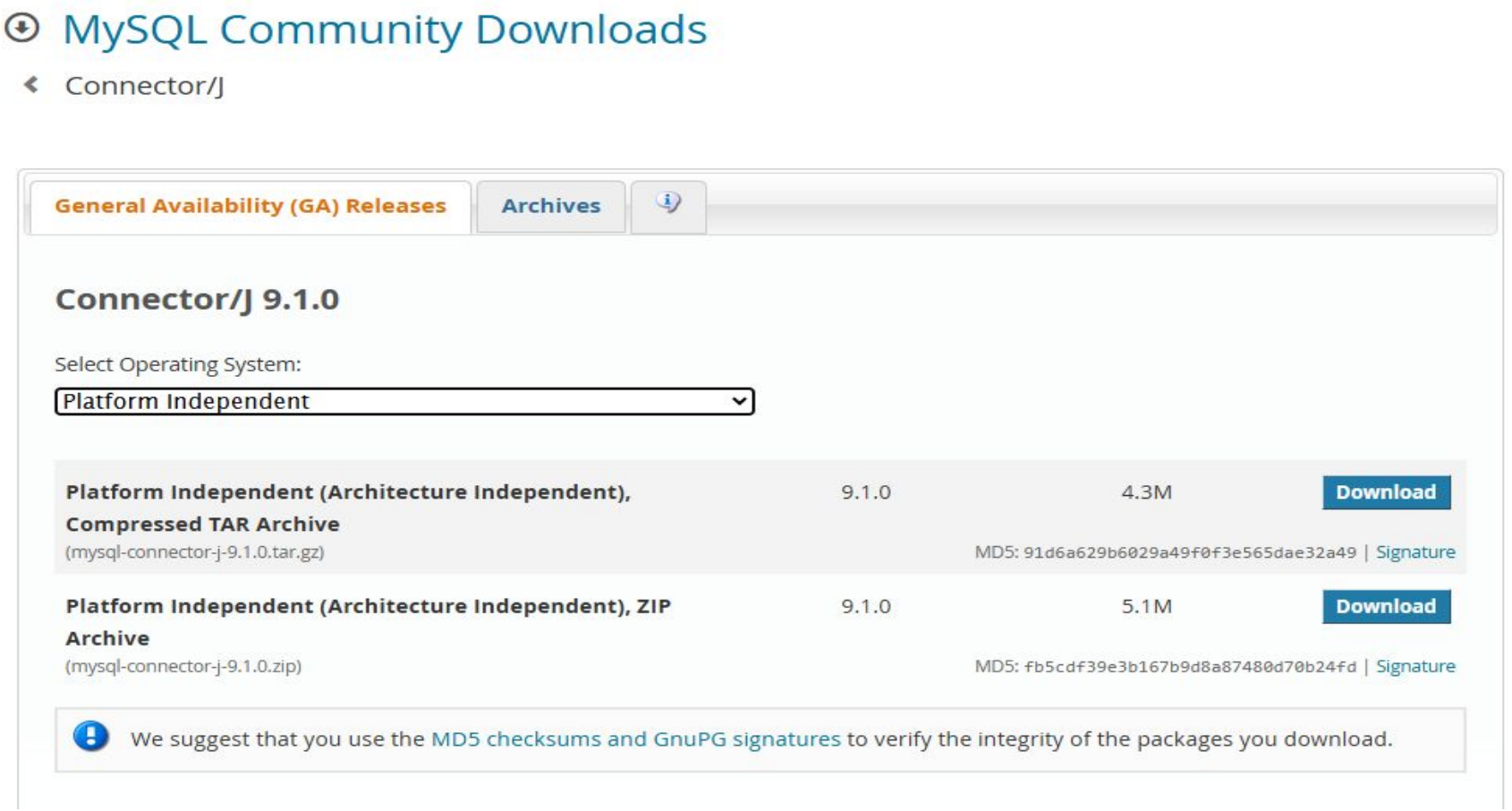
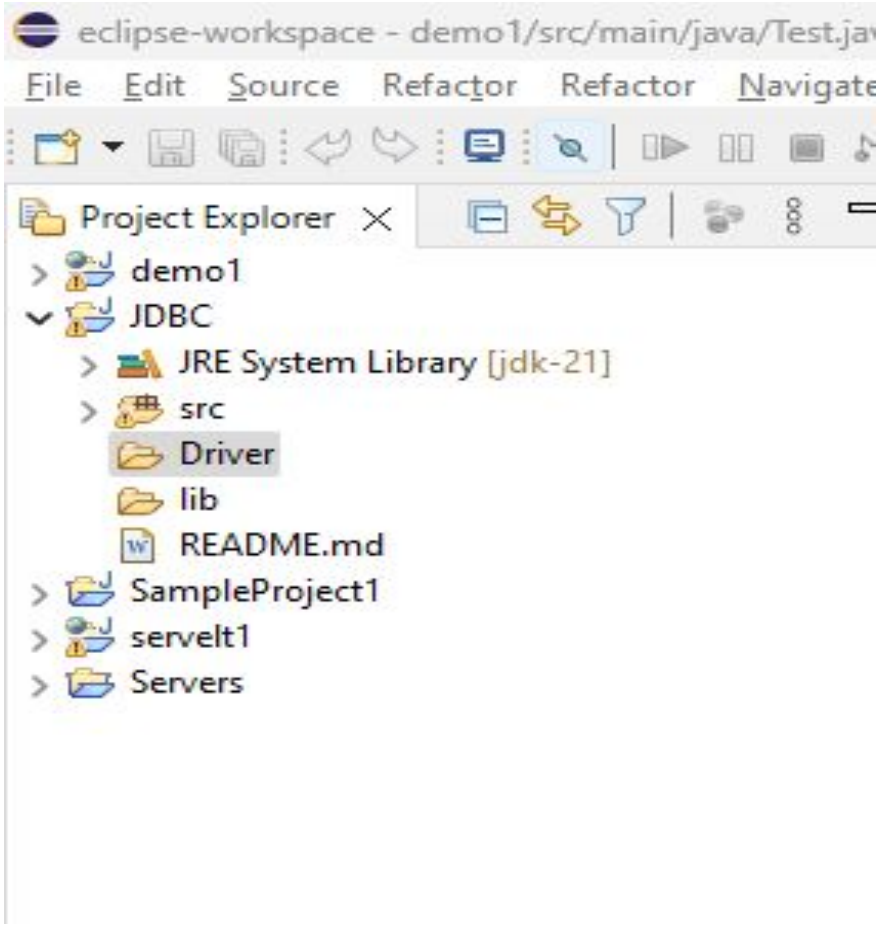
UNIT - IV

DATABASE PROGRAMMING

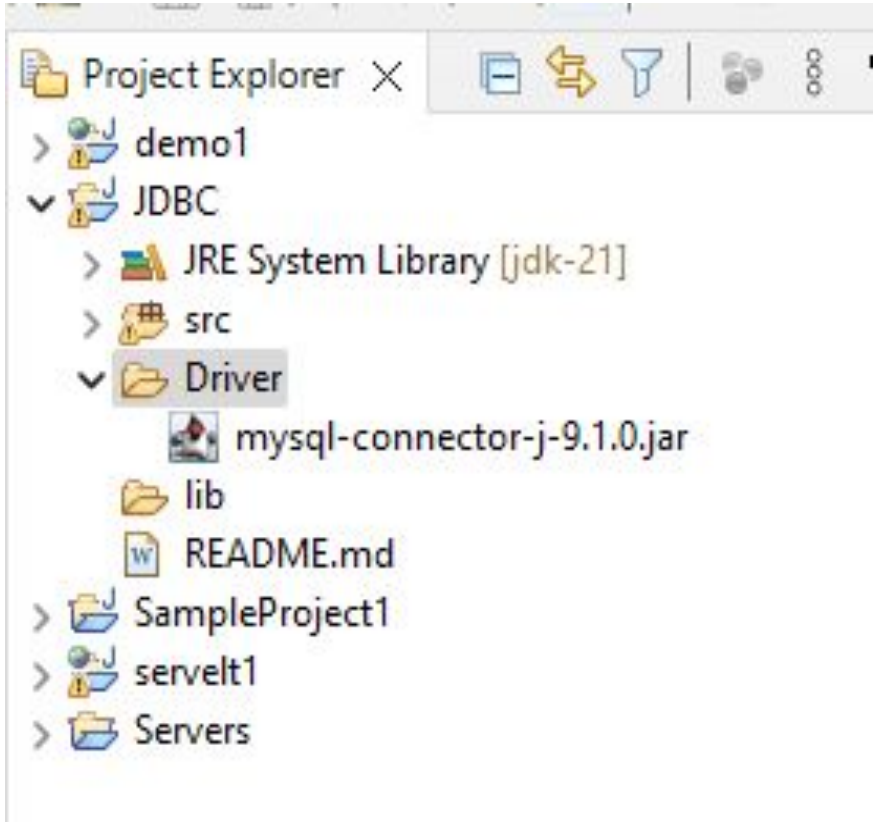
- https://dev.mysql.com/downloads/connector/j/



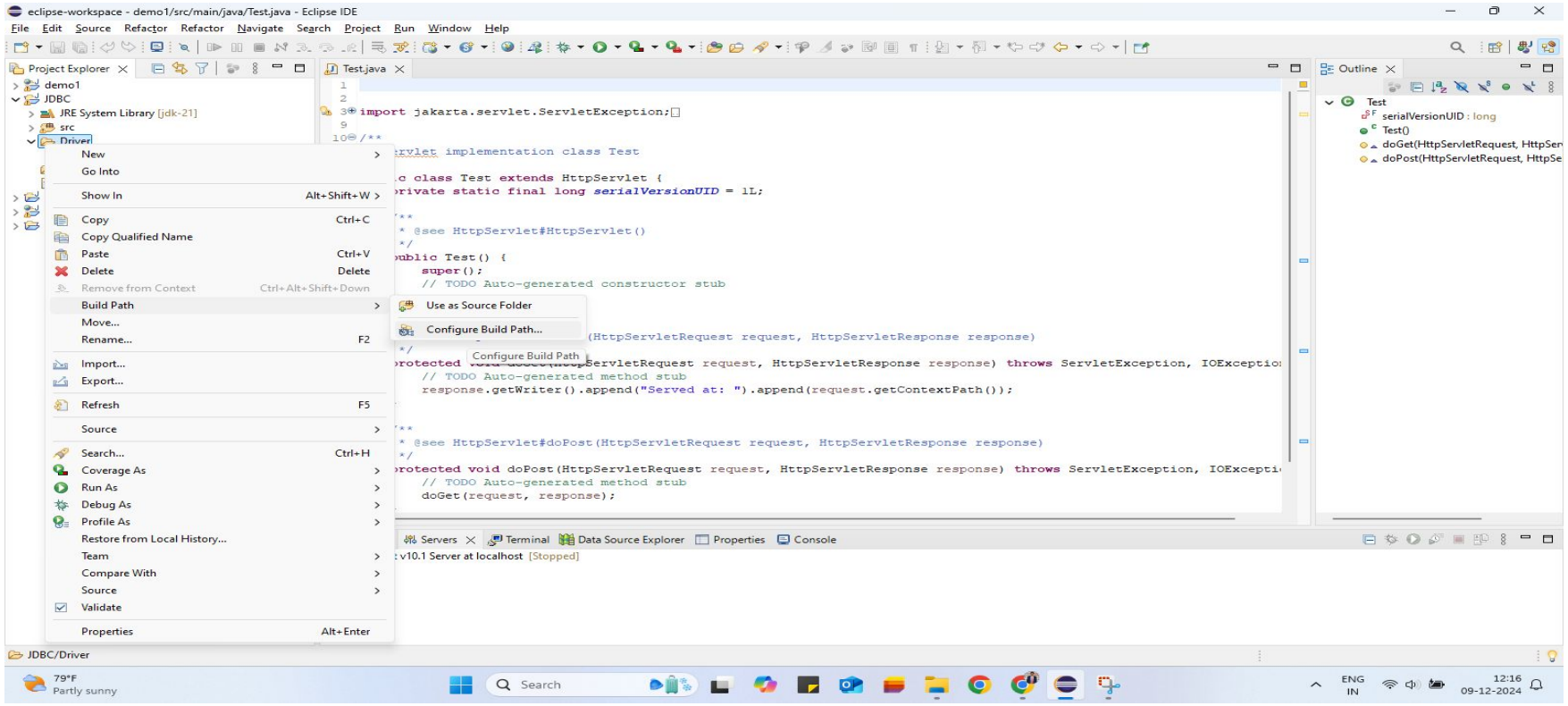
Create folder and name it as Driver



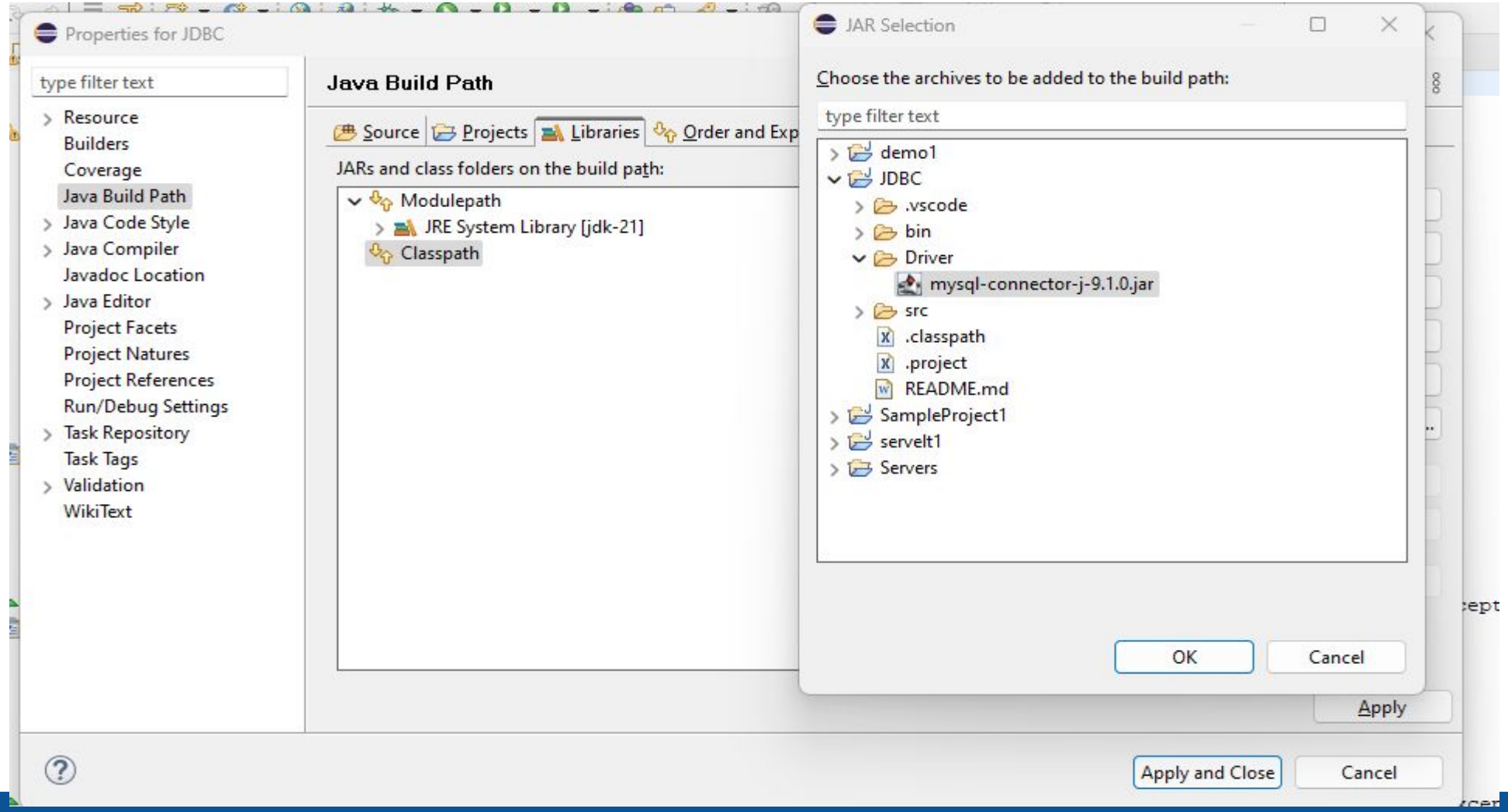
Copy mysql connector and paste it in driver folder



Click configure build path



Configure path → Libraries→classpath→Add Jars→File→driver→mysql connector



- cd "C:\Program Files\MySQL\MySQL Server 8.0\bin"
- mysql -u root -p

Table Creation

```
mysql> use medicaldatainfo;
Database changed
```

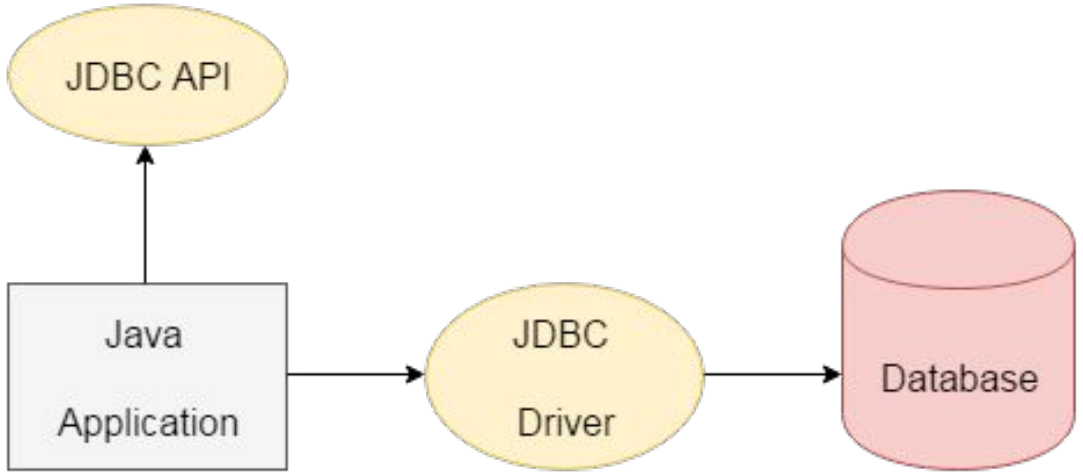
```
mysql> create table table1(patientid int,patientname varchar(20),age int);
Query OK, 0 rows affected (0.04 sec)

mysql>
```

Introduction to JDBC

- Before JDBC, ODBC API was the database API to connect and execute the query with the database. But, ODBC API uses ODBC driver which is written in C language (i.e. platform dependent and unsecured). That is why Java has defined its own API (JDBC API) that uses JDBC drivers (written in Java language).

- We can use JDBC API to handle database using Java program and can perform the following activities:

- Connect to the database
- Execute queries and update statements to the database
- Retrieve the result received from the database.



Connecting to the database

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;
import java.sql.Statement;

public class CreateDatabase1 {
    static final String DB_URL = "jdbc:mysql://localhost:3306";

    static final String USER = "root";
    static final String PASSWORD = "root";
```

```
Run | Debug
public static void main(String[] args)
{
    try(Connection conn = DriverManager.getConnection(DB_URL, USER, PASSWORD);

     Statement stmt = conn.createStatement();)
     {
         String sql ="create database medical";
         stmt.executeUpdate(sql);
         System.out.println(x:"Database Created Successfully123...");
     } catch (SQLException e)
     {
         e.printStackTrace();
     }

}
}
```

Fetching Data from Database

```
import java.sql.*;
class crud_operation{
Run | Debug
public static void main(String args[]){
try{
Class.forName(className:"com.mysql.jdbc.Driver");
Connection con=DriverManager.getConnection(url:"jdbc:mysql://localhost:3306/medical",user:"root",password:"root");
//here medical is database name, root is username and password
Statement stmt=con.createStatement();
ResultSet rs=stmt.executeQuery(sql:"select * from Medicalinfo1");
while(rs.next())
System.out.println(rs.getInt(columnIndex:1)+"  "+rs.getString(columnIndex:2)+"  "+rs.getInt(columnIndex:3));
con.close();
}catch(Exception e){ System.out.println(e);}
}
}
```

Output

```
Loading class `com.mysql.jdbc.Driver'. This is
and manual loading of the driver class is gene
10  Kushal  18
PS C:\Java Programs\JDBC>
```

Insert Operations in JDBC

```
import java.sql.*;
public class insert {

    Run | Debug
    public static void main(String args[]){

        try{
        //Class.forName("com.mysql.jdbc.Driver");
        Connection con=DriverManager.getConnection(url:"jdbc:mysql://localhost:3306/medical",user:"root",password:"root");
        //here medical is database name, root is username and password
        Statement stmt=con.createStatement();
        String sql = "insert into Medicalinfo1" +"(patientid,patientname,age)" + "values (11, 'Purusoth', 20)" ;
        stmt.executeUpdate(sql);
        System.out.println(x:"Insert complete.");
        con.close();
        }catch(Exception e)
        {
            e.printStackTrace();
        }

            }
        }
```

Delete Operation

```
import java.sql.*;
public class delete {
    Run | Debug
    public static void main(String args[]){
        Connection conn = null;
      Statement stmt = null;
       try {
          try {
             Class.forName(className:"com.mysql.jdbc.Driver");
          } catch (Exception e) {
             System.out.println(e);
          }
          conn = (Connection) DriverManager.getConnection(url:"jdbc:mysql://localhost:3306/medical",user:"root",password:"root");
          System.out.println(x:"Connection is created successfully:");
          stmt = (Statement) conn.createStatement();
          String query1 = "delete from  Medicalinfo1 " + "where payientid=10";
          stmt.executeUpdate(query1);
          System.out.println(x:"Record is deleted from the table successfully.................");
```

```
            System.out.println(x:"Connection is created successfully:");
            stmt = (Statement) conn.createStatement();
            String query1 = "delete from  Medicalinfo1 " + "where payientid=10";
            stmt.executeUpdate(query1);
            System.out.println(x:"Record is deleted from the table successfully.....................");
        } catch (SQLException excep) {
            excep.printStackTrace();
        } catch (Exception excep) {
            excep.printStackTrace();
        } finally {
            try {
                if (stmt != null)
                conn.close();
            } catch (SQLException se) {}
            try {
                if (conn != null)
                conn.close();
            } catch (SQLException se) {
                se.printStackTrace();
            }
        }
        System.out.println(x:"Please check it in the MySQL Table. Record is now deleted.......");
    }
}
```