1. Why do we need JDBC?

From a java Program to interact with a database

to send SQL commands to the database and to

interact with the database, we need JDBC concept.

1. What is driver?

To establish a connection from java program to

the database there is concept called driver.

Driver is used for establishing a connection

from java program to the database.

Without Driver we can’t make a connection from

java program to the database.

1. Do we have the driver in JDK?
2. Yes **(B) No**
3. Write a simple JDBC program to create a table and insert 10 records to the database?

import java.sql.\*;

class D

{

    public static void main(String[] args) throws Exception

    {

        Class.forName("oracle.jdbc.driver.OracleDriver");

        Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:XE", "system","admin");

        Statement stmt = con.createStatement();

        String sql1 = "CREATE TABLE PERSON(ID NUMBER, NAME VARCHAR2(90), AGE NUMBER)";

        String sql2 = "INSERT INTO PERSON VALUES(1, 'ABC', 22)";

        String sql3 = "INSERT INTO PERSON VALUES(2, 'XYZ', 25)";

        String sql4 = "INSERT INTO PERSON VALUES(3, 'RAMU', 20)";

        String sql5 = "INSERT INTO PERSON VALUES(4, 'VIJAY', 21)";

        String sql6 = "INSERT INTO PERSON VALUES(5, 'KIRAN', 29)";

        String sql7 = "INSERT INTO PERSON VALUES(6, 'BABU', 29)";

        String sql8 = "INSERT INTO PERSON VALUES(7, 'NAVEEN', 24)";

        String sql9 = "INSERT INTO PERSON VALUES(8, 'MANU', 26)";

        String sql10 = "INSERT INTO PERSON VALUES(9, 'ANU', 24)";

        String sql11 = "INSERT INTO PERSON VALUES(10, 'VINU', 29)";

        stmt.execute(sql1);

        stmt.execute(sql2);

        stmt.execute(sql3);

        stmt.execute(sql4);

        stmt.execute(sql5);

        stmt.execute(sql6);

        stmt.execute(sql7);

        stmt.execute(sql8);

        stmt.execute(sql9);

        stmt.execute(sql10);

        stmt.execute(sql11;

        System.out.println("done");

    }

}

1. Write a JDBC program to get the user data using command line arguments and insert it to the database?

import java.sql.\*;

class E

{

    public static void main(String[] args) throws Exception

    {

        if(args.length < 3)

        {

            System.out.println("Please supply 3 command line args");

            return;

        }

        String id = args[0];

        String name = args[1];

        String age = args[2];

", '" + name +"'," + age +")";

        Class.forName("oracle.jdbc.driver.OracleDriver");

        Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:XE", "system","admin");

        Statement stmt = con.createStatement();

        stmt.execute(sql);

        System.out.println("done");

    }

}

1. Write a JDBC program to get the user data using Scanner class and insert it to the database?

import java.sql.\*;

import java.util.Scanner;

class F

{

    public static void main(String[] args) throws Exception

    {

        Scanner sc = new Scanner(System.in);

        System.out.println("Please enter id");

        String id = sc.next();

        System.out.println("Please enter name");

        String name = sc.next();

        System.out.println("Please enter age");

        String age = sc.next();

        String sql = "INSERT INTO PERSON VALUES(" + id + ", '" + name +"'," + age +")";

        Class.forName("oracle.jdbc.driver.OracleDriver");

        Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:XE", "system","admin");

        Statement stmt = con.createStatement();

        stmt.execute(sql);

        System.out.println("done");

    }

}

1. Write a JDBC program to get the user data using do while loop and insert it to the database?

import java.sql.\*;

import java.util.Scanner;

class G

{

    public static void main(String[] args) throws Exception

    {

        Class.forName("oracle.jdbc.driver.OracleDriver");

        Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:XE", "system","admin");

        Statement stmt = con.createStatement();

        Scanner sc = new Scanner(System.in);//creating the scanner object

        String id, name, age, sql;

        do

        {

            System.out.println("Please enter id");

            id = sc.next();

            System.out.println("Please enter name");

            name = sc.next();

            System.out.println("Please enter age");

            age = sc.next();

            sql = "INSERT INTO PERSON VALUES(" + id + ", '" + name +"'," + age +")";

            stmt.execute(sql);

            System.out.println("do you want to insert one more(yes/no)?");

        }

        while ("yes".equalsIgnoreCase(sc.next()));

        System.out.println("done");

    }

}

1. Write a JDBC program to read the data from a file and insert it to the database?

import java.sql.\*;

import java.io.\*;//to interact with the file system

class H

{

    public static void main(String[] args) throws Exception

    {

        Class.forName("oracle.jdbc.driver.OracleDriver");

        Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:XE", "system","admin");

        Statement stmt = con.createStatement();

        FileReader fin = new FileReader("data.txt");

        BufferedReader bin = new BufferedReader(fin);

        String record = bin.readLine();

        String id, name, age, sql, data[];

        while(record != null)

        {

            data = record.split(";");

            id = data[0].trim();

            name = data[1].trim();

            age = data[2].trim();

            sql = "INSERT INTO PERSON VALUES(" + id + ", '" + name +"'," + age +")";

            stmt.execute(sql);

            record = bin.readLine();

        }

        System.out.println("done");

    }

}

**Example data.txt**

126;ramu;24

127;ravi;28

128;anu;26

129;pavan;24

130;ramana;25

1. Write a JDBC program to select all the records from the database?

import java.sql.\*;

class M1

{

    public static void main(String[] args) throws Exception

    {

        Class.forName("oracle.jdbc.driver.OracleDriver");

        Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:XE", "system","admin");

        Statement stmt = con.createStatement();

        String sql = "SELECT \* FROM PERSON";

        ResultSet rs = stmt.executeQuery(sql);

        while(rs.next())

        {

            System.out.print(rs.getInt("id") + ", ");

            System.out.print(rs.getString("name") + ", ");

            System.out.print(rs.getInt("age") + ", ");

            System.out.println();

        }

        System.out.println("done");

    }

}

1. Write a JDBC program to select the records from the database using ResultSetMetaData?

import java.sql.\*;

class M7

{

    public static void main(String[] args) throws Exception

    {

        Class.forName("oracle.jdbc.driver.OracleDriver");

        Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:XE", "system","admin");

        Statement stmt = con.createStatement();

        //we are selecting only two columns

        //giving aliasing name for the columns

        String sql = "SELECT id p\_id, age person\_age FROM PERSON";

        ResultSet rs = stmt.executeQuery(sql);

        ResultSetMetaData rsmd = rs.getMetaData();

        System.out.println(rsmd.getColumnCount());

        System.out.println(rsmd.getColumnName(1));

        System.out.println(rsmd.getColumnName(2));

        while(rs.next())

        {

            System.out.print(rs.getString(1) + ", ");

            System.out.print(rs.getString(2) + ", ");

            System.out.println();

        }

        System.out.println("done");

    }

}

1. What Write a standard JDBC program by using try catch blocks?

import java.sql.DriverManager;

import java.sql.SQLException;

import java.sql.Connection;

import java.sql.Statement;

class M1

{

    public static void main(String[] args)

    {

        try

        {

            Class.forName("oracle.jdbc.driver.OracleDriver");

        }

        catch (ClassNotFoundException ex)

        {

            ex.printStackTrace();

        }

        Connection con = null;

        Statement stmt = null;

        try

        {

            String url = "jdbc:oracle:thin:@localhost:1521:XE";

            String un = "system";

            String pw = "admin";

            con = DriverManager.getConnection(url, un, pw);

            stmt = con.createStatement();

            String sql = "INSERT INTO PERSON VALUES(21, 'MANOHAR', 35)";

            stmt.execute(sql);

        }

        catch (SQLException ex)

        {

            ex.printStackTrace();

        }

        finally

        {

            try

            {

                if(stmt != null)

                {

                    stmt.close();

                    stmt = null;

                }

            }

            catch (SQLException ex)

            {

                ex.printStackTrace();

            }

            try

            {

                if(con != null)

                {

                    con.close();

                    con = null;

                }

            }

            catch (SQLException ex)

            {

                ex.printStackTrace();

            }

        }

        System.out.println("done");

    }

}

1. Write a standard JDBC program using properties concept?

import java.sql.DriverManager;

import java.sql.SQLException;

import java.sql.Connection;

import java.sql.Statement;

import java.sql.ResultSet;

import java.sql.ResultSetMetaData;

import java.io.FileReader;

import java.io.IOException;

import java.util.Properties;

class M4

{

    public static void main(String[] args)

    {

        Properties pr = new Properties();

        try(FileReader fin = new FileReader("db.properties"))

        {

            pr.load(fin);

        }

        catch (IOException ex)

        {

            ex.printStackTrace();

        }

        String driver = pr.getProperty("driverClassName");

        String url = pr.getProperty("url");

        String un = pr.getProperty("username");

        String pw = pr.getProperty("password");

        try

        {

            Class.forName("oracle.jdbc.driver.OracleDriver");

        }

        catch (ClassNotFoundException ex)

        {

            ex.printStackTrace();

        }

        String sql = "SELECT \* FROM PERSON";

        try(Connection con = DriverManager.getConnection(url, un, pw);

            Statement stmt = con.createStatement();

            ResultSet rs = stmt.executeQuery(sql)) //JDK 1.7

        {

            ResultSetMetaData rsmd = rs.getMetaData();

            int cols = rsmd.getColumnCount();

            for (int i = 1; i <= cols; i++)

            {

                System.out.print(rsmd.getColumnName(i) + "\t");

            }

            System.out.println();

            System.out.println("--------------------");

            while(rs.next())

            {

                for (int i = 1; i <= cols; i++)

                {

                    System.out.print(rs.getString(i) + "\t");

                }

                System.out.println();

            }

        }

        catch (SQLException ex)

        {

            ex.printStackTrace();

        }

        System.out.println("done");

    }

}

**db.properties file**

driverClassName=oracle.jdbc.driver.OracleDriver

url=jdbc:oracle:thin:@localhost:1521:XE

username=system

password=admin