JDBC

javax.sql
java.sql

Key classes :   Development Process:

DriverManager   1. Get a connection to database
Connection   2. Create a Statement object
Statement   3. Execute SQL query
ResultSet   4. Process Result Set
DataSource

   1.   Get a connection to a database
- jdbc:<driver protocol>:<driver connection details>
ex. jdbc:mysql://localhost:3306/demodb

```
import java.sql.*

…
String dbUrl = "jdbc:mysql://localhost:3306/demo";
String user = "student";
String password = "student";

Connection myConn =
DriverManager.getConnection(dbUrl,user,password);

```

2. Create a Statement object
   The Statement object depends on connection
- It will be used later to execute SQL query

Statement myStmt = myConn.createStatement;

3. Execute SQL query

ResultSet myRs = myStmt.executeQuery('select * from employees');

4. Process Result Set

• Result Set is initially places before first row
• Method: ResultSet.next()
   - moves forward one row
   - returns true if there are more rows to process
• Looping through a result set:
• Collection of methods for reading data

```
ResultSet myRs = myStmt.executeQeury("select * from
employees");

while(myRs.next()){
  // read data from each row
}
```

- getXXX(columnName)
- getXXX(columnIndex) one-based

```
…
ResultSet myRs = myStamt.executeQuery("select * from
employess");

while(myRs.next()){
  System.out.println(myRs.getString("last_name"));
  System.out.println(myRs.getStrig("first_name"));
}
```

Database Setup

Before run any java code must follow two steps:
• Step1: install MySQL
• Step2: Create New User: student

Step 1: Install MySQL
1. Goto: http://dev.mysql.com/downloads
2. Click on: MySQL Community Server
3. Download version for your Operating system like mac or win(choose web installer or offline - i chose web)
4. no need to sigh up - no thanks, just start my download
5. in installer - choose developer default - next
6. choose MySql Workbench - Execute
7. default selection - execution - download the default required software - Next
8. In Type and Network - remain default settings -Next
9.   In Accounts and Roles - make MySQL Root password - 12 char -strong - Next
10. In Windows Service - remain default - Next
11. In Apply Server Configuration - Execute
12. Finish- check - next - execute - installation complete - finish
13. Start mysql workbench for check - give root password - access to default tables and schemas
```

14. right click on tabel - Select Rows -Limit 1000 - Congratulation you have installed successfully!!

**Step 2: Create New Database User**
1. Open mysql workbench - double click on root user - type root password
2. should see Schemas tab - goto Management/Administration tab
3. click on Users and Privileges - click on Add Account
4. Fill details - Login Name: student; Limit to Hosts Matching: localhost; Password: student; Confirm Password: student;
5. click on the Administrative Roles tab - make sure DBA is selected - Apply
6. now we have new user created student
7. to verify - close Local instance 3306 near home icon
8. click on MySQL Connection + sign - fill the details - Connection Name: student; Username: student - Test Connection - enter the password student
9. if succeed - click on OK. - Congratulation you successfully added new user student!!!!

Download source Code:
http://www.luv2code.com/downloads/udemy-jdbc/jdbc-source-code-v2.zip

# Setting Up Your Development Environment

- **System Requirements -** need to have MySQL Database installed

  - SQL GUI tool - MySQL Workbench

- **Loading sample database table -**

- open mysql workbench - goto File -> Open SQL Script… -> downloaded

code :sql folder->table-setup.sql - select all - run -> refresh database schema -

see schema name : demo

- **installing JDBC Driver -**

 - Download jdbc driver: google - download mysql jdbc driver -> goto first link ->

select platform independent - > download zip - no thanks, just start my download

-> extract zip - mysql-connector-java-8.0.18,jar

- **Testing Database Connection**

- Setup eclipse project : open eclipse - > create java project: jdbc-test -> paste

mysql-connector-java-8.0.18,jar to root folder - > add jar in build path -> paste

class JdbcTest.java - Run - See the message "Database connection successful!"