

JAVA WITH JDBC COURSE

EXERCISE

INTRODUCTION TO JDBC

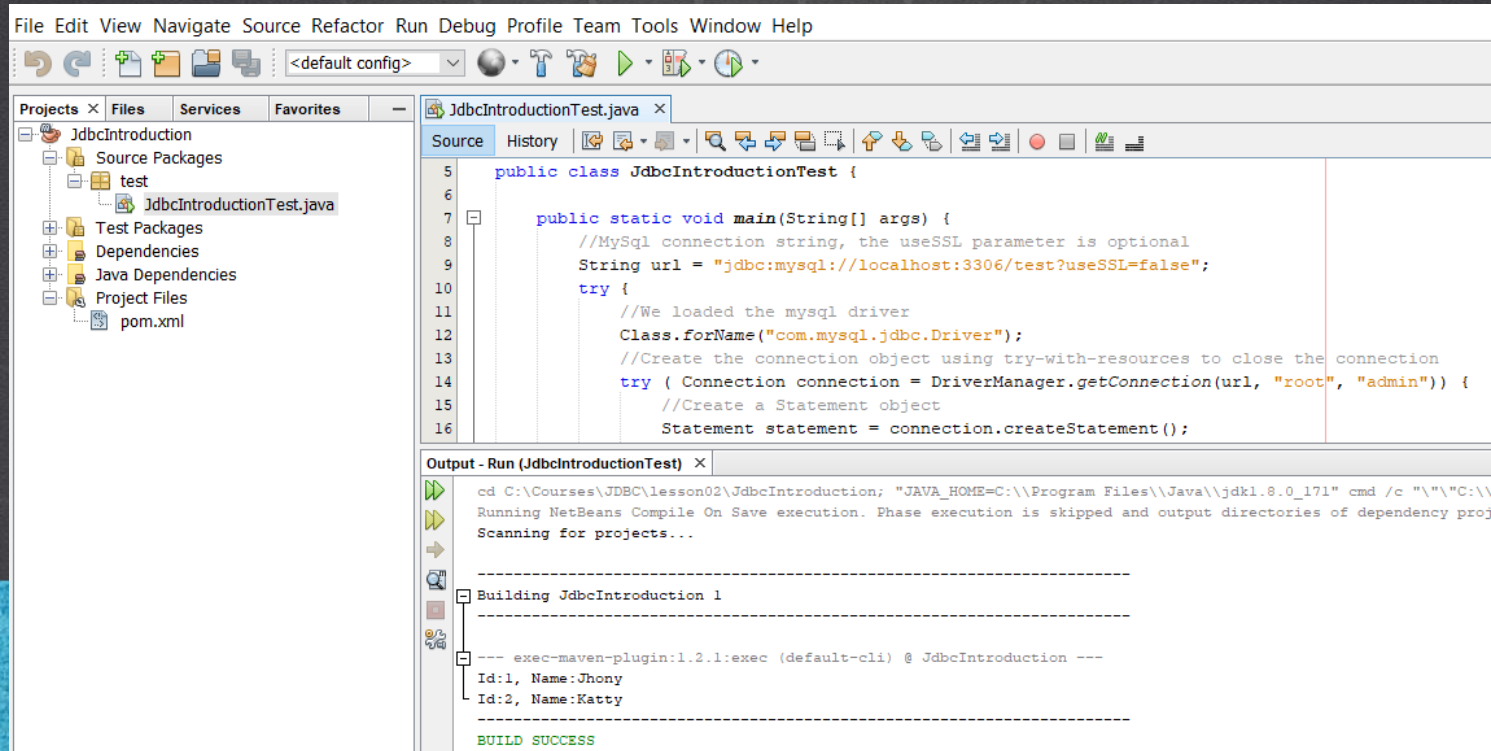


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EXERCISE OBJECTIVE

Create the introduction exercise to JDBC. At the end we should observe the following:



PROJECT WITH MAVEN IN JAVA

We are going to use Maven for the creation of our Java projects with JDBC. The objective of using Maven is to help us manage the libraries or Java dependencies that we will use in our course, and in this way it will be easier to manage this file.

Let's see how to create a Java project with Maven.

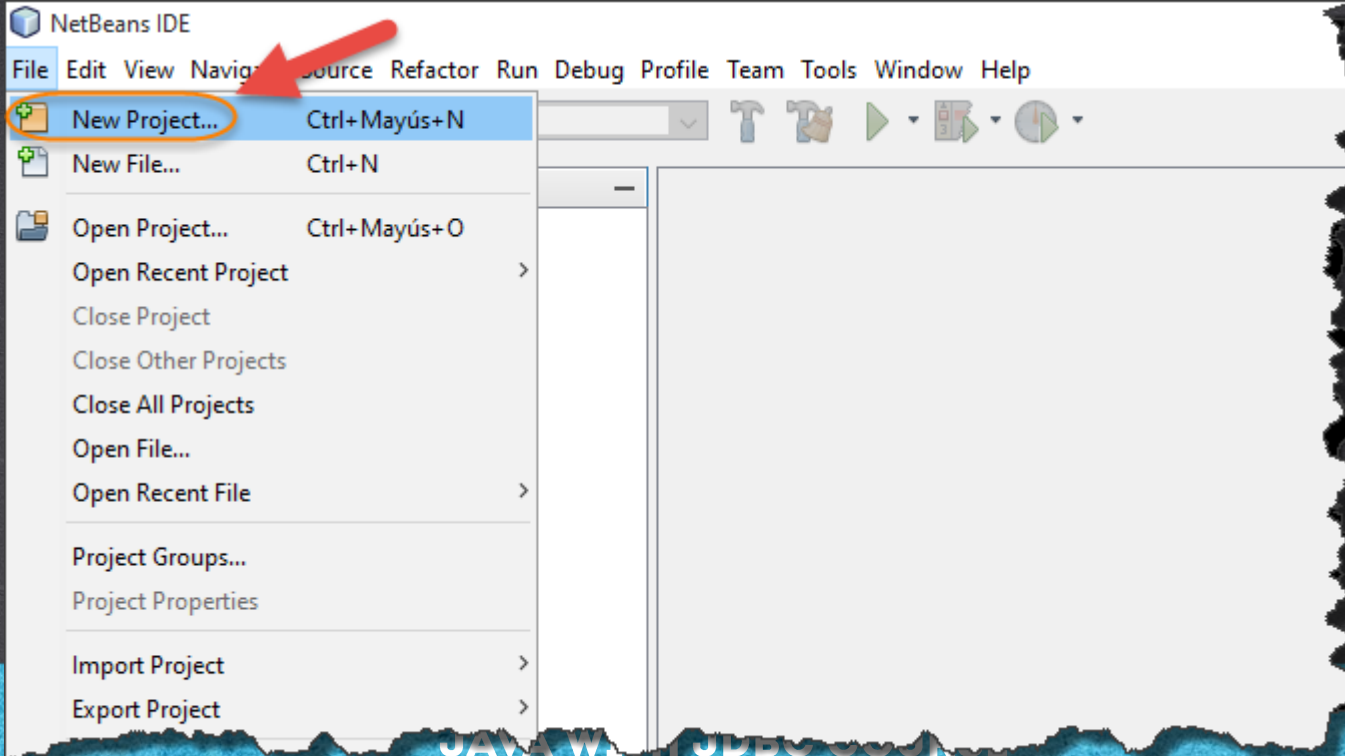


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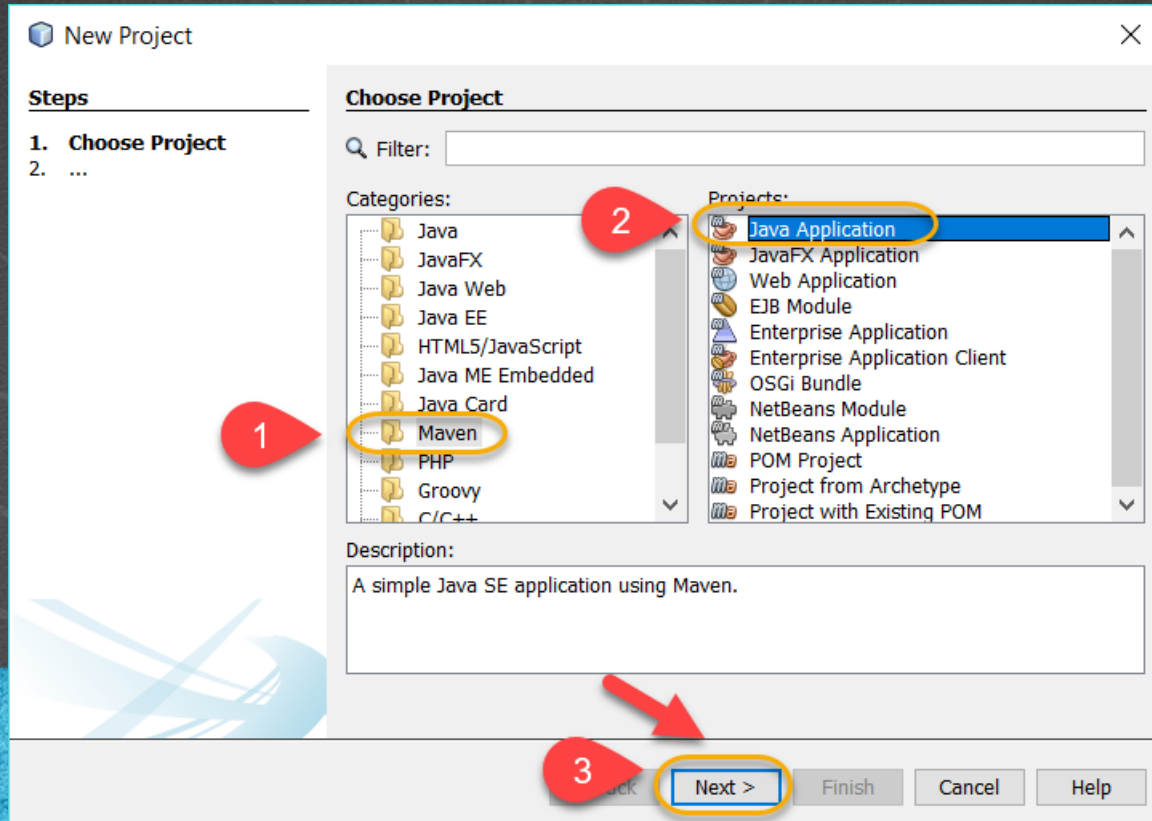
1. CREATE A NEW PROJECT

Create a new project:



1. CREATE A NEW PROJECT(CONT)

Select Maven -> Java Application, and click on Next:



1. CREATE A NEW PROJECT(CONT)

Provide the following values as shown, and click on Finish:

New Java Application

Steps

1. Choose Project
2. **Name and Location**

Name and Location

Project Name: jdbcIntroduction

Project Location: C:\Courses\JDBC\lesson02 Browse...

Project Folder: C:\Courses\JDBC\lesson02\jdbcIntroduction

Artifact Id: jdbcIntroduction

Group Id: mx.com.gm

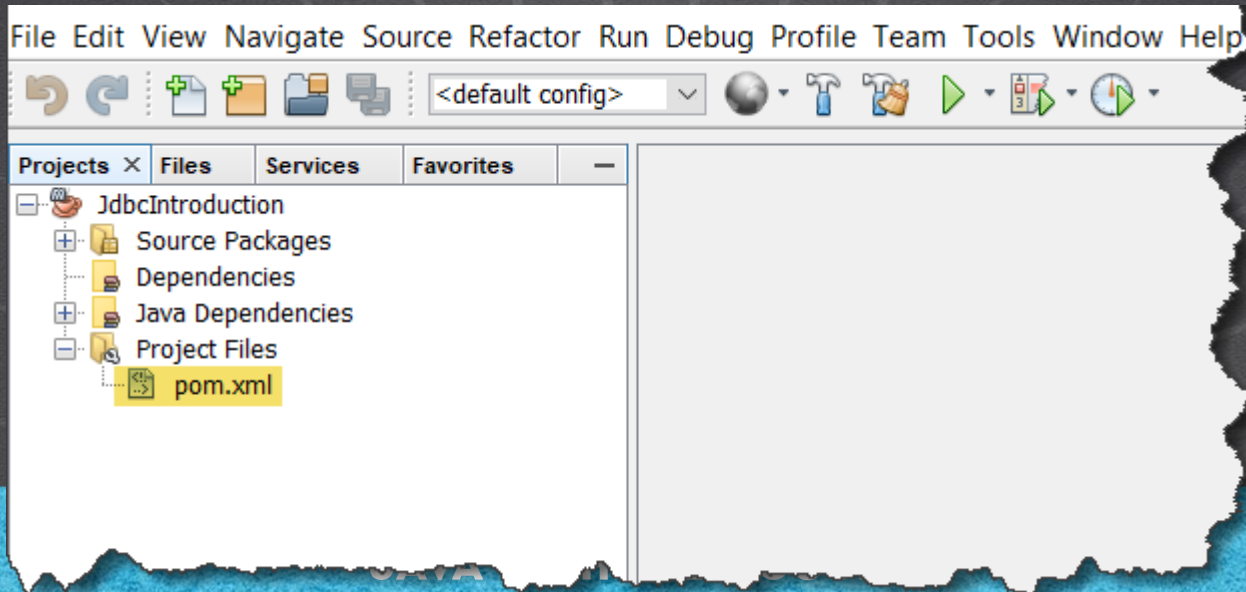
Version: 1

Package: (Optional)

< Back Next > **Finish** Cancel Help

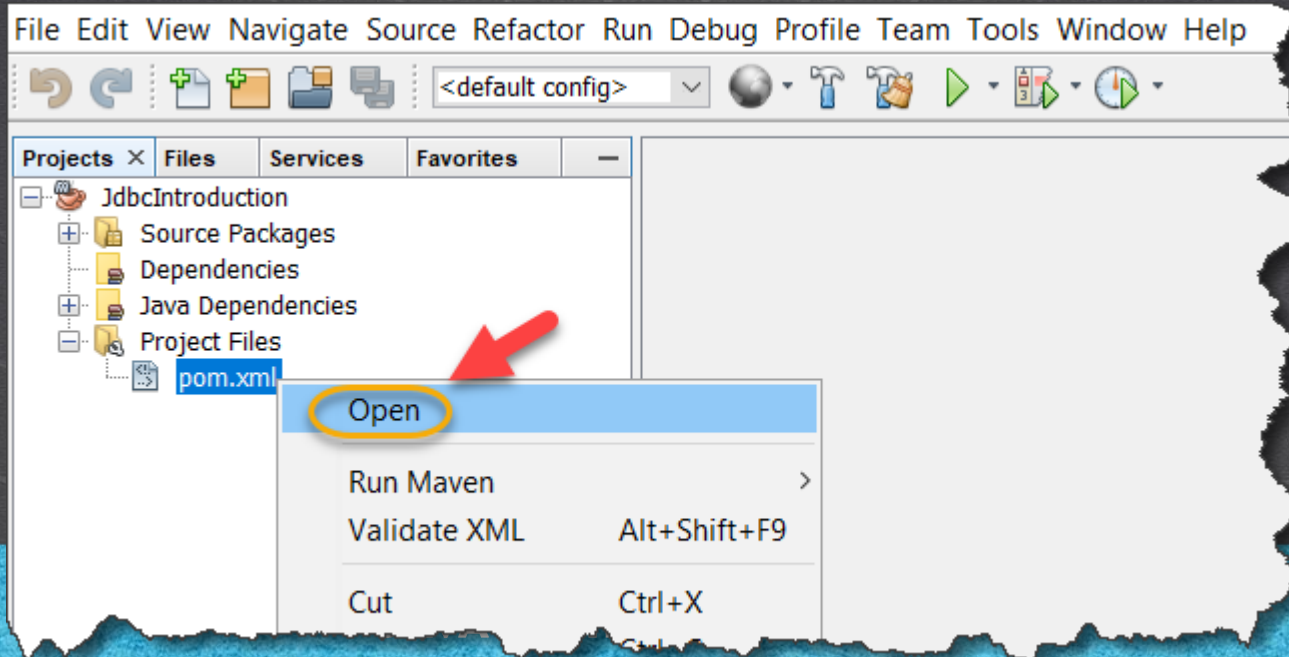
1. CREATE A NEW PROJECT(CONT)

We can observe the desired structure, including the pom.xml file. This file is the one used by Maven to manage the libraries or dependencies of Java (.jar files)



2. MODIFY THE POM.XML FILE

We will open the pom.xml and modify it completely with the following code. We will add the mysql.jar dependency:



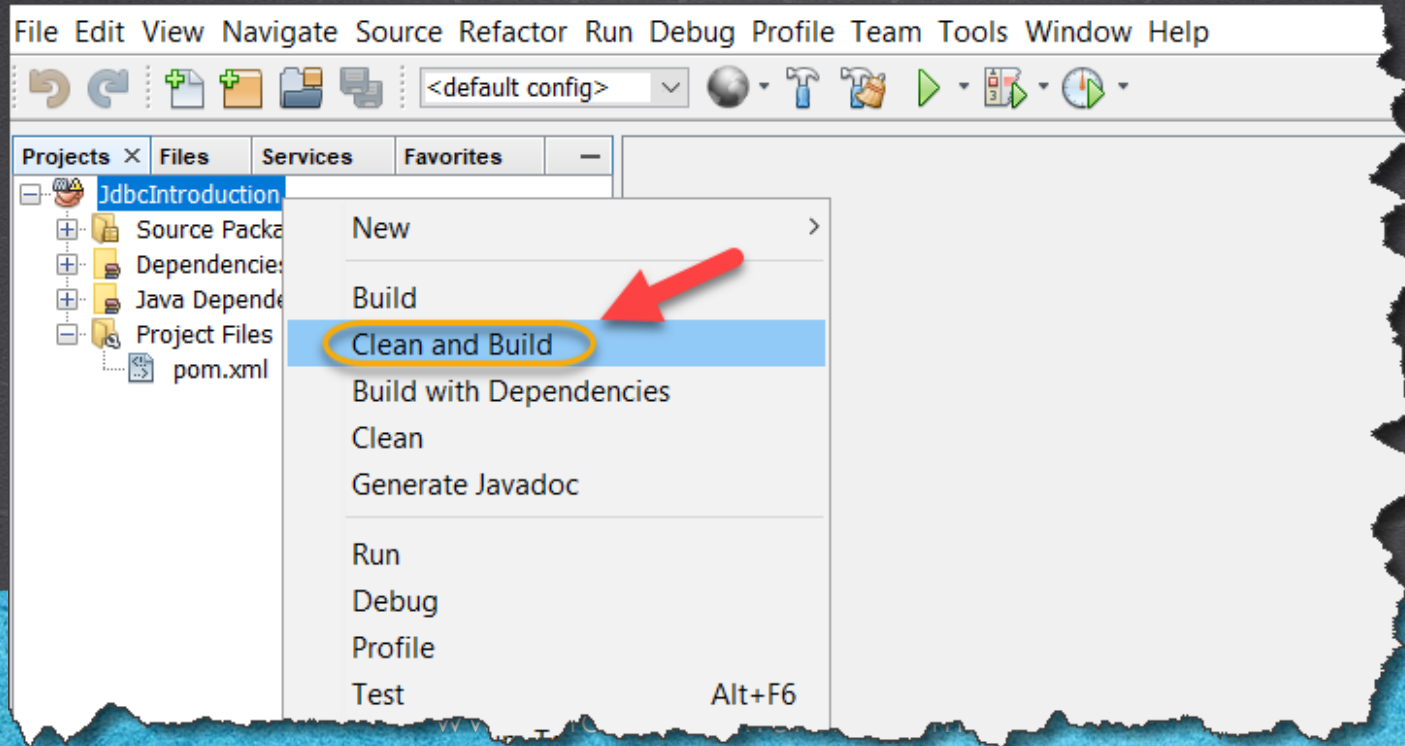
2. MODIFY THE CODE

[pom.xml:](#)

```
<?xml version="1.0" encoding="UTF-8"?>
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
  <modelVersion>4.0.0</modelVersion>
  <groupId>mx.com.gm</groupId>
  <artifactId>JdbcIntroduction</artifactId>
  <version>1</version>
  <packaging>jar</packaging>
  <properties>
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
    <maven.compiler.source>1.8</maven.compiler.source>
    <maven.compiler.target>1.8</maven.compiler.target>
  </properties>
  <dependencies>
    <dependency>
      <groupId>mysql</groupId>
      <artifactId>mysql-connector-java</artifactId>
      <version>5.1.46</version>
    </dependency>
  </dependencies>
</project>
```

3. CLEAN & BUILD

In order to download the mysql driver we give right click over the project and select Clean & Build as show below:



3. CLEAN & BUILD

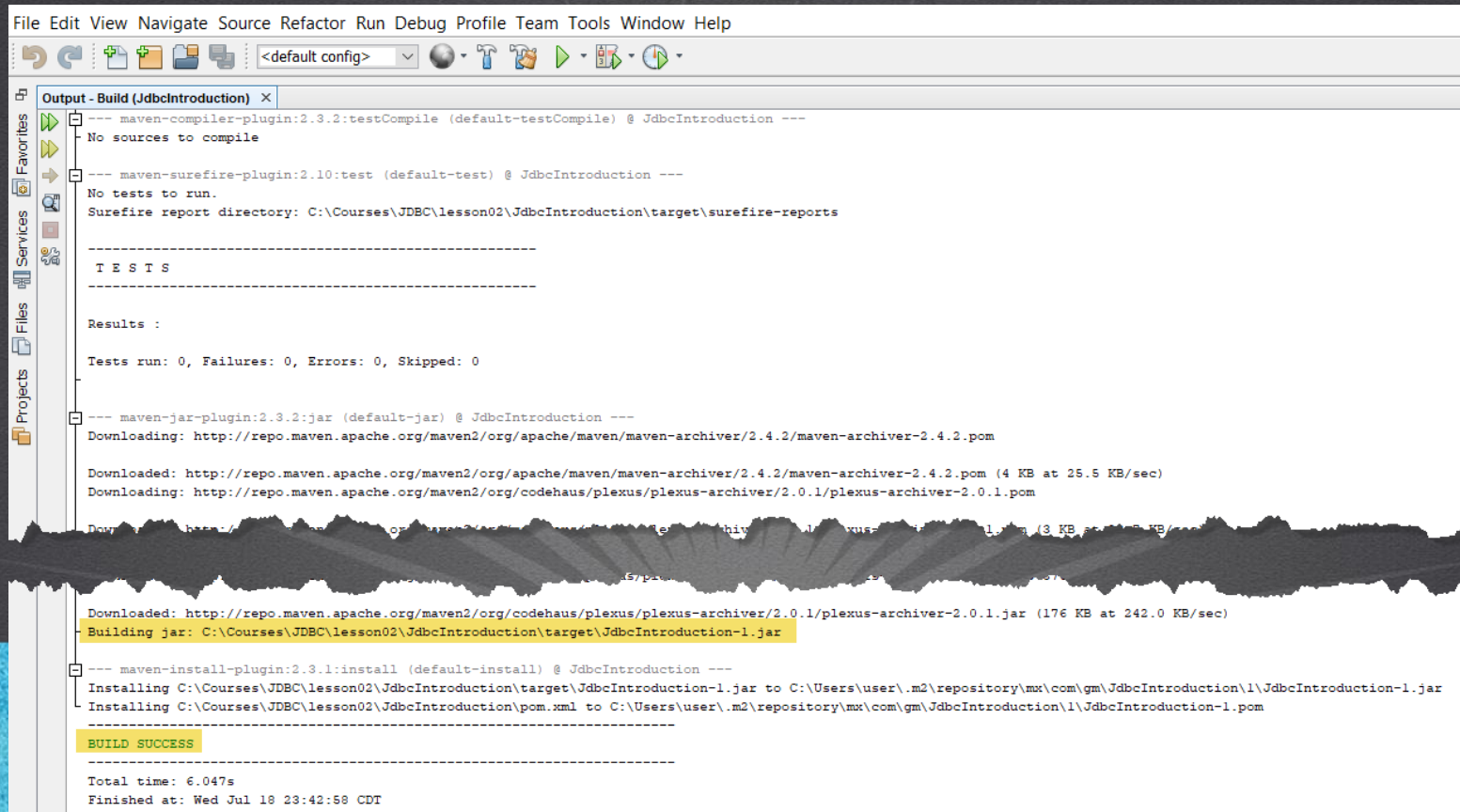
This step is very important. We should note that the .jar file of our application has been successfully downloaded and generated.

Otherwise, if the libraries have not been downloaded, you can try the following.

- 1) Disable Antivirus, Firewall, Windows Defender, or any other software that could prevent the download of .jar files.
- 2) Delete the maven library that is normally located in the C:\Users\myUser\.m2 folder and delete the “repository” folder completely
- 3) And repeat the clean & build process.

3. CLEAN & BUILD

We should note that the .jar file of our application has been successfully generated.



```
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
<default config>
Output - Build (JdbcIntroduction) X
--- maven-compiler-plugin:2.3.2:testCompile (default-testCompile) @ JdbcIntroduction ---
No sources to compile
--- maven-surefire-plugin:2.10:test (default-test) @ JdbcIntroduction ---
No tests to run.
Surefire report directory: C:\Courses\JDBC\lesson02\JdbcIntroduction\target\surefire-reports

-----
T E S T S
-----

Results :

Tests run: 0, Failures: 0, Errors: 0, Skipped: 0

--- maven-jar-plugin:2.3.2:jar (default-jar) @ JdbcIntroduction ---
Downloading: http://repo.maven.apache.org/maven2/org/apache/maven/maven-archiver/2.4.2/maven-archiver-2.4.2.pom
Downloaded: http://repo.maven.apache.org/maven2/org/apache/maven/maven-archiver/2.4.2/maven-archiver-2.4.2.pom (4 KB at 25.5 KB/sec)
Downloading: http://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-archiver/2.0.1/plexus-archiver-2.0.1.pom
Downloaded: http://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-archiver/2.0.1/plexus-archiver-2.0.1.pom (3 KB at 15.5 KB/sec)
Building jar: C:\Courses\JDBC\lesson02\JdbcIntroduction\target\JdbcIntroduction-1.jar
--- maven-install-plugin:2.3.1:install (default-install) @ JdbcIntroduction ---
Installing C:\Courses\JDBC\lesson02\JdbcIntroduction\target\JdbcIntroduction-1.jar to C:\Users\user\.m2\repository\mx\com\gm\JdbcIntroduction\1\JdbcIntroduction-1.jar
Installing C:\Courses\JDBC\lesson02\JdbcIntroduction\pom.xml to C:\Users\user\.m2\repository\mx\com\gm\JdbcIntroduction\1\JdbcIntroduction-1.pom

BUILD SUCCESS

-----
Total time: 6.047s
Finished at: Wed Jul 18 23:42:58 CDT
```

4. CREATE A NEW CLASS

Create a new class:

New Java Class

Steps

1. Choose File Type
2. **Name and Location**

Name and Location

Class Name: JdbcIntroductionTest

Project: JdbcIntroduction

Location: Source Packages

Package: test

Created File: C:\Courses\JDBC\lesson02\JdbcIntroduction\src\main\java\test\JdbcIntroductionTest.java

< Back Next > **Finish** Cancel Help

5. MODIFY THE CODE

JdbcIntroductionTest.java:

```
package test;

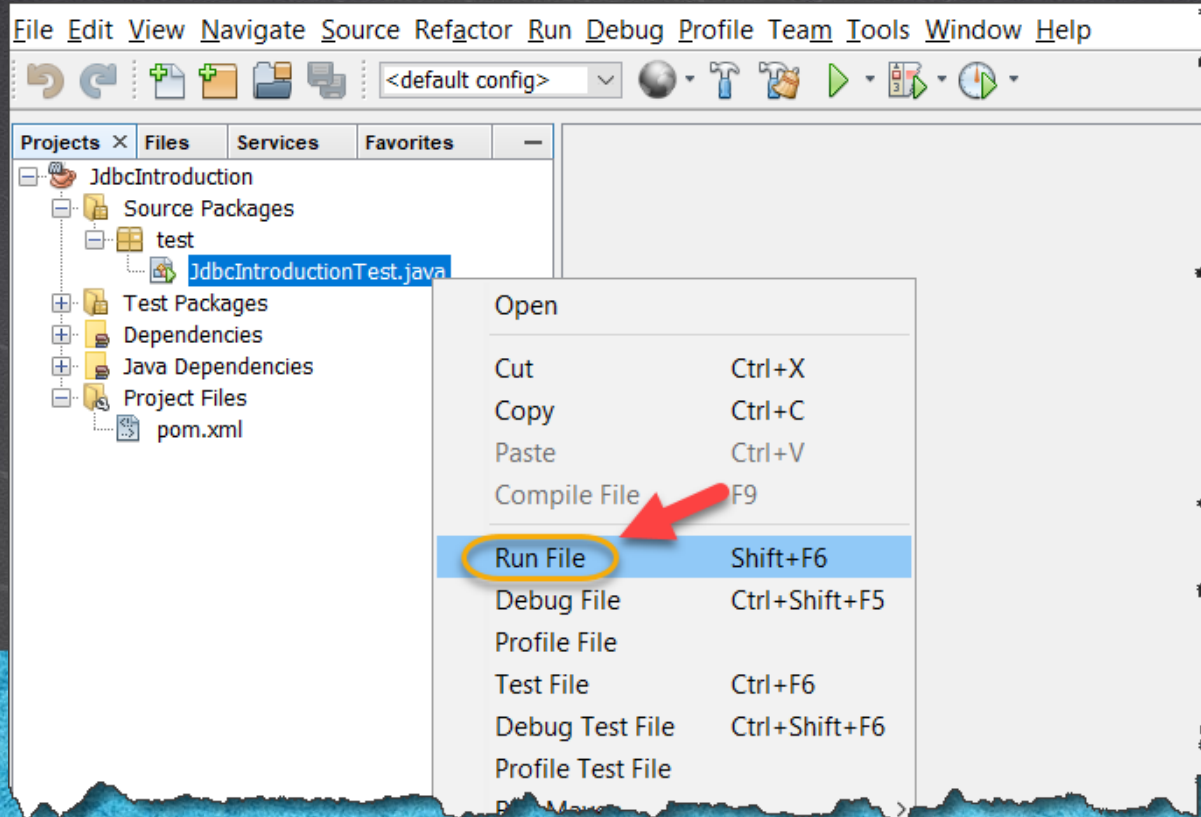
import java.sql.*;

public class JdbcIntroductionTest {

    public static void main(String[] args) {
        //MySQL connection string, the useSSL parameter is optional
        String url = "jdbc:mysql://localhost:3306/test?useSSL=false";
        try {
            //We loaded the mysql driver
            Class.forName("com.mysql.jdbc.Driver");
            //Create the connection object using try-with-resources to close the connection
            try ( Connection connection = DriverManager.getConnection(url, "root", "admin")) {
                //Create a Statement object
                Statement statement = connection.createStatement();
                //Create the query string
                String sql = "SELECT id_person, name FROM person";
                //Execute the query and obtain the result
                ResultSet result = statement.executeQuery(sql);
                //Process the result for every column in the query
                while (result.next()) {
                    System.out.print("Id:" + result.getInt(1));
                    System.out.print(", Name:" + result.getString(2));
                    System.out.println("");
                }
            }
        } catch (ClassNotFoundException | SQLException e) {
            e.printStackTrace(System.out);
        }
    }
}
```

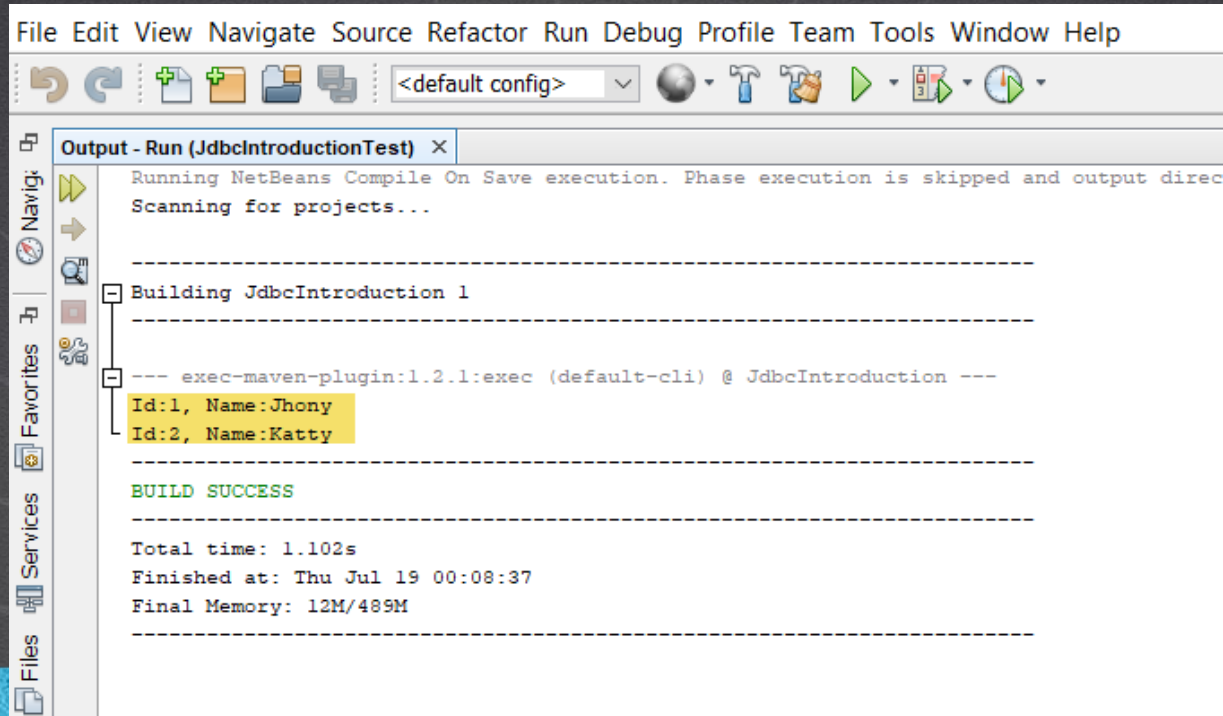

6. EXECUTE THE PROJECT

Execute the project:



6. EXECUTE THE PROJECT

The result is as follows:

A screenshot of the NetBeans IDE interface. The top menu bar includes File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, and Help. Below the menu is a toolbar with icons for undo, redo, new, open, save, and run. The run button is highlighted. The main window displays the 'Output - Run (JdbcIntroductionTest)' tab. The output text shows the execution of the project, including a build phase and a successful completion message. The output is as follows:

```
Running NetBeans Compile On Save execution. Phase execution is skipped and output directed to console.
Scanning for projects...

-----
Building JdbcIntroduction 1
-----
--- exec-maven-plugin:1.2.1:exec (default-cli) @ JdbcIntroduction ---
Id:1, Name:Jhony
Id:2, Name:Katty
-----
BUILD SUCCESS
-----
Total time: 1.102s
Finished at: Thu Jul 19 00:08:37
Final Memory: 12M/489M
-----
```

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EXERCISE CONCLUSION

- With this exercise we made our first connection to JDBC, and consulted information from the database that we created in the previous lesson.
- We also use Maven's technology to manage the libraries that we will use throughout the course, in particular, the mysql driver.
- It is not necessary that all the code is clear at this time, as we go forward we will work and deepen in each of the elements of this example.



ONLINE COURSE

JAVA WITH JDBC

By: Eng. Ubaldo Acosta



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