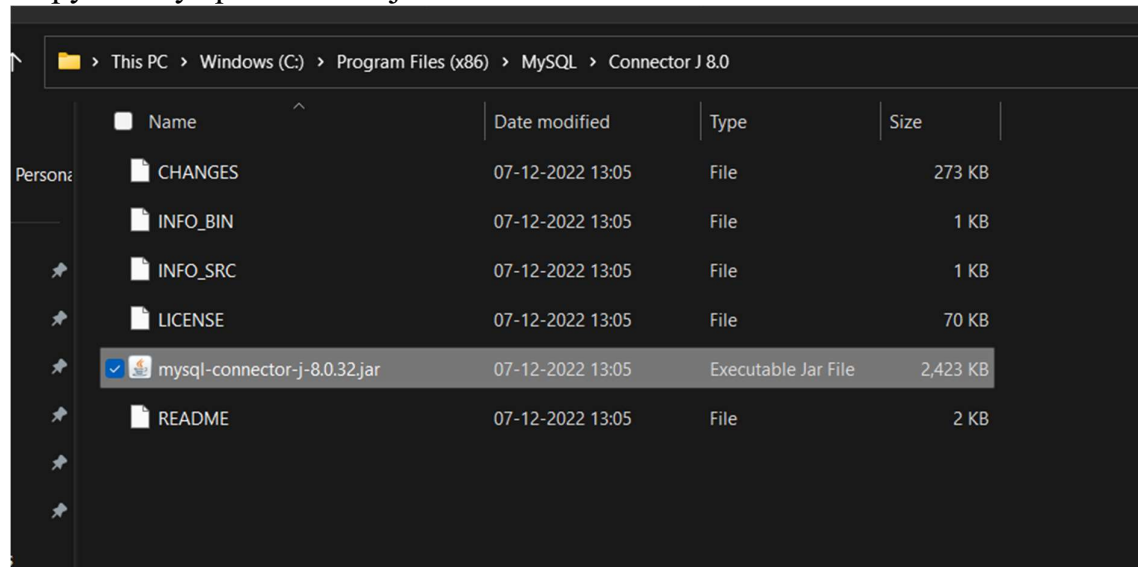
Setup tomcat for JDBC connector for Mysql:

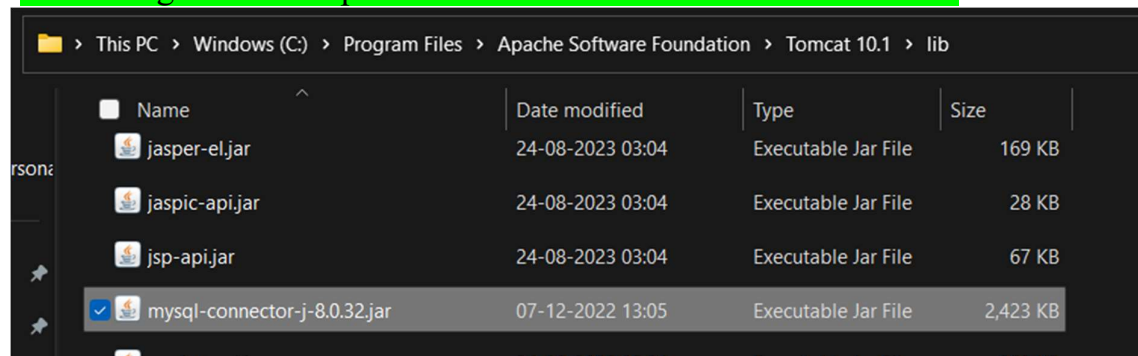- Navigate to MySql connector folder
  - ➢ C:\Program Files (x86)\MySQL\Connector J 8.0

  Copy the mysql-connector jar file.

- Paste the jar file in the tomcat LIB folder
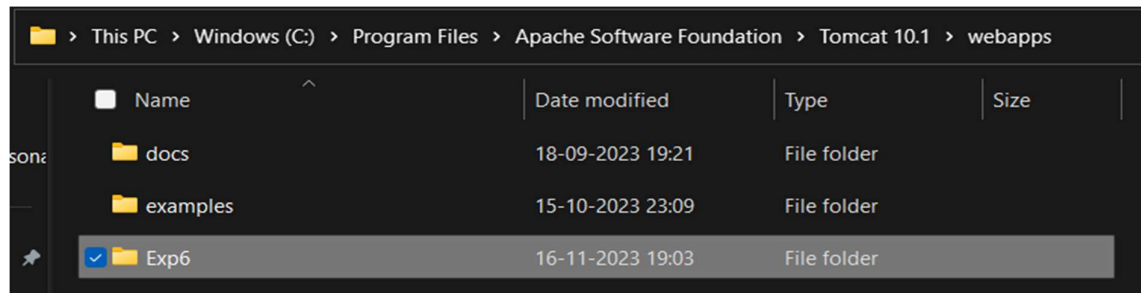 - ➢ C:\Program Files\Apache Software Foundation\Tomcat 10.1\lib
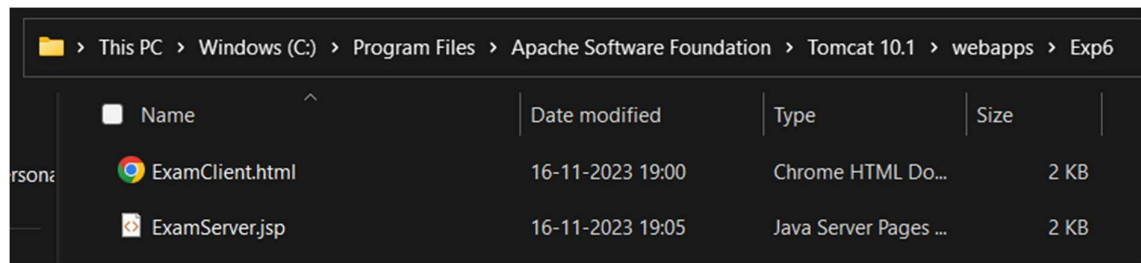

Running the Program:

- Goto Tomcat installation folder and navigate to the webapps forlder
  - ➢ C:\Program Files\Apache Software Foundation\Tomcat 10.1\webapps

- Create a new folder of your preferred name (in my case Exp6).

- Inside Exp6 folder create two files named: ExamClient.html and ExamServer.jsp.

- Type the program
  ExamClient.html:

```html
<html>
<head>
<title>Online Exam Client</title>
<style type="text/css">
body{
background-color:orange;
font-family:courier;
color:blue}
</style>
</head>
<body>
<h2 style="text-align:center">ONLINE EXAMINATION</h2>
<h3>Answer the following questions (5 marks for each correct
answer)</h3>
<hr/>
<form name="examForm" method="post" action="ExamServer.jsp">
1. All computers must have <br/>
```

```html
<input type="radio" name="ans1" value="Operating System">Operating
System
<input type="radio" name="ans1" value="Application
Software">Application Software
<input type="radio" name="ans1" value="CD Drive">CD Drive
<input type="radio" name="ans1" value="Microsoft word">Microsoft
word
<br/><br/>
2. The term PC means <br/>
<input type="radio" name="ans2" value="Private Computer">Private
Computer
<input type="radio" name="ans2" value="Professional
Computer">Professional Computer
<input type="radio" name="ans2" value="Personal Computer">Personal
Computer
<input type="radio" name="ans2" value="Personal Calculator">Personal
Calculator
<br/><br/>
3.C was developed by?<br/>
<input type="radio" name="ans3" value="Dennis Ritchie">Dennis
Ritchie
<input type="radio" name="ans3" value="Stroustrup">Stroustrup
<input type="radio" name="ans3" value="David Ritchie">David Ritchie
<input type="radio" name="ans3" value="Charles Babbage">Charles
Babbage
<br/><br/>
<input type="submit" value="Check Your Result"/>
</form>
</body>
</html>
```

- Type the jsp program
  ExamServer.jsp:

```jsp
<%@page contentType="text/html" language="java"
import="java.sql.*"%>
<html>
<head>
<title>Online Exam Server</title>
<style type="text/css">
```

```
body{background-color:black;font-family:courier;color:blue}
</style>
</head>
<body>
<h2 style="text-align:center">ONLINE EXAMINATION</h2>
<p>
<a href="ExamClient.html">Back To Main Page</a>
</p>
<hr/>
<%
String str1=request.getParameter("ans1");
String str2=request.getParameter("ans2");
String str3=request.getParameter("ans3");
int mark=0;
Class.forName("com.mysql.cj.jdbc.Driver");
Connection
con=DriverManager.getConnection("jdbc:mysql://localhost:3306/examD
B","root","your-mysql-password");
Statement stmt=con.createStatement();
ResultSet rs=stmt.executeQuery("SELECT * FROM examTab");
int i=1;
while(rs.next())
{
if(i==1)
{
String dbans1=rs.getString(1);
if(str1.equals(dbans1))
{
mark=mark+5;
}
}
if(i==2)
{
String dbans2=rs.getString(1);
if(str2.equals(dbans2))
{
mark=mark+5;
}
}
if(i==3)
```
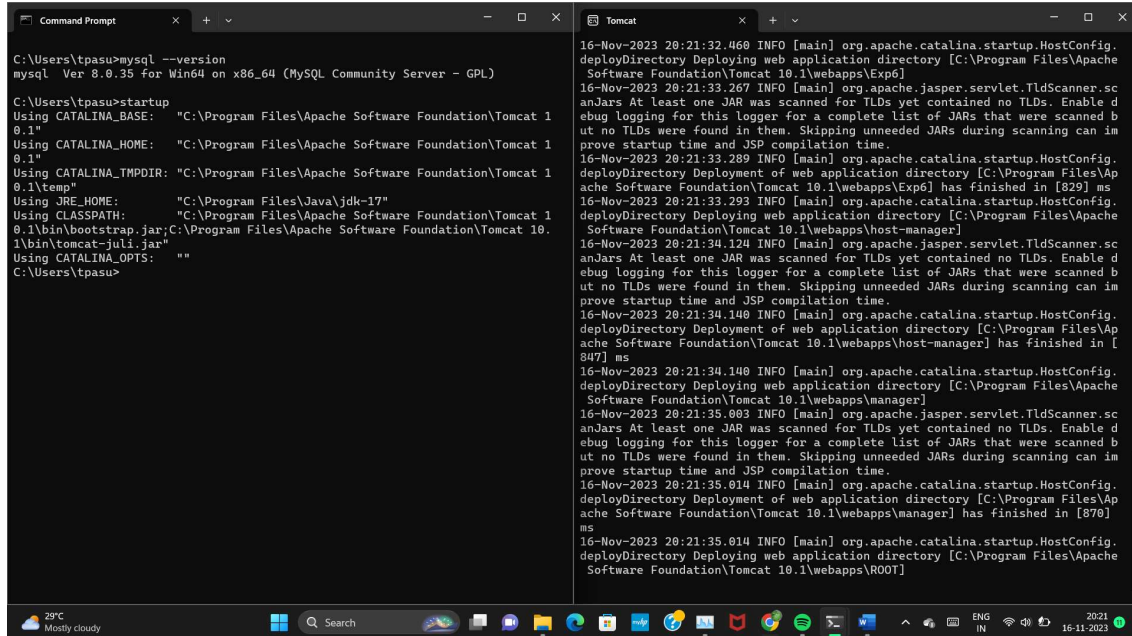
```
{
String dbans3=rs.getString(1);
if(str3.equals(dbans3))
{
mark=mark+5;
}
}
i++;
}
if(mark>=10)
{
out.println("<h4>Your Mark Is : "+mark+"</h4>");
out.println("<h3>Congratulations....! You Are Eligible For The Next
Round...</h3>");
}
else
{
out.println("<h4>Your Mark is : "+mark+"</h4>");
out.println("<h3>Sorry....!! You Are Not Eligible For The Next
Round...</h3>");
}
%>
</form>
</body>
</html>
```

To execute the program

1. Start the tomcat server
   Open cmd > type startup

2. Open browser and type
   > localhost:8080/Exp6/ExamClient.html

ONLINE EXAMINATION

Answer the following questions (5 marks for each correct answer)

1. All computers must have
   ○ Operating System ● Application Software ○ CD Drive ○ Microsoft word

2. The term PC means
   ○ Private Computer ● Professional Computer ○ Personal Computer ○ Personal Calculator

3.C was developed by?
   ● Dennis Ritchie ○ Stroustrup ○ David Ritchie ○ Charles Babbage

Check Your Result

ONLINE EXAMINATION

Back To Main Page

Your Mark is : 5

Sorry....!! You Are Not Eligible For The Next Round...