

TUTORIAL 1 – CONNECT JAVA TO MYSQL

❖ Goals

- Setup MySQL connection and create a database using either **MySQL Workbench** or **XAMPP**.
- Create a new Java project and establish a connection to MySQL in IntelliJ.

❖ Tasks

- Create the connection to MySQL then write SQL script to create a different database and at least 2 tables (ex: *StudentDB*, *EmployeeDB*, *HospitalDB*,...) in MySQL Workbench / phpMyAdmin
- Create new Java project and write code to connect to that database and show the table data to console in IntelliJ IDEA
- Submit the evidences (screenshots) that you already setup MySQL & establish a connection from Java to MySQL successfully.
 - Screenshot 1: **MySQL Workbench** or **phpMyAdmin** interface which you have created the database.
 - Screenshot 2: Your SQL script to create database & tables.
 - Screenshot 3: IntelliJ interface which you have created Java project with a Java classes to connect to MySQL.
 - Screenshot 4: Console output from your program which shows the table data from MySQL.
- Put every above screenshots into a Word document then submit to FIT LMS with file name syntax: *FullName_StudentID_SE2_Tut1.docx*

❖ Instructions of an example work

- 1) Open MySQL Workbench then create a new connection to MySQL

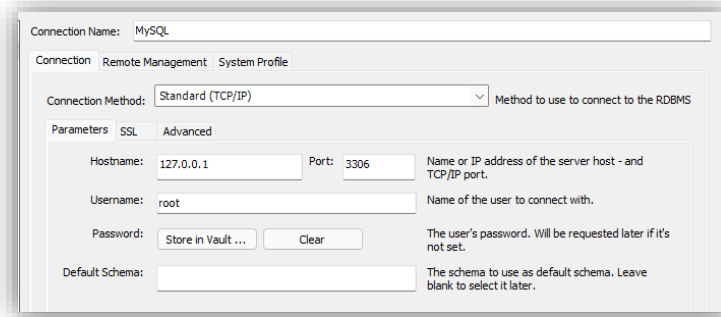


Figure 1 - Create connection to MySQL

If you're using XAMPP, open XAMPP Control Panel and make sure MySQL service is started and running. The default account for MySQL in XAMPP is **root** with empty password. Use phpMyAdmin to manage MySQL database at:

<https://localhost/phpmyadmin>

- 2) Create a new database (schema) and at least one table then insert some sample records (rows) to that table.

```
/* Create new database */
CREATE DATABASE bookdb;
/* Use this database */
USE bookdb;
/* Create new table */
CREATE TABLE book (
  id INT PRIMARY KEY AUTO_INCREMENT,
  title VARCHAR(50) NOT NULL,
  author VARCHAR(30) NOT NULL,
  price FLOAT NOT NULL);
/* Insert data to this table */
INSERT INTO book (title, author, price)
VALUES ("Java Web", "John", 100), ("Spring Boot", "David", 120);
```

Figure 2 - Sample SQL Script

3) Open IntelliJ then create a new Java project

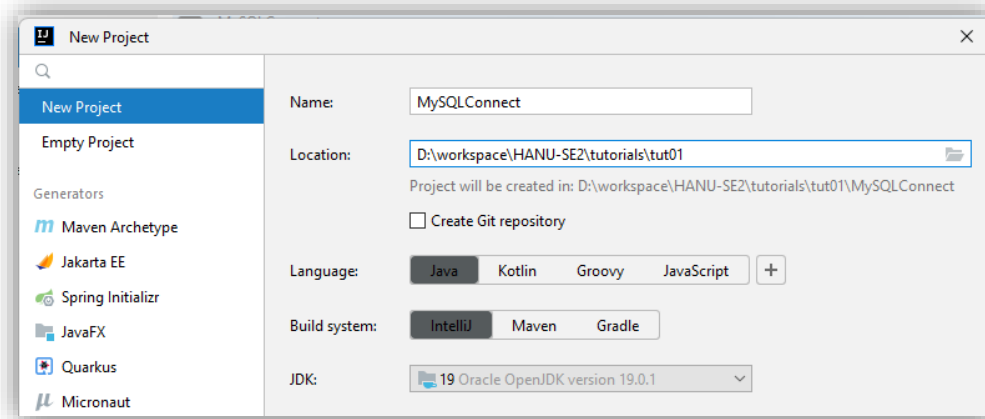


Figure 3 - Create new Java project

4) Import MySQL connector library:

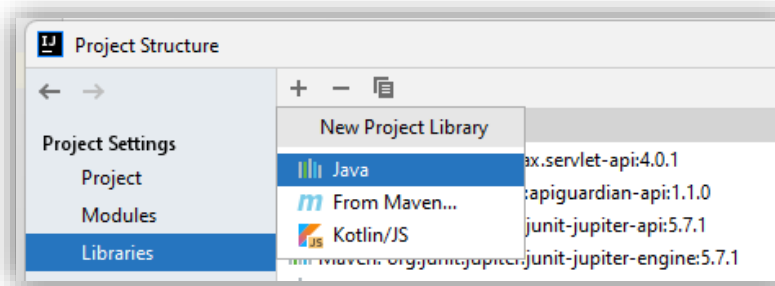


Figure 4 - Import MySQL library (1)

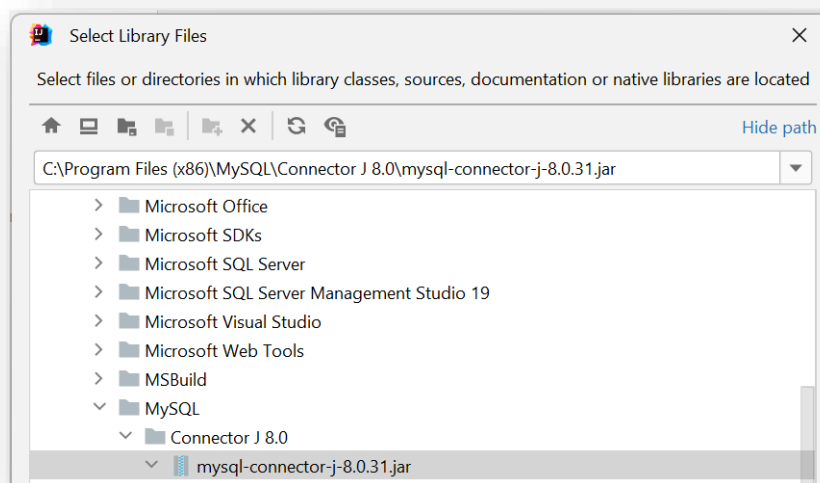


Figure 5 - Import MySQL library (2)

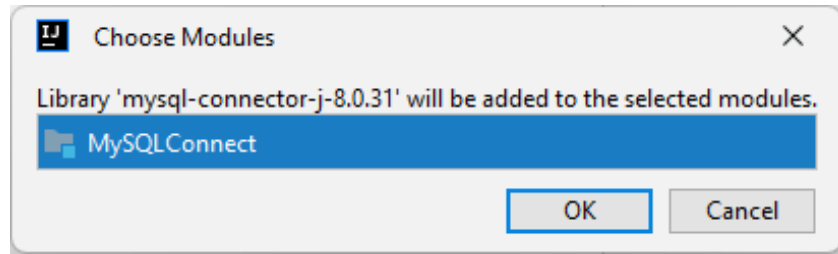


Figure 6 - Import MySQL library (3)

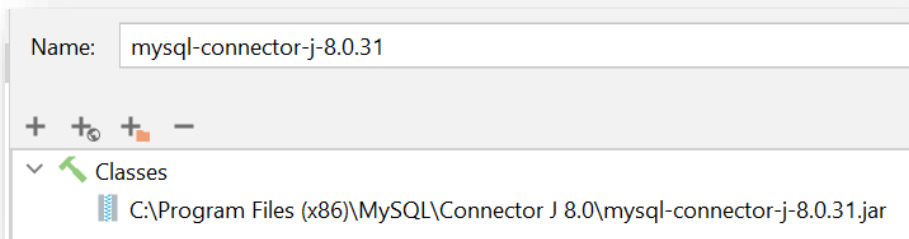


Figure 7 - Import MySQL library (4)

5) Create a new Java package and Java class for MySQL database connection

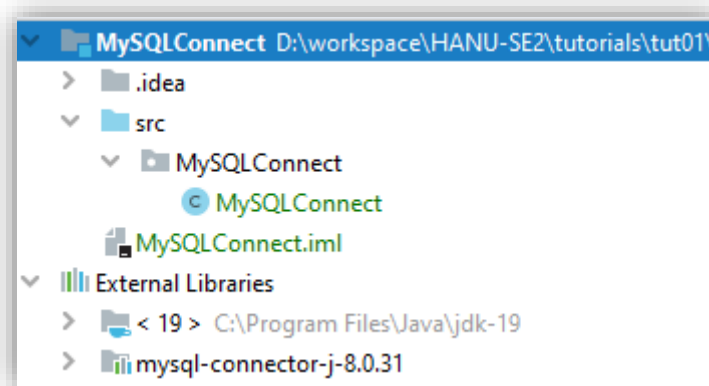


Figure 8 - Project structure

```

public class MySQLConnect {
    //set MySQL connection parameters
    private static final String DB_URL = "jdbc:mysql://127.0.0.1:3306/bookdb";
    private static final String DB_USERNAME = "root";
    private static final String DB_PASSWORD = "root";

    //main method for testing
    public static void main(String args[]) {
        try {
            // connect to database
            Connection con = getConnection(DB_URL, DB_USERNAME, DB_PASSWORD);
            /* System.out.println("Connection to DB succeed !"); */
            // create statement
            Statement stm = con.createStatement();
            // create SQL query
            String query = "SELECT * FROM book";
            // execute SQL query
            ResultSet rs = stm.executeQuery(query);
            // display data to console
            while (rs.next()) {
                System.out.println("Book ID: " + rs.getInt( columnIndex: 1));
                System.out.println("Book Title: " + rs.getString( columnIndex: 2));
                System.out.println("Book Author: " + rs.getString( columnIndex: 3));
                System.out.println("Book Price: " + rs.getString( columnIndex: 4));
                System.out.println("-----");
            }
            // close JDBC connection
            con.close();
        } catch (Exception ex) {
            ex.printStackTrace();
            /* System.err.println("Connection to DB failed !"); */
        }
    }
}

```

Figure 9 – MySQLConnect.java

```

Book ID: 1
Book Title:  Java Web
Book Author: John
Book Price: 100.0
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Book ID: 2
Book Title:  Spring Boot
Book Author: David
Book Price: 120.0
-----

```

Figure 10 - Console output