UNIVERSITY OF RUHUNA
BACHELOR OF INFORMATION AND COMMUNICATION TECHNOLOGY
Practical 09

ICT2132 – Object Oriented Programming Practicum

1. Create a MySQL Database and a Table as given below.

DB : student

Table : basicdata

stu_id	stu_name	stu_address
TG/001	Amila	Matara
TG/002	Basil	Hambantota
TG/003	Charles	Jaffna
TG/004	Debian	Colombo

2. Find out the MYSQL version which you are running in your computer
    a. Run "mysql -V" command in your Windows Terminal.

```
PS C:\Users\Dell> mysql -V
C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe  Ver 8.0.27 for Win64 on x86_64 (MySQL Community Server - GPL)
PS C:\Users\Dell>
```

    b. Find the version.
       In my case it's 8.0.27

3. Navigate to https://downloads.mysql.com/archives/c-j/ and enter the product version and your operating system as shown below.

⊙ MySQL Product Archives

‹ MySQL Connector/J (Archived Versions)

⚠ **Please note that these are old versions. New releases will have recent bug fixes and features!**
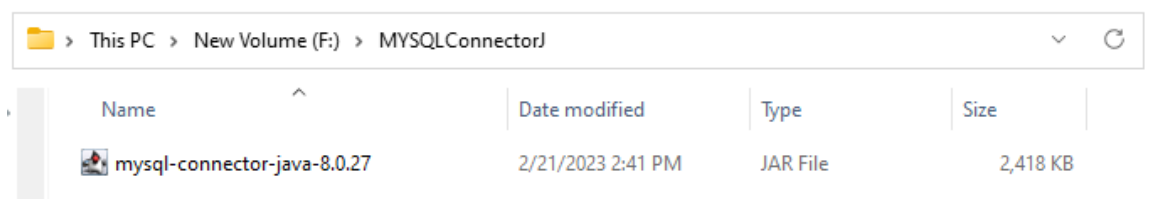To download the latest release of MySQL Connector/J, please visit MySQL Downloads.

Product Version: 8.0.27
Operating System: Platform Independent

Platform Independent (Architecture Independent), Compressed TAR Archive	Sep 28, 2021	4.0M	**Download**
(mysql-connector-java-8.0.27.tar.gz)			MD5: 9243dc26efa3909b13517e002a89d7f5 | Signature
Platform Independent (Architecture Independent), ZIP Archive	Sep 28, 2021	4.8M	**Download**
(mysql-connector-java-8.0.27.zip)			MD5: 3d054e96f5b70537cf53c4dd31f11eca | Signature

Note : In my case I have use "Platform Independent" so that I can use the connector irrespective of the OS.

    a. Download .ZIP or TAR archive and extract the downloaded connector to a known location.
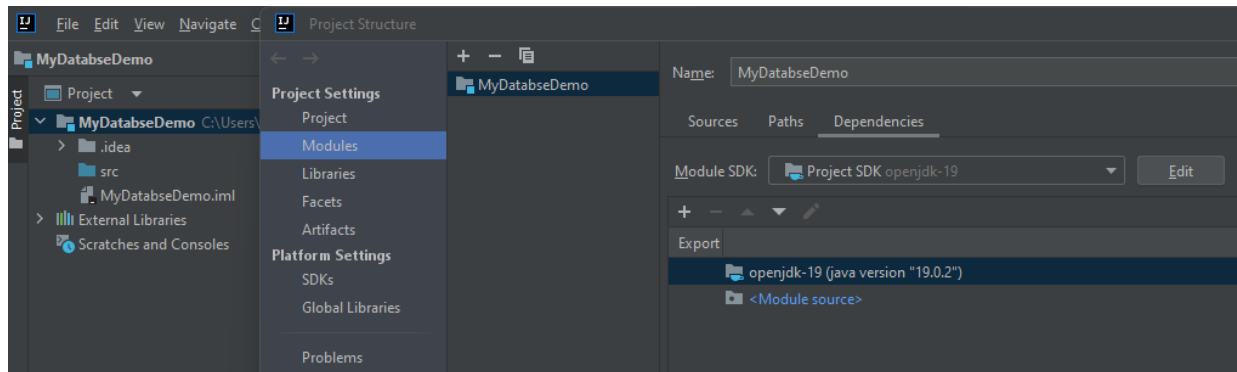   In my case it's "F:\MYSQLConnectorJ"

> This PC > New Volume (F:) > MYSQLConnectorJ

Name	Date modified	Type	Size
mysql-connector-java-8.0.27	2/21/2023 2:41 PM	JAR File	2,418 KB

Practical 09

ICT2132 – Object Oriented Programming Practicum
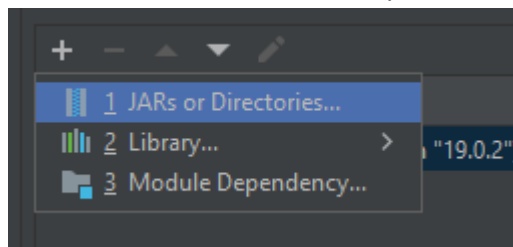
4. Create an IntelliJ project.

   In my case it's "MyDatabaseDemo"
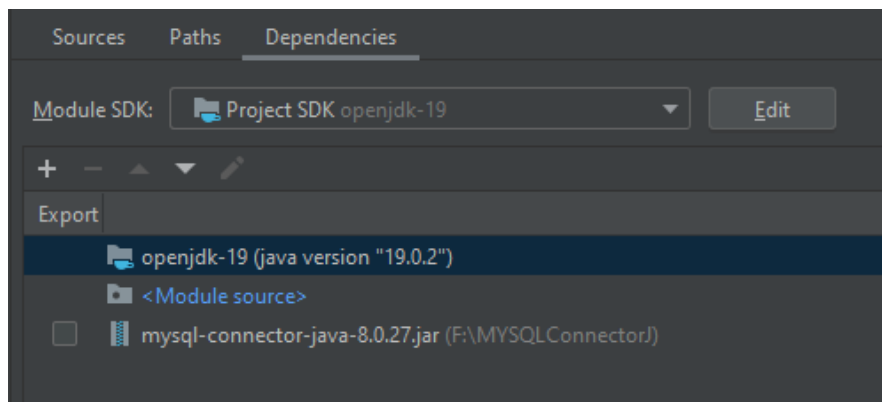
   a. Navigate to "File → Project Structure → Modules" and select the "Dependencies" tab.

   b. Add the MYSQL connector that you have downloaded in the above 3.

   c. Observe the below.

5. Refer "MyDatabaseDemo" from here onwards.

   a. Create a Java class named "MyDatabaseDemo" by adding the main method to run the program.

   b. Create "MyDbConnector" class to Register and Create the Connection.

   c. Create "DisplayStudent" class to display student details.

   d. Create "InsertStudent" class to insert new student details.

   e. Create "UpdateStudent" class to update student details.

   f. Create "DeleteStudent" class to delete student details.

ICT2132 – Object Oriented Programming Practicum

Exercises

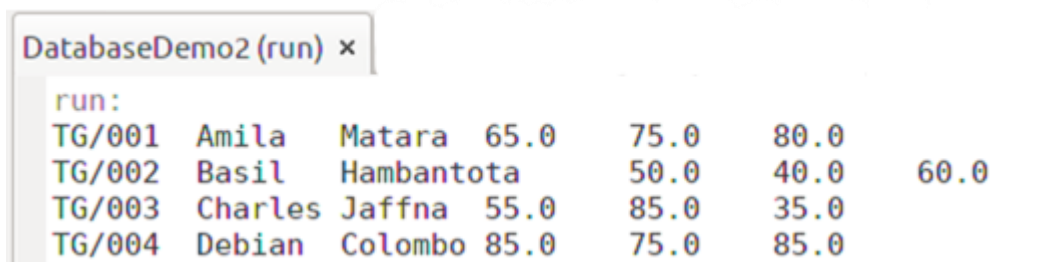1. Create a MYSQL database and Tables as shown below.

DB : student

Table : basicdata

stu_id	stu_name	stu_address
TG/001	Amila	Matara
TG/002	Basil	Hambantota
TG/003	Charles	Jaffna
TG/004	Debian	Colombo

Table : marks

stu_id	chemistry	physics	maths
TG/001	65	75	80
TG/002	50	40	60
TG/003	55	85	35
TG/004	85	75	85

2. Connect to above created 'student' database and retrieve the below given output.

```
DatabaseDemo2 (run) ×
run:
TG/001  Amila    Matara  65.0      75.0     80.0
TG/002  Basil    Hambantota        50.0     40.0     60.0
TG/003  Charles  Jaffna  55.0      85.0     35.0
TG/004  Debian   Colombo 85.0      75.0     85.0
```

3. Improve your program to get below given output.
   Get the output in Terminal.

Student ID	Name	Chemistry Grade	Physics Grade	Maths Grade	Overall Grade

◦ Grade references

Range	Grade
0-34	F
35-64	C
65-84	B
85-100	A

UNIVERSITY OF RUHUNA
BACHELOR OF INFORMATION AND COMMUNICATION TECHNOLOGY
Practical 09

ICT2132 – Object Oriented Programming Practicum

4. Improve your program by adding a new class named "Student" to represent the "Student" records from the database by implementing the following functionalities.
    a. Display a menu when you run your program as shown below.
        1. Insert a Student
        2. Update Student Name by ID
        3. Update Student Address by ID
        4. Delete Student by ID
        5. Search Student by ID
        6. Display All Students
        0. Exit
    b. Implement the respective functionality.