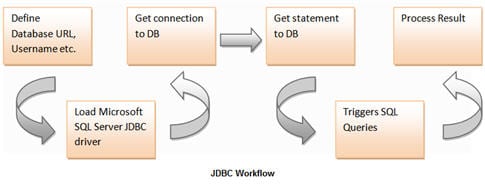
Selenium WebDriver is a tool for UI Automation. Thus, Selenium WebDriver alone is ineligible to perform database testing but this can be done using Java Database Connectivity API (JDBC). The API lets the user connect and interact with the data source and fetch the data with the help of automated queries. To be able to exploit the JDBC API, it is required to have Java Virtual Machine (JVM) running on the system.

**JDBC Workflow**

[](https://www.softwaretestinghelp.com/wp-content/qa/uploads/2014/11/DB-testing-using-Selenium-7.jpg)

**We would keep our focus aligned with the following processes:**

1. Creating a connection with the database
2. Executing queries and update statements in order to extract/fetch data (CRUD Operations)
3. Using and manipulating the data extracted from the Database in the form of the result set. (Result set is a collection of data organized in the rows and columns)
4. Disconnecting the database connection.

As said earlier, to be able to test database automatically from our Selenium WebDriver test scripts, we would connect with the Database via JDBC connectivity within our test scripts. Post to the connection, we can trigger as many CRUD (Create, Read, Update, and Delete) operations on the Database.

For downloading and creating my sql database .

<https://dev.mysql.com/downloads/file/?id=518835>

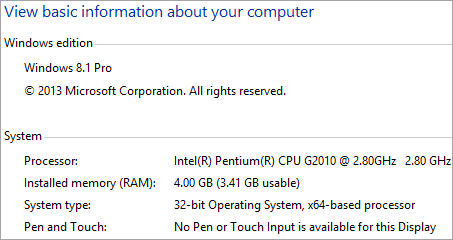
<https://www.softwaretestinghelp.com/how-to-download-mysql/>

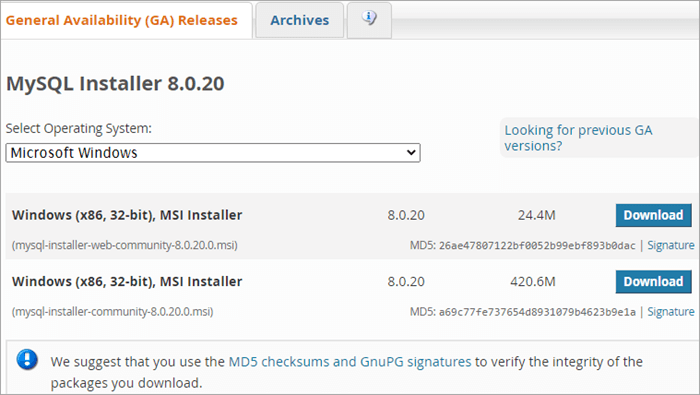
### Installing MySQL On Windows

**a) Prerequisites:** Before starting the installation process, please note that MySQL Installer requires .NET Framework 4.5.2 (If you have an older version of the .NET framework, then update that in order to begin the installation process).

**b)** Download MySQL community installer from the source [here.](https://dev.mysql.com/downloads/installer/) (The current version of MySQL while writing this tutorial is 8.0.20. If you need to download a specific [version of MySQL](https://www.softwaretestinghelp.com/check-mysql-version/), then you can refer to the respective installer [here](https://dev.mysql.com/downloads/windows/installer/5.7.html) and choose the version that you wish to install).

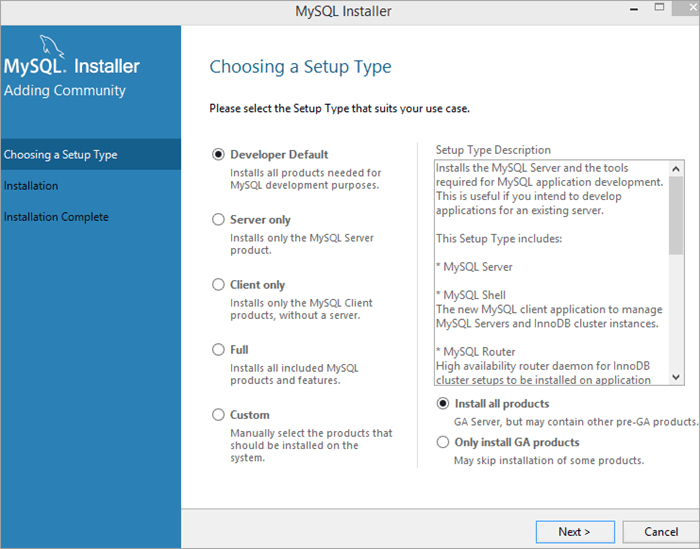
Choose the installer depending on whether the Windows version you are using is 32bit or 64bit (you can refer the link [here](https://support.microsoft.com/en-in/help/15056/windows-32-64-bit-faq) to know the version of OS that you are using).

[](https://www.softwaretestinghelp.com/wp-content/qa/uploads/2020/08/32bit.png)

[](https://www.softwaretestinghelp.com/wp-content/qa/uploads/2020/08/Installer.png)

**c)** After downloading the installer, open the installer exe and continue with the instructions. Please note that you will require an active internet connection as the installer is a shell and it downloads the selected products over the internet once chosen during the installation process.

For choosing the configuration, you can choose the**‘Developer Default’** that takes care of almost all the required stuff for development/testing needs.

[](https://www.softwaretestinghelp.com/wp-content/qa/uploads/2020/08/installer1.png)

**d)** Once the setup is complete, if you have chosen to install the client for MySQL (MySQL Workbench which is Community/free download), then you can connect your server instance, else you can check the installation from the command line by executing the command below.

C:\> "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql" test

Mysql example

import java.sql.Connection;

import java.sql.Statement;

import java.sql.ResultSet;

import java.sql.DriverManager;

import java.sql.SQLException;

public class SQLConnector {

public static void main(String[] args) throws ClassNotFoundException, SQLException {

//Connection URL Syntax: "jdbc:mysql://ipaddress:portnumber/db\_name"

String dbUrl = "jdbc:mysql://localhost:3036/emp";

//Database Username

String username = "root";

//Database Password

String password = "guru99";

//Query to Execute

String query = "select \* from employee;";

//Load mysql jdbc driver

Class.forName("com.mysql.jdbc.Driver");

//Create Connection to DB

Connection con = DriverManager.getConnection(dbUrl,username,password);

//Create Statement Object

Statement stmt = con.createStatement();

// Execute the SQL Query. Store results in ResultSet

ResultSet rs= stmt.executeQuery(query);

// While Loop to iterate through all data and print results

while (rs.next()){

String myName = rs.getString(1);

String myAge = rs.getString(2);

System. out.println(myName+" "+myAge);

}

// closing DB Connection

con.close();

}

}

Steps to Add MySQL connection in Oracle SQL Developer

https://docs.singlestore.com/managed-service/en/connect-to-your-workspace/connect-with-sql-developer.html

<https://www.browserstack.com/guide/database-testing-using-selenium>

For Microsoft sql server

Java



|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24  25  26  27  28  29 | package softwareTestingMaterial;  import java.sql.Connection;  import java.sql.DriverManager;  import java.sql.ResultSet;  import java.sql.SQLException;  import java.sql.Statement;    public class DBTesting {       public static void selectQuery() throws SQLException, ClassNotFoundException {  String dbURL = "jdbc:sqlserver://ipAddress:portNumber/dbName";  String username = myUserName;          String password = myPassword;          //Load MS SQL JDBC Driver          Class.forName("net.sourceforge.jtds.jdbc.Driver");          //Creating connection to the database          Connection con = DriverManager.getConnection(dbURL,username,password);          //Creating statement object       Statement st = con.createStatement();       String selectquery = "SELECT \* FROM <tablename> WHERE <condition>";          //Executing the SQL Query and store the results in ResultSet       ResultSet rs = st.executeQuery(selectquery);       //While loop to iterate through all data and print results       while (rs.next()) {       System.out.println(rs.getString("transaction\_datetime"));       }          //Closing DB Connection       con.close(); |

For Oracle

public static void main(String args[]){

try{

//step1 load the driver class

Class.forName("oracle.jdbc.driver.OracleDriver");

//step2 create the connection object

Connection con=DriverManager.getConnection(

"jdbc:oracle:thin:@localhost:1521:xe","system","password");

//step3 create the statement object

Statement stmt=con.createStatement();

//step4 execute query

ResultSet rs=stmt.executeQuery("select \* from created\_user");

while(rs.next())

System.out.println(rs.getInt(1)+" "+rs.getString(2)+" "+rs.getString(3));

//step5 close the connection object

con.close();

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

}

}

<https://www.guru99.com/database-testing-using-selenium-step-by-step-guide.html>

<https://www.softwaretestinghelp.com/database-testing-using-selenium-webdriver-selenium-tutorial-28/>

maven in eclipse

<https://www.vogella.com/tutorials/EclipseMaven/article.html>

<http://code2test.com/selenium-tutorial/sqlserver-connection-through-jdbc/>

<https://mundrisoft.com/tech-bytes/ms-sql-connection-using-jdbc-in-selenium/>

https://www.java67.com/2015/07/javalangclassnotfoundexception-com.mysql.jdbc.Driver-solution.html