



サンプル Java プログラム

概要

この付録には、Java Database Connectivity (JDBC) を使用して SQL データベースに接続し、SQL 文を作成および実行してから、結果を取得する Java プログラムを作成するために必要なファイルが含まれています。表 A-1 に、サンプル ファイルを示します。

表 A-1 サンプル Java プログラム内のファイル

ファイル	説明
例 A-1 JTest.java	データベースに接続し、文を作成および実行してから、結果を取得するメイン プログラム。
例 A-2 ConnectionPoolManager.java	データベースに接続するための ConnectionPoolManager クラスの定義。
例 A-3 Switch.java	文を作成するための switch クラスの定義。
例 A-4 db.properties	データベースに固有の定義。これらの値は、使用する JDBC ドライバ、およびアクセスするデータベースの URL、ユーザ、およびパスワードを反映するように設定する必要があります。

Wikipedia と『JDBC API Guide』で JDBC の概要を参照するには、次のリンクにアクセスしてください。

- <http://en.wikipedia.org/wiki/JDBC>
- <http://download.oracle.com/javase/1.5.0/docs/guide/jdbc/>

JDBC API をインストールすると、文で使用するデータ型をインストール ディレクトリ ファイル constant-values.html で検索できます。

例 A-1 JTest.java

```
import java.sql.*;
import java.io.*;
import java.util.*;

public class JTest {

    public static void main(String args[]) {

        Connection con;
```

```

Statement stmt;
SQLWarning warning = null;
boolean ret = false;
ResultSet results = null;
int updateCount = 0;
Properties prop = new Properties(); // contains contents of propertyFileName
String drivename = null;
String drivename2 = null;
String name;
String URL;
String user;
String password;

System.out.println("Java Test");

try {
    // Get the Connection Props.
    InputStream is = new BufferedInputStream(new FileInputStream(new File("db.properties")));
    prop.load(is);
    is.close();

    name = prop.getProperty("DS.name");
    URL = prop.getProperty("DS.url");
    user = prop.getProperty("DS.user");
    password = prop.getProperty("DS.password");
    drivename = prop.getProperty("DS.driver");
    drivename2 = prop.getProperty("DS.driver2");

    System.out.println(name);
    System.out.println(URL);
    System.out.println(drivename);

    // REGISTER DRIVER
    Driver d = (Driver)Class.forName(drivename).newInstance();

    if ( drivename2 != null ) {
        Driver d2 = (Driver)Class.forName(drivename2).newInstance();
        System.out.println(drivename2);
    }

    // GET CONNECTION
    con = DriverManager.getConnection(URL,user,password);

    // GET CONNECTION WARNINGS
    try {
        warning = con.getWarnings();

        if (warning == null){
            System.out.println("No Warnings");
            //return;
        }

        while (warning != null) {
            System.out.println("Warning: "+warning);
            warning = warning.getNextWarning();
        }

    } catch (Exception e){
        System.out.println(e);
    }

    // CREATE STATEMENT
    stmt = con.createStatement();

```

```

// EXECUTE SQL
ret = stmt.execute("select * from EMP");
if (ret == true){
    results = stmt.getResultSet();
}
else{
    updateCount = stmt.getUpdateCount();
}

// GET ALL RESULTS
StringBuffer buf = new StringBuffer();
try {
    ResultSetMetaData rsmd = results.getMetaData();
    int numCols = rsmd.getColumnCount();
    int i, rowcount = 0;

    // get column header info
    for (i=1; i <= numCols; i++){
        if (i > 1) buf.append(",");
        buf.append(rsmd.getColumnLabel(i));
    }
    buf.append("\n");

    // break it off at 100 rows max
    while (results.next() && rowcount < 100){
        // Loop through each column, getting the column
        // data and displaying

        for (i=1; i <= numCols; i++) {
            if (i > 1) buf.append(",");
            buf.append(results.getString(i));
        }
        buf.append("\n");
        rowcount++;
    }
    results.close();
    System.out.println(buf);
} catch (Exception e) {
    System.out.println(e);
    return;
}

} catch (Exception e) {
    System.out.println(e);
}

}

}

/*
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*/

```

例 A-2 ConnectionPoolManager.java

```

public class ConnectionPoolManager {
    //specify which database schema will be used
    private final static String Alias = "dbname";
    //specify the database vendor library that implements JDBC api
    private final static String DbDriver = "org.hsqldb.jdbcDriver";
    //other attributes for connecting database
    private static String DbUrl = "jdbc:hsqldb:hsqldb://localhost";
    private static String DbUser = "db_username";
    private static String DbPass = "_db_password";
    private final static String[] DbFiles = {
        "dbname.data",
        "dbname.script",
        "dbname.backup",
        "dbname.properties",
        "dbname.log"
    };
};

public static ConnectionPoolManager Instance;

public static ConnectionPoolManager getInstance(){
if(Instance == null){
    Class.forName(DbDriver).newInstance();
    Instance= new ConnectionPoolManager(300);
    Instance.addAlias(Alias, DbDriver, DbUrl, DbUser, DbPass, 6, 300, 10, 10);
}
return Instance;
}

public Connection getConnection() throws SQLException {
return DriverManager.getConnection("jdbc:bitmechanic:pool:"+ Alias, null, null);
}

public static void returnConnection(Connection conn) throws SQLException {
conn.close();
}
}

```

例 A-3 Switch.java

```

public final class Switch {
    final static String QuerySQLByFabricID =
        "select id, wwn, ip_address, is_mds, type, is_managable, non_mds_model, sys_name, sys_contact,
        sys_location, sys_uptime, active_sup_slot, conn_unit_status, standby_sup_state, feature_flag,
        is_license_violation, version, is_present, serial_number, unmanagable_cause, last_scan_time, num_ports,
        is_trap_registered, is_syslog_registered, standby_sup_slot, module_index_offset from switch where
        fabric_id=?";

public static ArrayList loadFromDB(long fabricId)
throws SQLException {
    Connection con = ConnectionPoolManager.getInstance().getConnection();
    PreparedStatement stat = con.prepareStatement(QuerySQLByFabricID);
    ResultSet rs = null;

    try {
        stat.setLong(1, fabricId);
        rs = stat.executeQuery();
        ArrayList al = new ArrayList();
        //parsing result set and put items to the list
        //....
        //....
    }
}

```

```
        rs.close();
        return al;
    } catch (SQLException ex) {
        return null;
    }
    finally {
        if (rs != null) {
            rs.close();
        }
        DriverManager.getInstance().returnConnection(con);
    }
}
}
```

例 A-4 db.properties

```
DS.driver=com.ddtek.jdbc.oracle.OracleDriver
DS.name=ddtek
DS.url=jdbc:datadirect:oracle://servername:1521;SID=ORASID
DS.user=uid
DS.password=pwd

//DS.driver=com.ddtek.jdbc.sequelink.SequeLinkDriver
//DS.name=ddtek
//DS.url=jdbc:sequelink://servername:19996
//DS.user=uid
//DS.password=pwd

//DS.driver=com.ddtek.jdbc.spy.SpyDriver
//DS.driver2=com.ddtek.jdbc.oracle.OracleDriver
//DS.name=ddtek
//DS.url=jdbc:spy:{jdbc:datadirect:oracle://servername:1521;SID=ORASID;user=uid;password=pwd};log=(file)C:\\temp\\spy.log
//DS.user=scott
//DS.password=tiger
```

