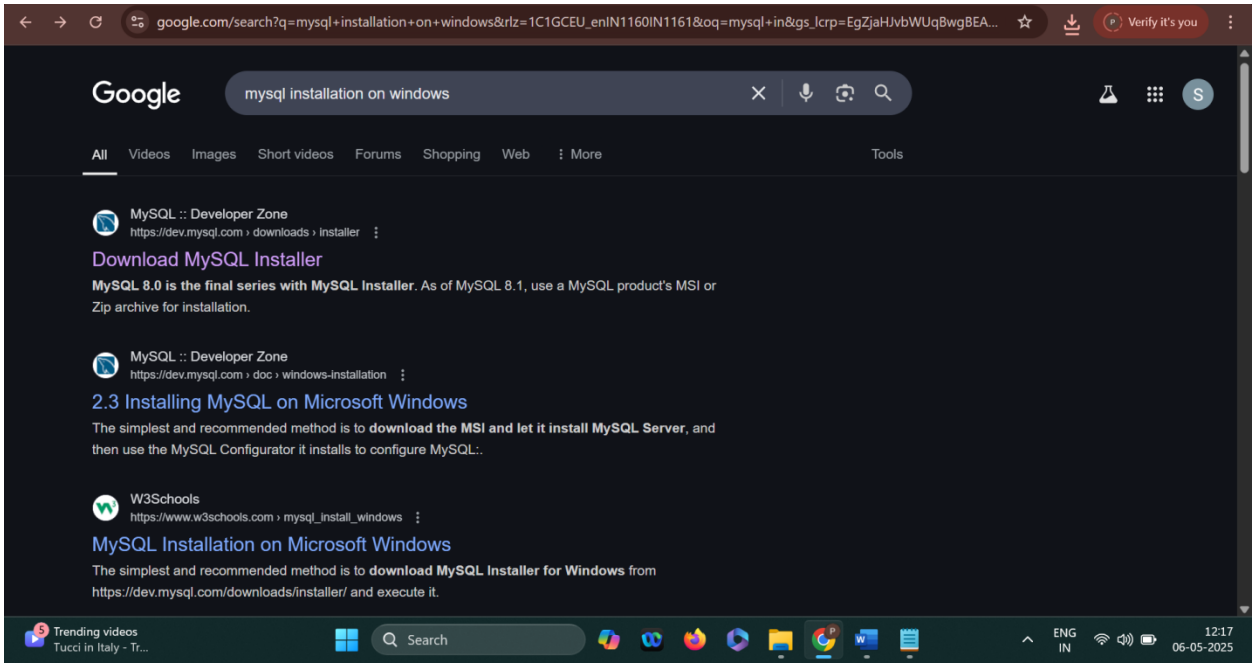
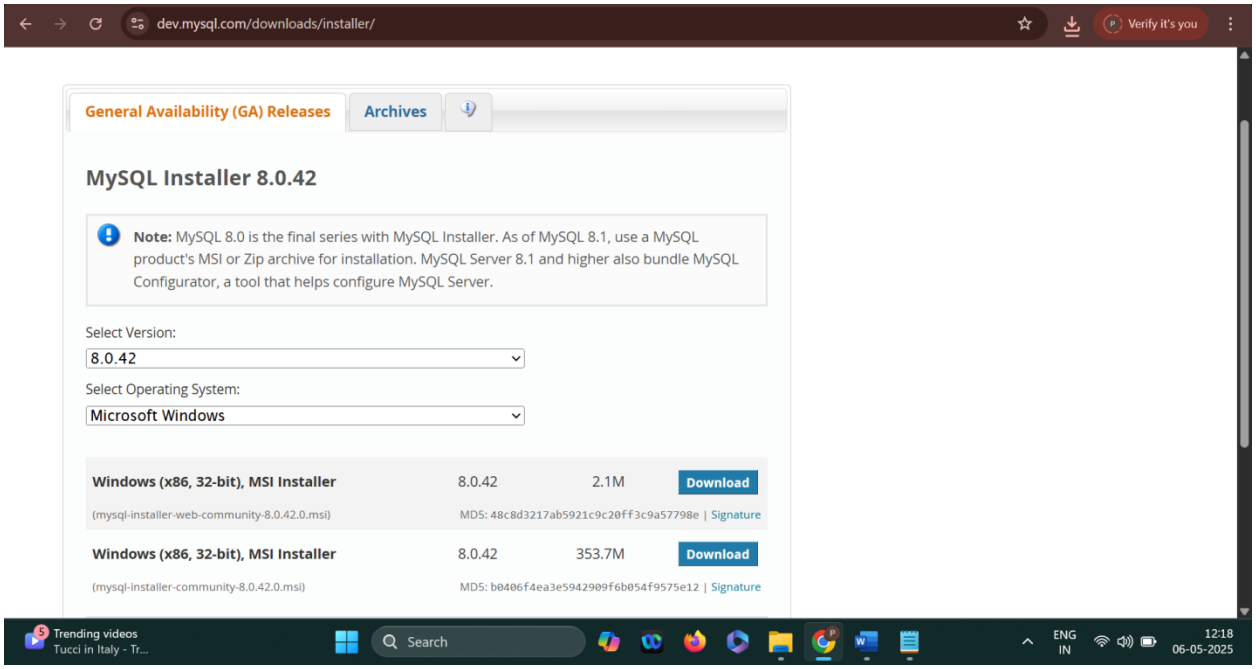
JDBC-MySQL

Installation of MySQL on Windows:





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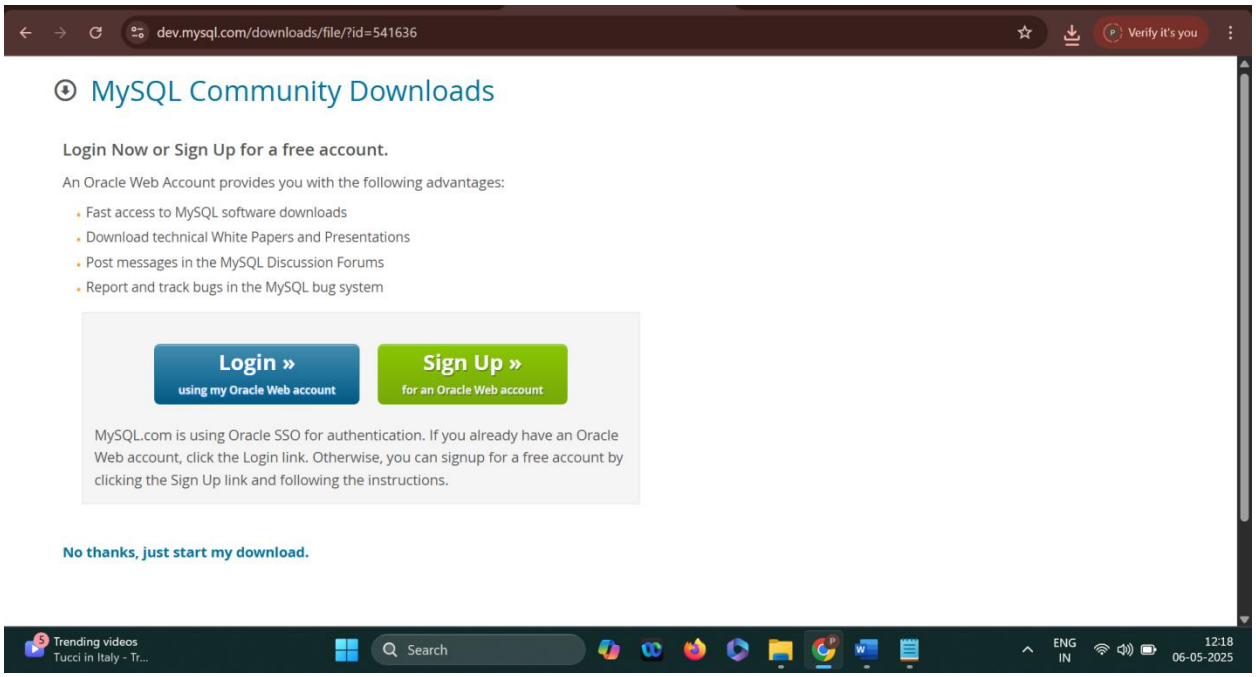

Click on No thanks, just start my download.

After downloading execute the exe file and set username and password as "root"

Procedure to download and execute the MySQL-JDBC program on Windows

1. Download jbdc-mysql connector by using following command

   https://repo1.maven.org/maven2/mysql/mysql-connector-java/5.1.45/

2. Save above downloaded jar file in folder where java-mysql connectivity program is saved

MySQL:

1. create database stud;
2. use stud;
3. create table student (rollno int, name varchar (20), marks float);
4. insert into student values (1, "Ram", 80);

   insert into student values (2, "Krishna", 90);
5. Select * from student;

```
mysql> create database cse;
Query OK, 1 row affected (0.02 sec)

mysql> use cse;
Database changed
mysql> create table student (rollno int, name varchar (20), marks float);
Query OK, 0 rows affected (0.03 sec)

mysql> insert into student values (1, "Ram", 80);
Query OK, 1 row affected (0.01 sec)

mysql>    insert into student values (2, "Krishna", 90);
Query OK, 1 row affected (0.00 sec)

mysql> select * from student;
+--------+---------+-------+
| rollno | name    | marks |
+--------+---------+-------+
|      1 | Ram     |    80 |
|      2 | Krishna |    90 |
+--------+---------+-------+
2 rows in set (0.01 sec)
```

Programs:

1. Implement Java-MySQL database connectivity program to display contents of student table.

```
import java.sql.*;
class testdb{
public static void main (String args[]){
int rn=0;
String name;
float mks;
try{
Class.forName("com.mysql.jdbc.Driver");
Connection con=DriverManager.getConnection(
"jdbc:mysql://localhost:3306/cse?useSSL=false","root","root");
Statement stmt=con.createStatement();
ResultSetrs=stmt.executeQuery("select * from student");
while(rs.next())
{
rn= rs.getInt(1);
name= rs.getString(2);
mks=rs.getFloat(3);
System.out.println("Rollno:"+rn+ "\t"+ "Name:"+name+"\t"+ "Marks:"+mks);
}
```

```
        con.close();
        }catch(Exception e){ System.out.println(e);}
        }
}
```

Program Execution:

Open command prompt:

1. **Compile the program using following command**

   D:\AOOC>javac -cp mysql-connector-java-5.1.45.jar;. testdb.java

2. **Execute the program using following command**

   D:\AOOC>java -cp mysql-connector-java-5.1.45.jar;. testdb

Output:

```
Rollno:1        Name:Ram        Marks:80.0
Rollno:2        Name:Krishna    Marks:90.0
```

Note:

D:\AOOC>java -cp mysql-connector-java-5.1.45.jar;. testdb

java.sql.SQLException: Unable to load authentication plugin 'caching_sha2_password'.

*******If you face above error, perform the following steps for changing the password on MySQL terminal:**

```
mysql> use mysql;
Database changed
mysql> ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password BY
'root';
Query OK, 0 rows affected (0.01 sec)
mysql> use cse;
Database changed
```

And try again on command prompt

D:\AOOC>java -cp mysql-connector-java-5.1.45.jar;. testdb

Then output will dispalayed

2. **Implement Java-MySQL database connectivity program to perform following operations on student table.**
   A. select B. Insert C. Update d. Delete

//JDBC-MySQL program- Operations- Select Insert, Update, Delete

```
import java.util.*;
import java.sql.*;
import java.lang.*;
class MyJDBC
{
public static void main(String[]args)
{
int roll,ch;
float mark;
String name;
Scanner s=new Scanner(System.in);
try
{
Class.forName("com.mysql.jdbc.Driver");
Connection
con=DriverManager.getConnection("jdbc:mysql://localhost:3306/cse?useSSL=false","r
oot","root");
Statement str=con.createStatement();
System.out.println("conneted to student");
do
{
System.out.print("\n1.SELECT\n2.INSERT\n3.UPDATE\n4.DELETE\n0.EXIT");
System.out.print("\nEnter your choice:=");
ch=s.nextInt();
System.out.println();
switch(ch)
{
case 1://select using executeQuery
ResultSet r1=str.executeQuery("select * from student");

while(r1.next())
{
roll=r1.getInt(1);
name=r1.getString(2);
```

```
mark=r1.getFloat(3);
System.out.println(roll+"\t"+name+"\t"+mark);
}
break;

case 2:
System.out.println("INSERT DATA");
System.out.println("Roll number:=");
roll=s.nextInt();
System.out.println("name:=");
name=s.next();
System.out.println("mark:=");
mark=s.nextInt();
str.executeUpdate("insert into student values("+roll+",'"+name+"',"+mark+")");
break;

case 3:
System.out.println("UPDATE DATA");
System.out.println("Enter the roll number whose marks to be updated:=");
roll=s.nextInt();
System.out.println("new marks:=");
mark=s.nextInt();
str.executeUpdate("update student set marks="+mark+" where rollno="+roll+" ");
break;

case 4:
System.out.println("Enter the roll number whose record to be DELETED:=");
roll=s.nextInt();
str.executeUpdate("delete from student where rollno="+roll+" ");
break;

case 0:
break;
}
}while(ch!=0);
}
catch(Exception e)
{   System.out.println(e); }
}
}
```

Program Execution:

Open command prompt:

1. **Compile the program using following command**

   D:\AOOC>javac -cp mysql-connector-java-5.1.45.jar;. MyJDBC.java

2. **Execute the program using following command**

   D:\AOOC>java -cp mysql-connector-java-5.1.45.jar;. MyJDBC

Output:

```
conneted to student

1.SELECT
2.INSERT
3.UPDATE
4.DELETE
0.EXIT
Enter your choice:=1

1       Ram     80.0
2       Krishna 90.0

1.SELECT
2.INSERT
3.UPDATE
4.DELETE
0.EXIT
Enter your choice:=2

INSERT DATA
Roll number:=
3
name:=
Gopal
mark:=
85

1.SELECT
2.INSERT
3.UPDATE
4.DELETE
0.EXIT
Enter your choice:=1

1       Ram     80.0
2       Krishna 90.0
3       Gopal   85.0
```

```
1.SELECT
2.INSERT
3.UPDATE
4.DELETE
0.EXIT
Enter your choice:=3

UPDATE DATA
Enter the roll number whose marks to be updated:=
3
new marks:=
89

1.SELECT
2.INSERT
3.UPDATE
4.DELETE
0.EXIT
Enter your choice:=1

1       Ram     80.0
2       Krishna 90.0
3       Gopal   89.0
```

```
1.SELECT
2.INSERT
3.UPDATE
4.DELETE
0.EXIT
Enter your choice:=4

Enter the roll number whose record to be DELETED:=
3

1.SELECT
2.INSERT
3.UPDATE
4.DELETE
0.EXIT
Enter your choice:=1

1       Ram     80.0
2       Krishna 90.0

1.SELECT
2.INSERT
3.UPDATE
4.DELETE
0.EXIT
Enter your choice:=0
```

3. Write GUI based program to create a login form with field's username and password. Store registration data in MySQL database.

```
import java.sql.*;
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;

class logindemo extends JFrame implements ActionListener
{
  JButton b1,b2;
  JLabel un,pw;
  JTextField t1, tpw;
  public logindemo()
    {
            setTitle("loginform");
            un=new JLabel("username");
            pw=new JLabel("password");
            t1=new JTextField(20);
            tpw=new JTextField(20);
            b1=new JButton("Register");
            b2=new JButton("login");
            b1.addActionListener(this);
            b2.addActionListener(this);
            add(un);add(t1);add(pw);add(tpw);
            add(b1);add(b2);
            setLayout(new FlowLayout());
            setSize(500,500);
            setVisible(true);
            setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }
public void actionPerformed(ActionEvent e)
{   String u,p;
    try
    {       Class.forName("com.mysql.jdbc.Driver");
Connection con=DriverManager.getConnection ("jdbc:mysql://localhost/cse?useSSL=false",
"root","root");
            Statement st=con.createStatement();
            Statement st1=con.createStatement();
            if(e.getSource()==b1)
            { u=t1.getText();               p=tpw.getText();
```

```
            st.executeUpdate("insert into logint values('"+u+"','"+p+"')");
              JOptionPane.showMessageDialog(this,"you are successfully
registered","Register",JOptionPane.INFORMATION_MESSAGE);
      }
              if(e.getSource()==b2)
             {        u=t1.getText();
                       p=tpw.getText();
                       ResultSet rs=st1.executeQuery("select * from logint where
username='"+u+"'and password='"+p+"' ");
                       int count=0;
                       while(rs.next())
                       { count++;      }
                       if(count==1)
                       { JOptionPane.showMessageDialog(null,"login successful
","login",JOptionPane.INFORMATION_MESSAGE);
                       }
                       else
                       { JOptionPane.showMessageDialog(null,"login unsuccessful
","login",JOptionPane.INFORMATION_MESSAGE);
                       }
             }
 }//end of try
              catch(Exception e1){}
    }//end of actionperformed
public static void main(String args[])
{   logindemo ob=new logindemo();
}//end of main
}//end of class
```

On MySQL terminal:

```
mysql> create table logint( username varchar (10),password varchar (10));
Query OK, 0 rows affected (0.03 sec)

mysql> insert into logint values( "ABC", 123);
Query OK, 1 row affected (0.01 sec)

mysql> insert into logint values( "XYZ", 456);
Query OK, 1 row affected (0.01 sec)

mysql> select * from logint;
+----------+----------+
| username | password |
+----------+----------+
| ABC      | 123      |
| XYZ      | 456      |
+----------+----------+
2 rows in set (0.00 sec)
```

Program Execution:

Open command prompt:

1. **Compile the program using following command**
   D:\AOOC>javac -cp mysql-connector-java-5.1.45.jar;. logindemo.java
2. **Execute the program using following command**
   D:\AOOC>java -cp mysql-connector-java-5.1.45.jar;. logindemo