

Java2 Lab 13

(JDBC)

[Experimental Objective]

Learn and understand jdbc,

[环境安装]

Mysql install:

<https://www.jb51.net/article/148764.htm>

sqlyog install (option)

<http://www.onlinedown.net/soft/24926.htm>

jdbc download:

<http://static.runoob.com/download/mysql-connector-java-5.1.39-bin.jar>

【Main step of JDBC】

1. Register driver

```
Class.forName("com.mysql.jdbc.Driver");  
DriverManager.registerDriver(new com.mysql.jdbc.Driver());
```

2. establish connection

```
conn = DriverManager.getConnection(DB_URL,USER,PASS);
```

3. create statement

```
stmt = conn.createStatement();
```

4 run sql , and obtain ResultSet

```
String sql; sql = "SELECT id, name, url FROM websites";  
ResultSet rs = stmt.executeQuery(sql);
```

5. Query data

```
int id = rs.getInt("id");  
String name = rs.getString("name");  
String url = rs.getString("url");
```

6. Release resources

```
rs.close();  
stmt.close();
```

```
conn.close();
```

[Case]

Create a websites database in mysql, you can also use the graphical management tools to create, create the following statement:

```
CREATE TABLE `websites` (
  `id` int(11) NOT NULL AUTO_INCREMENT,
  `name` char(20) NOT NULL DEFAULT '' COMMENT '站点名称',
  `url` varchar(255) NOT NULL DEFAULT '', `alexa` int(11) NOT NULL DEFAULT '0' COMMENT 'Alexa 排名',
  `country` char(10) NOT NULL DEFAULT '' COMMENT '国家', PRIMARY KEY (`id`)
) ENGINE=InnoDB AUTO_INCREMENT=10 DEFAULT CHARSET=utf8;
```

Then insert some data:

```
INSERT INTO `websites` VALUES ('1', 'Google', 'https://www.google.cm/', '1', 'USA'), ('2', '淘宝', 'https://www.taobao.com/', '13', 'CN'), ('3', '菜鸟教程', 'http://www.runoob.com', '5892', ''), ('4', '微博', 'http://weibo.com/', '20', 'CN'), ('5', 'Facebook', 'https://www.facebook.com/', '3', 'USA');
```

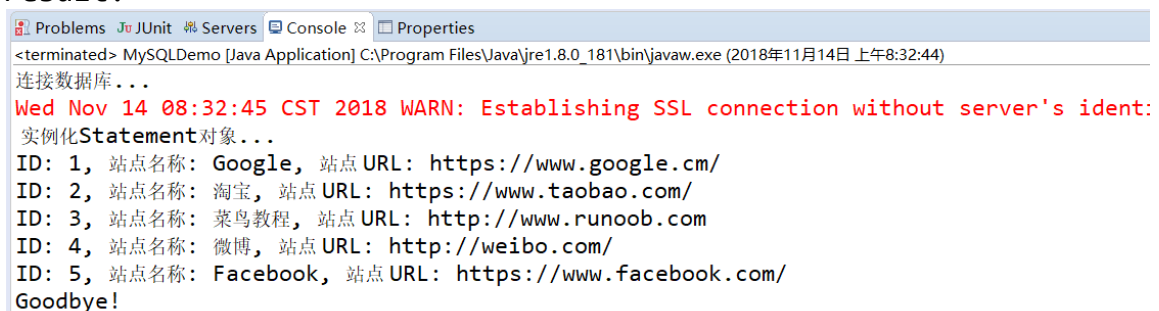
The contents of the database table:



id	name	url	alexa	country
1	Google	https://www.google.cm/	1	USA
2	淘宝	https://www.taobao.com/	13	CN
3	菜鸟教程	http://www.runoob.com	5892	
4	微博	http://weibo.com/	20	CN
5	Facebook	https://www.facebook.com/	3	USA
*	(Auto)		0	

Link database:

Need to add jdbc to the project, then build path jdbc to make it start. Then corresponding to the url, username and password written to the database, write the query statement, you can get the query result:

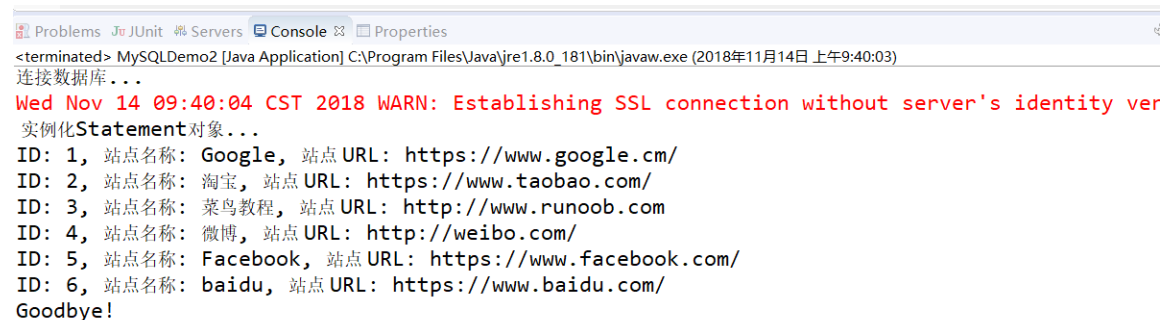


```
<terminated> MySQLDemo [Java Application] C:\Program Files\Java\jre1.8.0_181\bin\javaw.exe (2018年11月14日 上午8:32:44)
连接数据库...
Wed Nov 14 08:32:45 CST 2018 WARN: Establishing SSL connection without server's ident:
实例化Statement对象...
ID: 1, 站点名称: Google, 站点 URL: https://www.google.cm/
ID: 2, 站点名称: 淘宝, 站点 URL: https://www.taobao.com/
ID: 3, 站点名称: 菜鸟教程, 站点 URL: http://www.runoob.com
ID: 4, 站点名称: 微博, 站点 URL: http://weibo.com/
ID: 5, 站点名称: Facebook, 站点 URL: https://www.facebook.com/
Goodbye!
```

[Exercise]

exercise1:

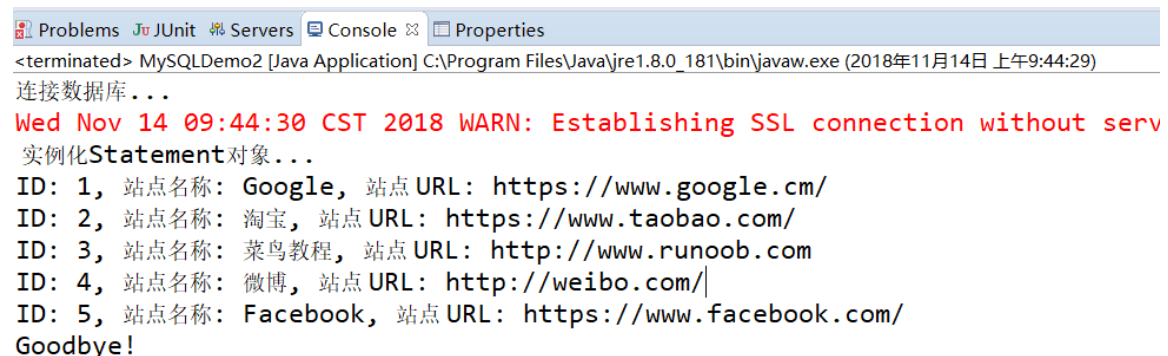
(1) On the basis of Case 1, add a record in the JAVA program, such as: ID: 6, site name: Baidu, site URL: <https://www.baidu.com/>
Note: Do not add directly in the database!
 The effect is as follows, you can see one more record:



```

Problems JUnit Servers Console Properties
<terminated> MySQLDemo2 [Java Application] C:\Program Files\Java\jre1.8.0_181\bin\javaw.exe (2018年11月14日 上午9:40:03)
连接数据库...
Wed Nov 14 09:40:04 CST 2018 WARN: Establishing SSL connection without server's identity ver
实例化Statement对象...
ID: 1, 站点名称: Google, 站点 URL: https://www.google.cm/
ID: 2, 站点名称: 淘宝, 站点 URL: https://www.taobao.com/
ID: 3, 站点名称: 菜鸟教程, 站点 URL: http://www.runoob.com
ID: 4, 站点名称: 微博, 站点 URL: http://weibo.com/
ID: 5, 站点名称: Facebook, 站点 URL: https://www.facebook.com/
ID: 6, 站点名称: baidu, 站点 URL: https://www.baidu.com/
Goodbye!
  
```

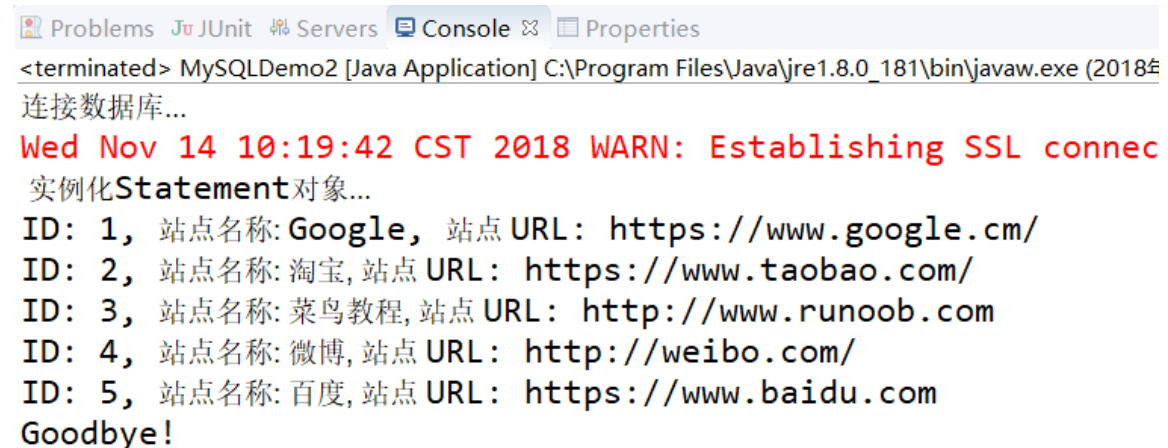
(2) In the JAVA program, delete the newly added records in the database.



```

Problems JUnit Servers Console Properties
<terminated> MySQLDemo2 [Java Application] C:\Program Files\Java\jre1.8.0_181\bin\javaw.exe (2018年11月14日 上午9:44:29)
连接数据库...
Wed Nov 14 09:44:30 CST 2018 WARN: Establishing SSL connection without serv
实例化Statement对象...
ID: 1, 站点名称: Google, 站点 URL: https://www.google.cm/
ID: 2, 站点名称: 淘宝, 站点 URL: https://www.taobao.com/
ID: 3, 站点名称: 菜鸟教程, 站点 URL: http://www.runoob.com
ID: 4, 站点名称: 微博, 站点 URL: http://weibo.com/
ID: 5, 站点名称: Facebook, 站点 URL: https://www.facebook.com/
Goodbye!
  
```

(3) On the basis of Case 1, change the site with id=5 to Baidu, url: <https://www.baidu.com>
 The effect is as follows:



```

Problems JUnit Servers Console Properties
<terminated> MySQLDemo2 [Java Application] C:\Program Files\Java\jre1.8.0_181\bin\javaw.exe (2018年11月14日 上午10:19:42)
连接数据库...
Wed Nov 14 10:19:42 CST 2018 WARN: Establishing SSL connec
实例化Statement对象...
ID: 1, 站点名称: Google, 站点 URL: https://www.google.cm/
ID: 2, 站点名称: 淘宝, 站点 URL: https://www.taobao.com/
ID: 3, 站点名称: 菜鸟教程, 站点 URL: http://www.runoob.com
ID: 4, 站点名称: 微博, 站点 URL: http://weibo.com/
ID: 5, 站点名称: 百度, 站点 URL: https://www.baidu.com
Goodbye!
  
```

Exercise 2:

Referring to the case, build a user to log in to the database, and write a JAVA program to implement the addition, deletion, and change of the user. User information includes id, username, password, and so on.