

Tutorial of week2

[Experimental-Objective]

- Analyze that, when storing data, compare to using file what is the advantage and disadvantage of using database.
- Learn how to build database according to .sql files.
- Learn how to build the jdbc program according to the source code.
- In this lab, you do not need to understand what the meaning of those sql statements.

[Questions]

The following questions are based on processing data by using file system. In this project we only have two .txt files including movies.txt and countries.txt.

1. If we want to add a new movie into movies.txt, what should we do?
2. If we want to get all continent names from countries.txt, what should we do?
3. Suppose that only get the continent names is not enough, and we need continent names with how many countries in each continent, what should we do?
4. More requirements, if we need the information including title of movie, the country name, the continent and the runtime of all movies according to a specific range of runtime, in this case, we have to fetch data from two txt files. What should we do?
5. If we have other requirements, how can we accomplish them?

[Build Your Project]

In this tutorial, we use intellij idea as IDE, and you can also do it by other way.

Step1: Drag four .java files into src folder.

Step2: Drag two .txt files into your project folder.

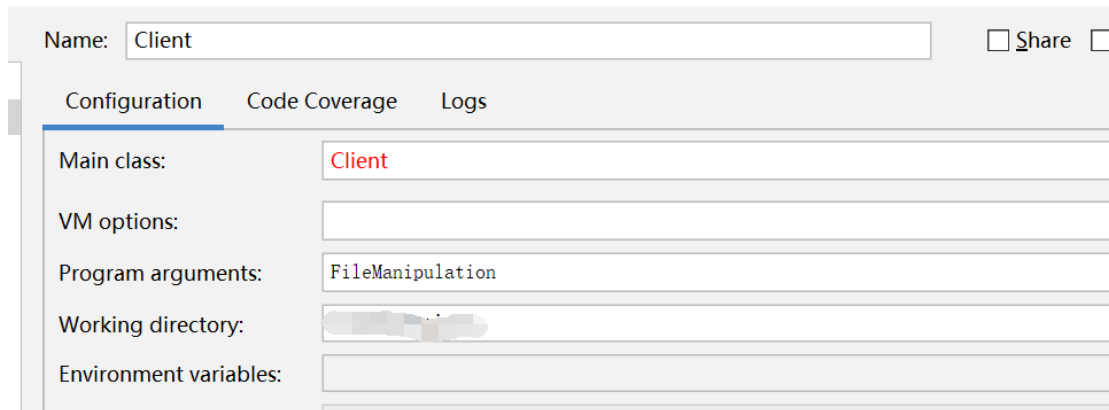
Step3: Run Client.java

It will meet an exception as follows.

Exception in thread "main" java.lang.ArrayIndexOutOfBoundsException:.....

Step4: Setting Configurations

Run -> Edit Configurations -> Configuration -> Program arguments

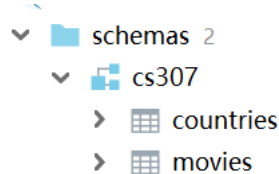


[JDBC setting]

You need to build database first.

Step1: Create database

Run all the .sql in "create_database.sql". After that the structure of your schema would as follows.



Step2: Import data

I suggest you using **datagrip** to import following two .sql files.

cs307_public_movies.sql

cs307_public_countries.sql

After execute:

select count(*) from movies;

result is 9536

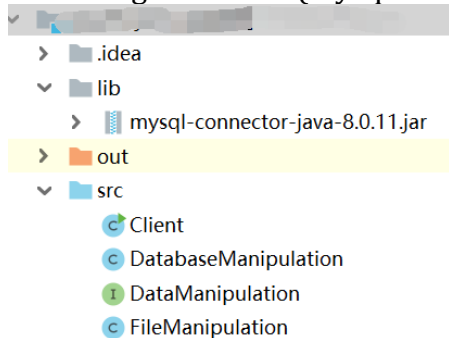
select count(*) from countries;

result is 185

Step3: Adding driver file

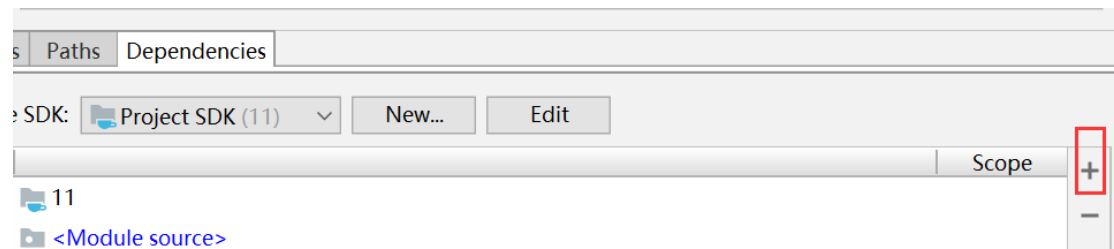
New a **directory** named **lib** in your project.

Then drag driver file (mysql-connector-java-8.0.11.jar) into lib folder.



File -> Project structure -> Dependencies-> Add jar or directories...

Set your lib folder as jar path.



Step4: Change your username and password in DatabaseManipulation.java.

After that, you can run your project.

[Acknowledgement]

All document description and part of source code are designed by Zhu Yueming. Thanks for Pan Chao help us complement the source code and thanks for Wang Zhiyuan export the sql files from original database. The original data are provided by Stephane Faroult.