

Dt : 22/11/2023

Ex-program:

JDBC Application to execute create-query from Java Program.

Program : DBCon16.java

package maccess;

import java.sql.*;

import java.util.*;

public class DBCon16 {

public static void main(String[] args) {

Scanner s = new Scanner(System.in);

try(s){

try {

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

Connection con = DriverManager.getConnection

("jdbc:oracle:thin:@localhost:1521:xe",

"system","manager");

Statement stm = con.createStatement();

System.out.println("Enter query(Create/insert/update/delete)");

String qr = s.nextLine();

int k = stm.executeUpdate(qr);

System.out.println("The value k:"+k);

```

        if(k>=0) {

            System.out.println("query executed...");

        }

        System.out.println("Enter select query:");

        String qr2 = s.nextLine();

        ResultSet rs = stm.executeQuery(qr2);

        while(rs.next()) {

            System.out.println(rs.getString(1)+"\t"+
                               rs.getString(2));

        }

    }catch(Exception e) {e.printStackTrace();}

} //end of try with resource

}

```

o/p:

Enter query(Create/insert/update/delete)

insert into Emp7 values('A22','Alex')

The value k:1

query executed...

Enter select query:

select * from Emp7

A11 Raj

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faq:

define Batch Processing in JDBC?

=>The process of collecting multiple queries as batch and executing at-a-time on DB product, is known as Batch Processing.

=>The queries declared in batch must be only NonSelect queries, because of this reason Batch processing is also known as Batch Update processing

=>we use the following methods in Batch Processing:

(a)addBatch()

(b)executeBatch()

(c)clearBatch()

(a)addBatch():

=>addBatch() method is used to add query to the batch.

Method Signature:

public abstract void addBatch(java.lang.String)throws java.sql.SQLException;

(b)executeBatch():

=>executeBatch() method executed execute batch on DB product.

Method Signature:

public abstract int[] executeBatch()throws java.sql.SQLException;

(c)clearBatch():

=>clearBatch() method is used to delete all queries from the batch and destroy the batch.

Method Signature:

public abstract void clearBatch() throws java.sql.SQLException;

Ex-program:

Batch:

query-1 : create table emp9(id,name)

query-2 : create table cust9(id,name,phno)

query-3 : insert into emp9

query-4 : insert into cust9

Program : DBCon17.java

package maccess;

import java.sql.*;

import java.util.*;

public class DBCon17 {

public static void main(String[] args) {

Scanner s = new Scanner(System.in);

```
try(s;){  
    try {  
        Class.forName("oracle.jdbc.driver.OracleDriver");  
        Connection con = DriverManager.getConnection  
            ("jdbc:oracle:thin:@localhost:1521:xe",  
             "system","manager");  
        Statement stm = con.createStatement();  
        System.out.println("Enter number of queries to be added to batch:");  
        int n = Integer.parseInt(s.nextLine());  
        System.out.println("Enter "+n+" queries..");  
        for(int i=1;i<=n;i++)  
        {  
            System.out.println("Enter the query-"+i);  
            String qr = s.nextLine();  
            stm.addBatch(qr);  
        }//end of loop  
        int k[] = stm.executeBatch();  
        for(int i : k) {  
            System.out.println("value i : "+i);  
            System.out.println("query executed...");  
        }//end of loop  
        stm.clearBatch();  
    }  
}
```

```
        }catch(Exception e) {e.printStackTrace();}  
    }  
} //end of try  
}
```

o/p:

Enter number of queries to be added to batch:

4

Enter 4 queries..

Enter the query-1

create table Emp9(id varchar2(10),name varchar2(15),primary key(id))

Enter the query-2

create table Cust9(id varchar2(10),name varchar2(15),phno number(15),primary key(id))

Enter the query-3

insert into emp9 values('A11','Raj')

Enter the query-4

insert into cust9 values('A11','Raj',989898)

value i : 0

query executed...

value i : 0

query executed...

value i : 1

query executed...

value i : 1

query executed...

=====

Note:

**(i)we can perform batch processing using 'Statement' and
'PreparedStatement'**

**(ii)Batch Processing using 'Statement' we can perform operations on
Multiple DB tables.**

**(iii)Batch Processing using 'PreparedStatement' we can perform operations
only on single DB Table.**

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faq:

wt is the diff b/w

(i)Procedures

(ii)Batch Processing

**=>using procedures we can execute all types of queries,which means we can
execute select and NonSelect queries.**

=>Using Batch Processing we can execute only NonSelect queries

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faq:

define JDBC driver?

=>The driver which is used to establish connection b/w JavaProgram and Database product is known as JDBC driver.

(Java DataBase Connectivity driver)

Types of JDBC drivers:

=>JDBC drivers are categorized into four types:

1.JDBC-ODBC bridge driver(Type-1)

2.Native API driver(Type-2)

3.Network Protocol driver(Type-3)

4.Thin driver(Type-4)

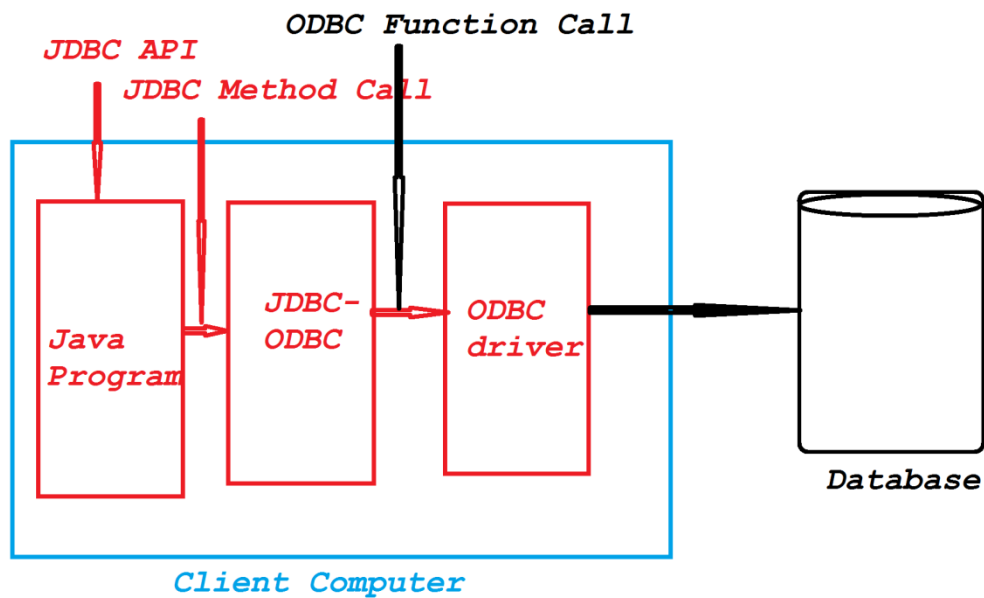
1.JDBC-ODBC bridge driver(Type-1):

=>The JDBC-ODBC driver will use ODBC-driver to connect to the DB product.

=>This JDBC-ODBC driver will convert JDBC method calls into ODBC

function calls,which establishes connection to DB Product.

Diagram:



Advantage:

=>Type-1 driver will connect to any database.

DisAdvatage:

=>Type-1 driver will degrade the performance of an application,because more conversions are available and which consumes more execution time.

Note:

=>From Java8 version onwards Type-1 driver support is not available.

faq:

define ODBC driver?

=>ODBC stands for Open DataBase Connectivity and this ODBC driver will support connect to any type of database.

=>ODBC driver internally having c/c++ code and which is Platform dependent driver.

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