02/08/2022

Java Notes Day9

Day 9
1. SQL - Database Management
      > Printing
      > Updating
      > Seleting
2. Reflection

File handling
      - Object serialization

Object
|

| |
file   Database
| |
serialization   Persistence

Database software
|MySQL/HSQL
Database driver - .jar file
|
Java Program to connect with the Db
|
Interact with the Db

Download HSQLdb from the internet

      1. hsqldb.org
            download the db 2.6.1
      2. extract the zip
      3. goto the lib folder of the extracted folder
      4. and start the cmd in it.
      TO START THE HSQLDB SERVER ->
            java -cp hsqldb-jdk8.jar org.hsqldb.server.Server --database.0
file:mydb --dbname.0 xdb
      5. and star the another cmd in it.
            TO START THE HSQLDB INTERFACE -> java -jar hsqldb-jdk8.jar
      6. once the interface appread, select the TYPE : engine server
            URL : jdbc:hsqldb:hsql://localhost/xdb
      xdb as the database name at the end of the URL
      7. try any table creation process
            create table mydept120
            (
                  deptno int,
                  deptname varchar(20),
                  loc varchar(20)
)
            select above create table command paragraph

```
            and execute it
      8. explore the other commands by right clicking on the table name

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NOT Inheritance
Driver.class ----> Interface
|     |
|     HSQLDB.jar (1. KNOW YOUR DB)
            - org.hsqldb.jdbc.JDBCDriver ----> Implementation of the
interface
DriverManager
      - Load the driver(2. LOAD IT) - DriverManager.registerDriver(new
org.hsqldb.jdbc.JDBCDriver());
      - Connect to the database(3. CONNECT TO THE DB)
            - Connection conn =
DriverManager.getConnection("jdbc:hsqldb:hsql://localhost/xdb", "SA",
"");
|
Connection
4. MAKE A STATEMENT ----> Statement state = conn.createStatement();
Statement
6. RUN STATEMENT(EXECUTE QUERY) ----> ResultSet rs =
state.executeQuery("SELECT * FROM EMPLOYEE");
                              ResultSet rs = state.executeQuery("SELECT *
FROM EMPLOYEE where EMPNO =");
7. GET DETAILS ----> while(rs.next())
                  {
                        int empno = rs.getInt(1);
                        String ename = rs.getString(2);
                        int sal = rs.getInt(3);
                        System.out.println("------------------------");
                        System.out.println("Employee number : "+empno);
                        System.out.println("Employee name      : "+ename);
                        System.out.println("Employee salary : "+sal);
                        System.out.println("------------------------");
                  }
8. CLOSE ALL

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4. PreparedStetment --> Interface to perform DML operation
            insert/update/delete

EmployeeAlreadyExistsException -->

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Reflection (api) - Original image --> Mirror -
Introspecting/Crawling/Spider of the object
                           <--
Every object of an object class has a method getClass that returns an
object of class class

Every instance of an "object class" has a method getClass() that returns
an instance of class Class
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Object
Class getClass()
{}

Flight obj1 = new Flight();

Class theClass = obj1.getClass();
theClass.getName();
theClass.getMethods();

Method m1[] = theClass.getMethods();

for each --> print the methods

Constructor m1[] = theClass.getConstructors();

Parameter p1[] = theClass.getParameters();
p1.getParameterCount()
p1.getType()


getClass() -->


Assignment
Make one table as student, with roll number, student name, birthdate,
physics, chemistry, maths, total, grade
Perform INSERT, UPDATE, DELETE, SELECT AND SELECT ALL RECORDS OPERATIONS
OVER IT USING THE JDBC

CREATE TABLE STUDENTSS
(
   STROLLNO INT PRIMARY KEY,
   STNAME VARCHAR(20),
   STBDATE INT,
   STPHY INT,
   STCHEM INT,
   STMATHS INT,
   STTOTAL INT,
   STGRADE CHAR
)

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```