

## JDBC ---Java database Connection

Step1 :

Register Driver

Step2:

Get connection

Step3:

Create statement

3 types of statement

1. Statement---→`conn.createStatement()`
  - a. This statement can be used to execute different queries
  - b. It is vulnerable for SQL injection attack
2. PreparedStatement -→`conn.prepareStatement(query)`
  - a. This statement can be used to execute only query associated with it
  - b. It is more secure than createStatement
  - c. Before execution of the query, It is necessary to set values for '?' which is a placeholder
3. CallableStatement--→`conn.preopareCall({call <Procedurename>(arguments)})`
  - a. Arguments can be used as '?'
  - b. At the time execution set the value for '?' placeholder
  - c. For in type parameter we use setter method
  - d. And for out type parameters we use registerOutparameter
  - e. To retrieve the value of out type parameter we use getter method

Step 4:

Execute the statement

1. To execute query with select statement
  - a. Then use `executeQuery()` , it returns `ResultSet`
  - b. Then we use while loop or if statement with `rs.next()`, to navigate through `ResultSet`
  - c. `rs.next()` returns true, if next row exists, else it returns false
  - d. and to retrieve the fields of current record, use `getXXX` methods, example: `getInt`, `getString`
2. To execute DML operation, like insert, update, delete, then use `executeUpdate()`, This function returns int value, i.e number of rows affected
3. To execute procedure, use `execute()` function, it returns true /false

Step 5:

Close connection-→ once the database usage is done , then close the connection