## **DataBean**

1. Tạo Class DataBean.class mục đích là xây dựng một "bean" tối đa khả năng sử dụng lại trên toàn bộ các project khác nhau:

```
💰 DataBean.java 🔞
                 Source History
      package bean;
  2
  3
  4
       * @author tuann
  5
     L */
  6
     pimport java.util.*;
      └import java.sql.*;
      public class DataBean {
  Q
 10
 11
          private Connection connection = null;
          private ResultSet resultset = null;
 12
 13
          // Khai bao ve cac kieu cau truy van co the su dung
 14
          private Statement statement = null;
 15
          private PreparedStatement prepareStatement = null;
 16
 17
          private CallableStatement storeProc = null;
 18
 19
          // Cac thong so ve ket qua tra ve
 20
          private int resultsettype = 0;
 21
          private int resultsetconcurrency = 0;
 22
          // Cac thong so can de ket noi co so du lieu de truy van
 23
 24
          private String driver = null;
 25
          private String url = null;
          private String username = null;
 26
 27
          private String password = null;
 28
          private Properties properties = null;
 29
          private String database;
                                         // Ten co so du lieu lam viec
 30
          private String table:
                                         // Ten bang can thuc hien truy van
 31
          private Vector<String> fields; // Ten cac truong trong bang
 33
```

```
34
         // So hieu loi va cau thong bao loi
35
         private int error = 0;
         private String errmsg = null;
36
         private boolean preparestatement = false;
 8
38
39
         /**
         * Phuong thuc xem loi khi thuc hien truy van
40
41
          */
         public int getError() {
43
              return error;
44
45
46
   47
          * Phuong thuc thiet lap ten nguoi dung
48
          * @param usr Ten nguoi dung moi can thay doi
49
50
         public void setUsername(String usr) {
51
   巨
52
             username = usr;
53
54
55
          /**
56
         * Phuong thuc lay ten cua nguoi dung
57
         public String getUsername() {
 <u>Q.</u>
59
              return username;
60
61
62
   * Phuong thuc thiet lap mat khau truy cap CSDL
63
64
          * @param psw Mat khau truy cap
65
66
         public void setPassword(String psw) {
67
   巨
              password = psw;
68
69
70
```

```
71
 72
          * Phuong thuc lay mat khau truy cap
 73
           * @return
 74
 75
          */
          public String getPassword() {
 76
              return password;
 77
78
 79
 80
          * Phuong thuc thiet lap driver de truy cap CSDL
 81
 82
           * @param drv Ten driver truy cap CSDL
 83
 84
          public void setDriver(String drv) {
 85
 86
              driver = drv;
 87
 88
 89
          /**
          * Phuong thuc tra ve ten cua driver truy cap CSDL
 90
 91
          public String getDriver() {
 93
              return driver;
 94
 95
 96
 97
          * Phuong thuc thiet lap duong dan toi CSDL
 98
           * @param Url Duong dan toi bang CSDL can truy van
 99
100
101
          public void setUrl(String Url) {
              url = Url;
102
103
104
```

```
105 □
          /**
          * Phuong thuc tra ve duong dan toi bang CSDL can truy van
106
107
           */
          public String getUrl() {
109
              return <mark>url</mark>;
110
111
112
    口
113
          * Phuong thuc thiet lap cac thuoc tinh trong tim kiem
114
    口
          public void setProperties(Properties pr) {
116
              properties = pr;
117
118
          public Properties getProperties() {
119
120
               return properties;
121
122
123
          /**
124
           * Phuong thuc thiet lap ket noi toi CSDL
125
126
           * @param con Doi tuong ket noi toi CSDl
127
           */
          public void setConnection(Connection con) {
128
129
               // Neu chua co driver thi gan loi so 1
130
               if (driver == null) {
131
                  error = 1;
132
                   return;
133
               }
134
               // Neu chua co duong dan toi CSDL thi gan loi so 2
135
136
               if (url == null) {
137
                  error = 2;
138
                   return;
               }
139
140
```

```
141
               try {
                  Class.forName(driver); // Nap driver
142
143
                   // Neu bien thuoc tinh chua co thi truy cap theo ten va mat khau
144
                   if (properties == null) {
145
                      if ((username == null) && (password == null)) {
146
                           con = DriverManager.getConnection(url);
147
                      } else {
148
                           con = DriverManager.getConnection(url, username, password);
149
150
                  } else {
                      con = DriverManager.getConnection(url, properties);
151
152
                  connection = con;
153
154
155
              } // Khi gap loi thi nhan thong diep loi tu he thong
               catch (Exception e) {
157
                  errmsg = e.getMessage();
158
                  error = -1;
                  System.out.println("Co loi khi tao ket noi");
159
160
                  return;
161
162
              error = 0;
163
164
165
           * Phuong thuc lay ket noi den CSDL
166
167
          public Connection getConnection() {
 Θ.
    曱
169
               if (connection == null) {
170
                  error = 3;
              }
171
172
              return connection;
173
174
```

```
175
     /**
176
             * Thiet lap kieu cua ket qua tra ve
177
178
             * @param type Kieu cua ket qua tra ve
179
180
      口
            public void setResultsettype(int type) {
181
                resultsettype = type;
182
183
184
      巨
            * Phuong thuc lay ket qua truy van CSDL
185
186
            public int getResultsettype() {
      巨
188
                 return resultsettype;
189
190
191
      口
             * Phuong thuc thiet lap bo ket qua dong bo
192
193
194
             * @param type Kieu ket qua dong bo
195
             */
196
            public void setResultsetconcurrency(int type) {
      П
197
                 resultsetconcurrency = type;
198
199
200
            public int getResultsetconcurrency() {
201
                 return resultsetconcurrency;
202
203
204
      205
             * Phuong thuc lay ve doi tuong quan ly cac cau truy van thong thuong
206
         public Statement getStatement() {
208
                if ((resultsettype == 0) && (resultsetconcurrency == 0)) {
209
                    statement = connection.createStatement(); // Tao doi tuong truy van thong thuong
210
211
                } else {
                   statement = connection.createStatement(resultsettype, resultsetconcurrency);
212
213
214
             } catch (SQLException e) {
215
                errmsg = "Error : " + e.getSQLState() + "--" + e.getMessage();
216
                error = -1;
217
218
             return statement;
219
         }
220
221
222
         * Phuong thuc tra ve doi tuong guan ly cau truy van co bien
223
         public PreparedStatement getPrepareStatement(String sql) {
225
             try {
                if ((resultsettype == 0) && (resultsetconcurrency == 0)) {
226
227
                    prepareStatement = connection.prepareStatement(sql);
228
                } else {
                   prepareStatement = connection.prepareStatement(sql, resultsettype, resultsetconcurrency);
229
230
             } catch (SQLException e) {
231
                errmsg = "Error : " + e.getSQLState() + "--" + e.getMessage();
232
233
                error = -1;
234
             return prepareStatement;
235
         }
236
237
238
239
         * Phuong thuc tra ve cau truy van tao cac ham luu
240
```

```
public CallableStatement getStoreProc(String sql) {
242
              try {
                  if ((resultsettype == 0) && (resultsetconcurrency == 0)) {
243
244
                      storeProc = connection.prepareCall(sql);
245
                      storeProc = connection.prepareCall(sql, resultsettype, resultsetconcurrency);
246
247
248
              } catch (SQLException e) {
                  errmsg = "Error : " + e.getSQLState() + "--" + e.getMessage();
249
                  error = -1;
250
251
              return storeProc;
252
253
254
          public void setResultset(ResultSet rs) {
255
    曱
256
              resultset = rs;
257
258
259
          // Phuong thuc tra ve doi tuong ket qua truy van
260 □
          public ResultSet getResultset() {
              return resultset;
261
262
263
          // Phuong thuc tra ve cac thong bao loi
264
265
          public String getErrmsg() {
              switch (error) {
266
267
                  case 0:
268
                      errmsg = "No Error !!!";
                      break;
269
270
                  case 1:
271
                      errmsg = "Driver invalid !!!";
                      break;
272
273
                   case 2:
                      errmsg = "URL invalid !!!";
274
                      break;
275
276
                   case 3:
```

```
277
                       errmsg = "Connection is not currently established !!!";
278
                       break;
              }
279
280
              return errmsg;
281
282
283
          * Phuong thuc huy ket noi va cac ket qua truy van
284
285
286
    曱
          public void destroy() {
              // Thu dong cac ket noi, bang truy van hay cac cau truy van neu no dang mo
287
288
              try {
                   if (resultset != null) {
289
290
                       resultset.close();
291
                  if (statement != null) {
292
293
                      statement.close();
294
                  if (prepareStatement != null) {
295
                       statement.close();
296
                  }
297
298
                  if (connection != null) {
299
                       connection.close();
300
               } catch (SQLException e) {
301
                  errmsg = "Error : " + e.getSQLState() + "--" + e.getMessage();
302
                  error = -1;
303
              }
304
305
306
307
           * Phuong thuc thiet lap co so du lieu de lam viec
308
309
310
           * @param dtb Ten co so du lieu hoat dong
311
```

```
public void setDatabase(String dtb) {
312 □
              database = dtb;
313
314
315
316
    巨
317
          * Phuong thuc tra ve ten co so du lieu
318
319
           * @return
320
          */
          public String getDatabase() {
321
    巨
             return database;
322
323
324
325
    曱
          * Phuong thuc thiet lap bang du lieu lam viec
326
327
           * @param tb Ten bang lam viec
328
329
          */
          public void setTable(String tb) {
330
    口
             table = tb;
331
332
333
334
    ⊟
          * <u>Ira ve</u> ten <u>cua</u> bang dang lam <u>viec</u>
335
336
          public String getTable() {
 Q
338
             return table;
339
340
          /**
341
    口
342
           * Thiet lap cac truong trong bang can xu ly
343
           * @param fs Danh sach ten cac truong trong bang. Mac dinh ten truong dau
344
           * tien se la khoa chinh
345
```

```
346
          public void setFields(Vector<String> fs) {
348
              fields = fs;
349
350
    巨
          /**
351
           * Phuong thuc chen them 1 khoi du lieu moi vao bang
352
353
           * @param pField
354
           */
          public void insert(Properties pField) {
355
    曱
              String queryString = "INSERT INTO " + table + "(";
357
              int t = 0;
               // Liet ke ten cac cot theo tu tu gia tri them vao
358
359
               for (int i = 0; i < fields.size(); i++) {</pre>
360
                  String s = pField.getProperty(fields.get(i));
361
                   if (s != null) {
362
                       if (t != 0) {
                           queryString += ",";
363
364
365
                       queryString += fields.get(i);
                       t++;
366
367
368
              queryString += ") VALUES (";
369
370
              t = 0;
              // Dien cac gia tri can them vao dung vi tri tuong ung
371
372
               for (int i = 0; i < fields.size(); i++) {</pre>
373
                  String s = pField.getProperty(fields.get(i));
                   if (s != null) {
374
375
                       if (t != 0) {
376
                           queryString += ",";
377
                       queryString += "'" + pField.getProperty(fields.get(i)) + "'";
378
379
380
381
```

```
queryString += ");";
382
383
384
                   System.out.println(queryString);
385
386
                   if (statement == null) {
                       System.out.println("Statement == NULL");
387
388
389
                   statement.executeUpdate(queryString);
               } catch (SQLException sqlException) {
390
391
                   System.out.println(sqlException);
392
393
394
395
396
           * Phuong thuc thay doi 1 khoi du lieu moi trong bang
397
398
           * @param pField
399
          public void update(Properties pField) {
400
               String queryString = "UPDATE " + table + " SET ";
401
402
               int t = 0;
               // Liet ke ten cac cot theo tu tu gia tri can cap nhat
403
               for (int i = 0; i < fields.size(); i++) {
   String s = pField.getProperty(fields.get(i));</pre>
404
405
406
407
                   if (s != null) {
                       if (t != 0) {
408
                           queryString += ",";
409
410
                       queryString += fields.get(i) + "="" + pField.getProperty(fields.get(i)) + """;
411
412
413
414
               }
               // Cap nhat dua vao truong khoa chinh
415
               queryString += " WHERE " + fields.get(0) + "="" + pField.getProperty(fields.get(0)) + """;
416
417
418
               try {
419
                   statement.executeUpdate(queryString);
               } catch (SQLException sqlException) {
420
421
                   System.out.println(sqlException);
422
423
           }
424
425
           * Phuong thuc xoa 1 khoi du lieu ra khoi bang
426
427
    П
           public void delete(Properties pField) {
               String queryString = "DELETE FROM " + table + " WHERE ";
429
430
               int t = 0;
               // Liet ke ten cac cot theo tu tu gia tri can cap nhat
431
432
               for (int i = 0; i < fields.size(); i++) {</pre>
433
                   String s = pField.getProperty(fields.get(i));
                   System.out.println(s);
434
435
                   if (s != null) {
436
                        if (t != 0) {
437
438
                            queryString += " AND ";
439
                        queryString += fields.get(i) + "='" + pField.getProperty(fields.get(i)) + "'";
440
441
442
               }
443
444
445
               try {
446
                   System.out.println(queryString);
447
                   statement.executeUpdate(queryString);
               } catch (SQLException sqlException) {
448
449
                   System.out.println(sqlException);
450
           }
451
452
      }
453
```