HW 5 Web API - Sophie Mettille

1. Missing Database Driver

In order to generate a missing database driver error, we would need to remove this line of code or change it so that the driver is incorrect in DBConn.java:

```java
String DRIVER = "com.mysql.cj.jdbc.Driver";
Class.forName(DRIVER);
```

To fix this problem, just put this code back/change to the correct Driver!! :)

Here is an example of the error I recieved when I changed the driver to something incorrect t

Pretty-print ☐

{"dbError":"Problem getting driver:com.unknown.Driver","webUserList":[]}

2. Database Unreachable

To generate a database unreachable error, we would make the database URL incorrect. Change this line of code in DBConn.java to an incorrect database URL:

```java
String url = "jdbc:mysql://localhost:3307/" + dbAndPass;
```

To fix this make sure that the url is correct.
Here is an eample of the error

```
{
    dbError: "Problem getting connection:Communications link failure
    The last packet sent successfully to the server was 0 milliseconds ago. The driver has not received any packets from the server.",
    webUserList: [ ]
}
```

3. Database Not Authorized

To generate a database not authorized error, you would need to have a wrong user name and password for in DBConn.java. Change the user and password here, and then to fix it just make sure that we use the right pass and user.

```java
String dbAndPass = "sallyk_3308?user=sallyk&password=Vaca1415";
```
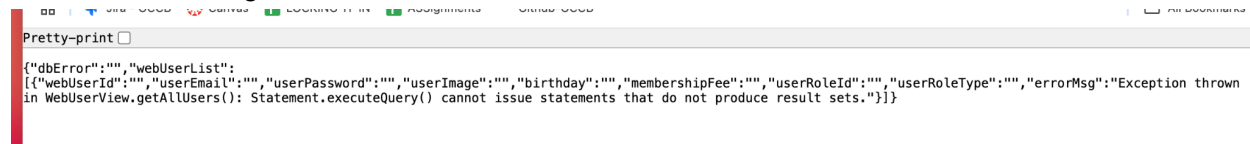
Here is the error that we get:

```
{
    dbError: "Problem getting connection:Access denied for user 'wronguser'@'129.32.95.123' (using password: YES)",
    webUserList: [ ]
}
```

4. Syntax error in SQL Statement

To create a syntax error, we will go into WebUserView.java and change the sql String to something incorrect. For me I will spell Select wrong to be the syntax error (then it is easy for me to fix it back)
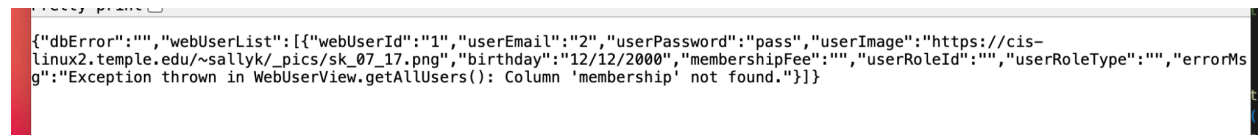Here is the error I got.

```
{"dbError":"","webUserList":
[{"webUserId":"","userEmail":"","userPassword":"","userImage":"","birthday":"","membershipFee":"","userRoleId":"","userRoleType":"","errorMsg":"Exception thrown in WebUserView.getAllUsers(): Statement.executeQuery() cannot issue statements that do not produce result sets."}]}
```

5. Error Extracting Data from Result Set (bad column name)
Here you would give a bad column name. for example, we want membership_fee here for the column label. But I changed it to membership and this is the error we got. Reverse this to fix it.

```
sd.membershipFee = Format.fmtDollar(results.getObject("membership_fee"));
```

```
{"dbError":"","webUserList":[{"webUserId":"1","userEmail":"2","userPassword":"pass","userImage":"https://cis-linux2.temple.edu/~sallyk/_pics/sk_07_17.png","birthday":"12/12/2000","membershipFee":"","userRoleId":"","userRoleType":"","errorMsg":"Exception thrown in WebUserView.getAllUsers(): Column 'membership' not found."}]}
```

6. Error Extracting Data from Result Set (wrong data type)

To get an error for wrong data type, we ask java to get a column as the wrong data type. For example, I am going to make java ask for an integer for birthday instead of a date.

Here is the code and the error.

```
sd.birthday = Format.fmtDate(results.getObject("birthday"));
```

```
{
  "dbError": "",
  "webUserList": [
    {
      "webUserId": "1",
      "userEmail": "2",
      "userPassword": "pass",
      "userImage": "https://cis-linux2.temple.edu/~sallyk/_pics/sk_07_17.png",
      "birthday": "bad Integer in FormatUtils:2000-12-12. Error:class java.sql.Date cannot be cast to class java.lang.Integer
(java.sql.Date is in module java.sql of loader 'platform'; java.lang.Integer is in module java.base of loader 'bootstrap')",
      "membershipFee": "$987.65",
      "userRoleId": "1",
      "userRoleType": "Admin",
      "errorMsg": ""
    },
    {
```