SERVLET JSP with DATABASE

1. **Installing Mysql**
2. **Mysql connectivity in Servlet**
3. **Checking userid through database**
4. **Bringing all users names through database**

1. *Installing MySQL*

Downloading of MySQL software can be done from below link.

https://drive.google.com/drive/u/3/folders/1hIxiUc0HuBJ0YAnAqBZCe3cupSmUcfRs

Refer below document for MySQL installation.

https://javabykiran.in/core-java/MySQL%20and%20Query%20Browser%20installtion.pdf

MySQL Connector will be needed for connecting java with database.

https://drive.google.com/drive/folders/1qV3vR9WWrmkRb8Ush6RYuLEjr3hB5l-q?usp=sharing

2. *MySQL connectivity in Servlet*

Before using database in our project, we must have something running without database which we already done in JBKADV1002-servlet assignment .pdf

Please refer to the document here

https://javabykiran.in/advance-java/JBKADV1002-servlet%20assignment%20.pdf

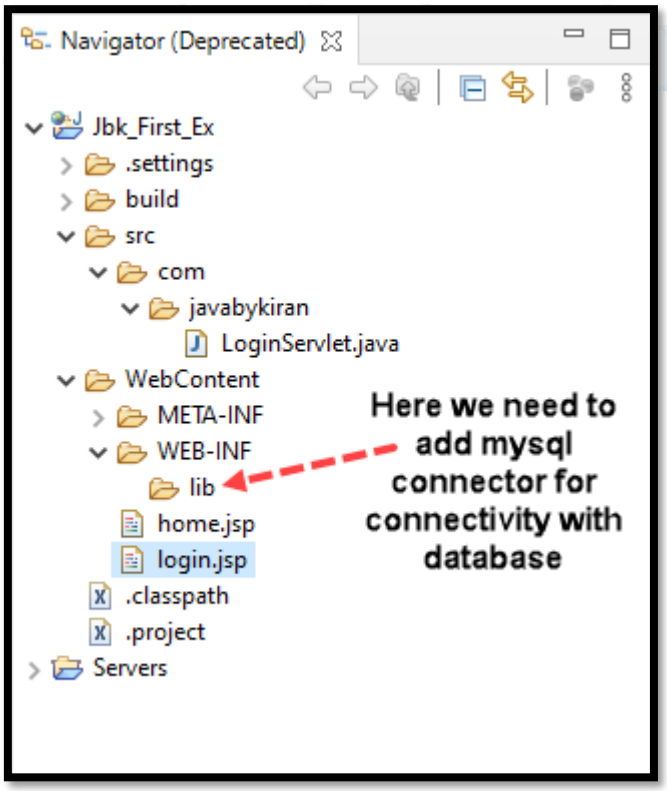
Create table in database “user” [you can have any name]

```
mysql> select * from users;
+--------+-------------+
| userid | username    |
+--------+-------------+
|      1 | jbk         |
|      2 | kiran       |
|      3 | javabykiran |
+--------+-------------+
3 rows in set (0.00 sec)
```

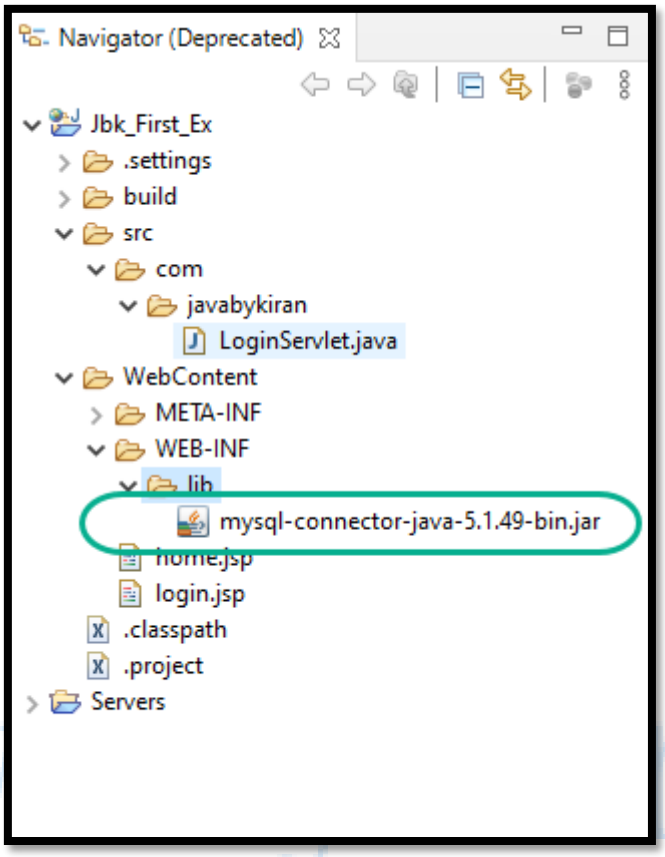
Recap:

1. Project should have login page and we should be receiving username and password in a servlet.
2. Navigation code should be present in servlet.

We need to have project structure like below.



Add jar in this folder just by copy and paste.

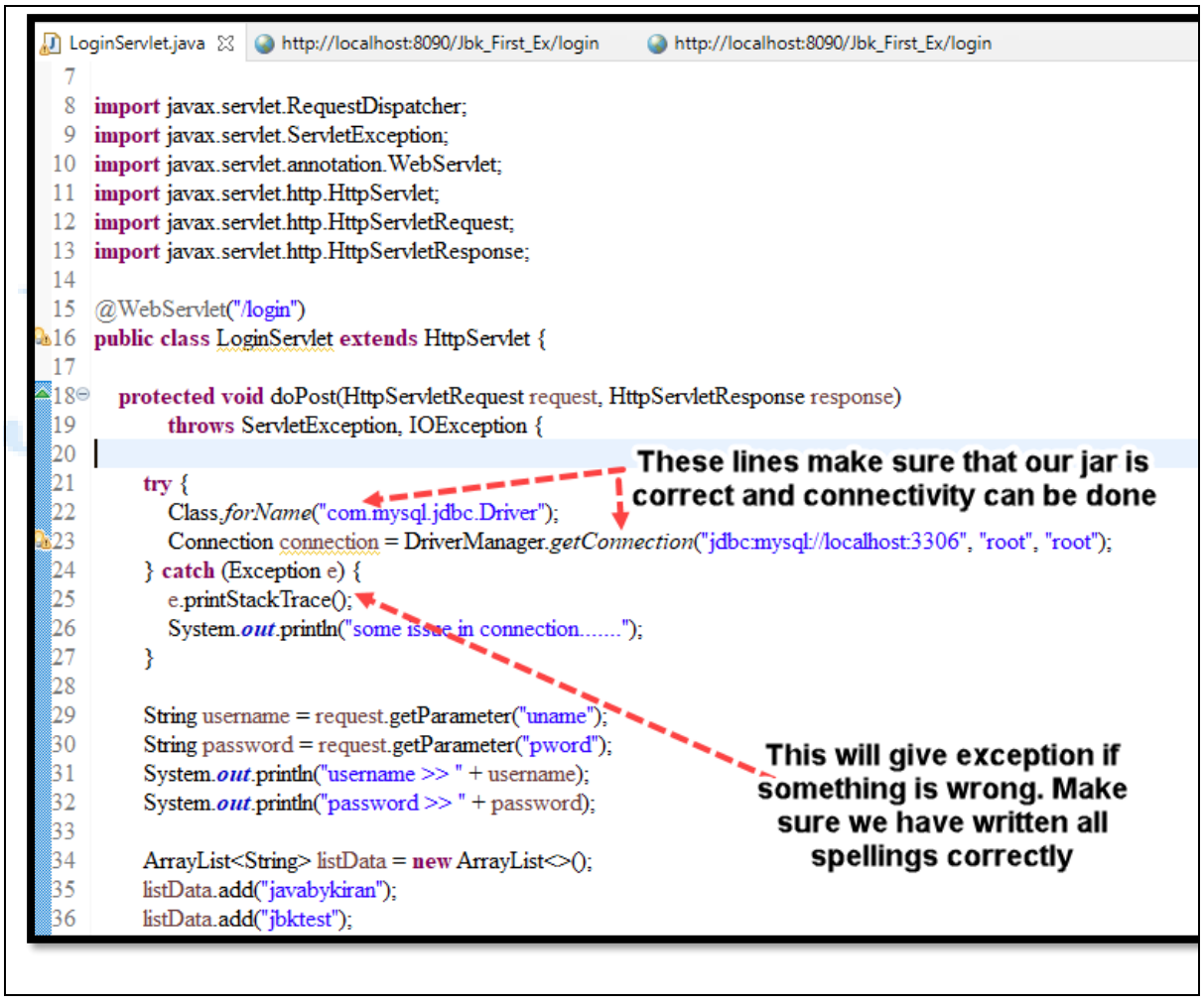


3. *Checking userid through database*

4. *Bringing all users names through database*

Now in servlet just write few lines to check if we have connected database properly.

LoginServlet.java




```
7
8  import javax.servlet.RequestDispatcher;
9  import javax.servlet.ServletException;
10 import javax.servlet.annotation.WebServlet;
11 import javax.servlet.http.HttpServlet;
12 import javax.servlet.http.HttpServletRequest;
13 import javax.servlet.http.HttpServletResponse;
14
15 @WebServlet("/login")
16 public class LoginServlet extends HttpServlet {
17
18   protected void doPost(HttpServletRequest request, HttpServletResponse response)
19       throws ServletException, IOException {
20
21     try {
22       Class.forName("com.mysql.jdbc.Driver");
23       Connection connection = DriverManager.getConnection("jdbc:mysql://localhost:3306", "root", "root");
24     } catch (Exception e) {
25       e.printStackTrace();
26       System.out.println("some issue in connection.....");
27     }
28
29     String username = request.getParameter("uname");
30     String password = request.getParameter("pword");
31     System.out.println("username >> " + username);
32     System.out.println("password >> " + password);
33
34     ArrayList<String> listData = new ArrayList<>();
35     listData.add("javabykiran");
36     listData.add("jbktest");
```

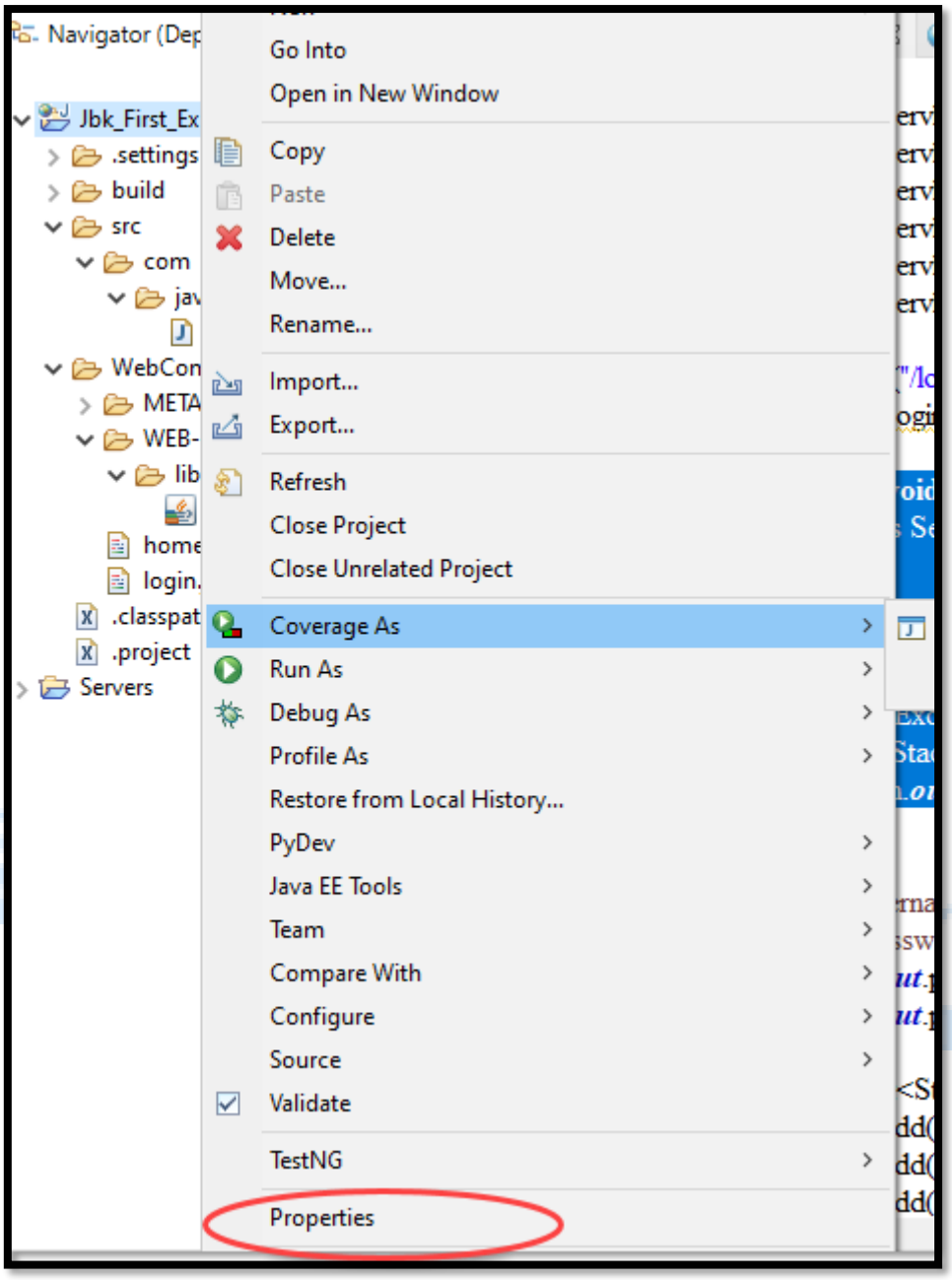
Code snippet as below

```
protected void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {

        try {
              Class.forName("com.mysql.jdbc.Driver");
              Connection connection = DriverManager.getConnection("jdbc:mysql://localhost:3306",
        "root", "root");
        } catch (Exception e) {
             e.printStackTrace();
             System.out.println("some issue in connection.....");
  }
```


Until now we only have checked DB in our project.

One more thing we can do if jar or MySQL driver class is not located by our server - optional.


Navigator (Dep
Jbk_First_Ex
.settings
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Open in New Window
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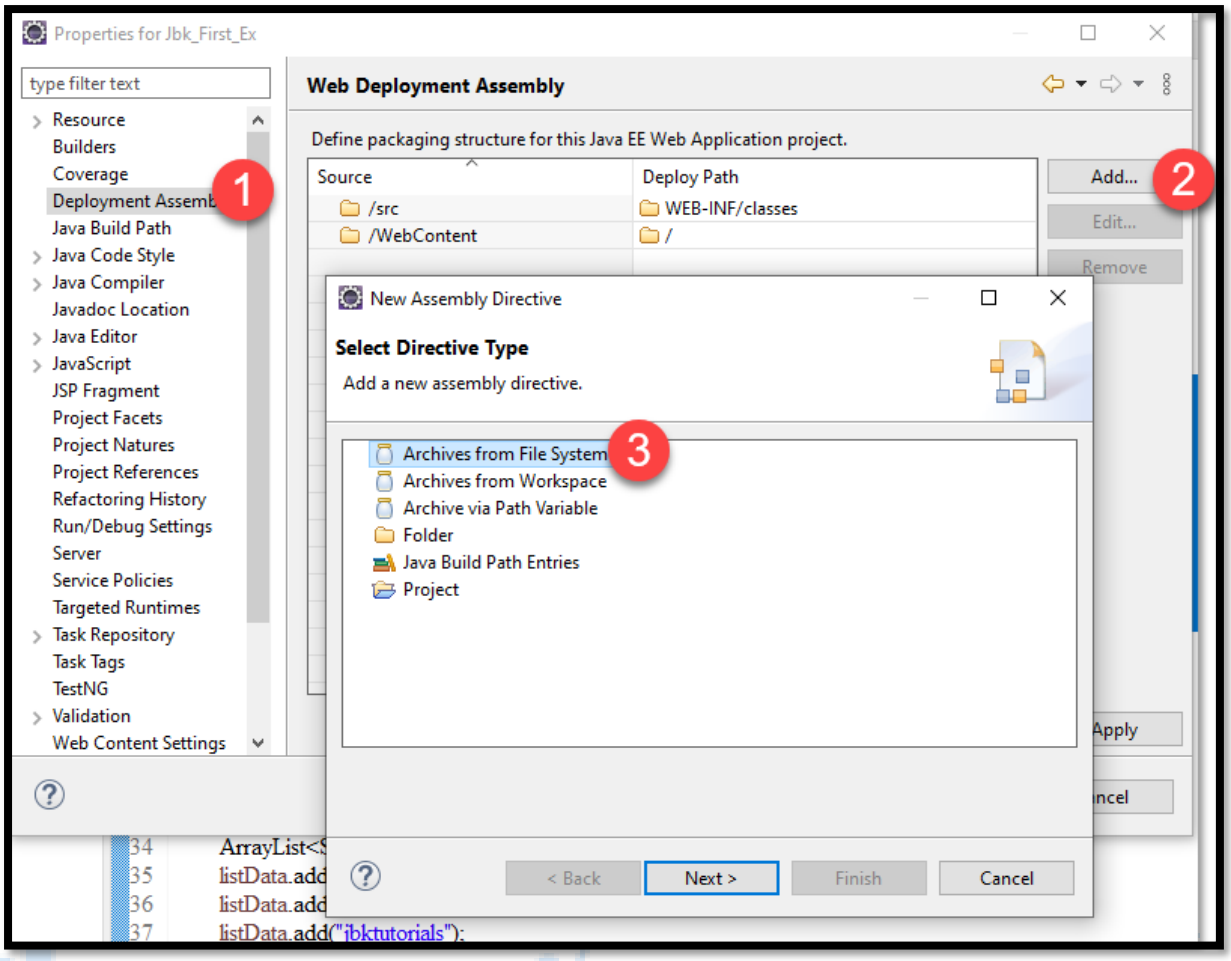
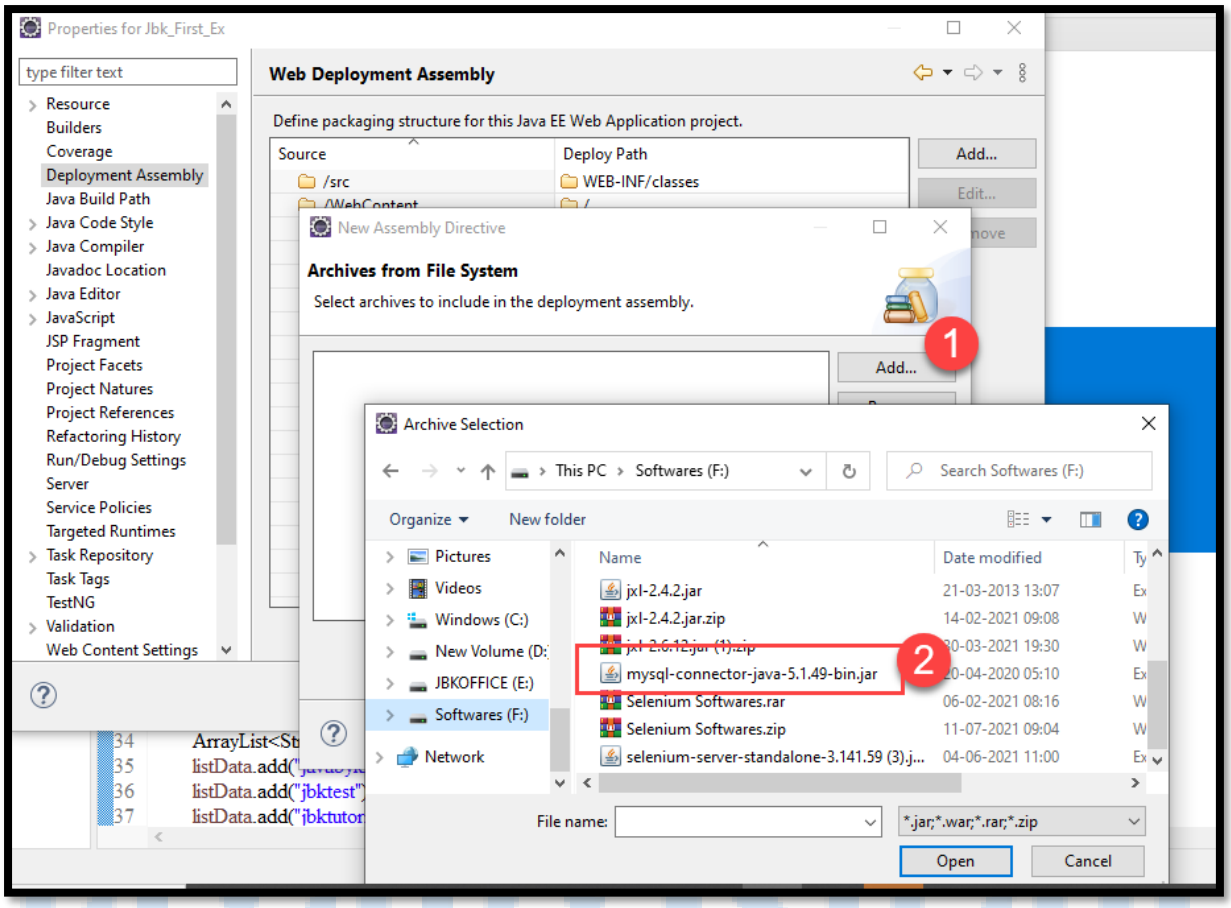
Paste
Delete
Move...
Rename...
Import...
Export...
Refresh
Close Project
Close Unrelated Project
Coverage As
Run As
Debug As
Profile As
Restore from Local History...
PyDev
Java EE Tools
Team
Compare With
Configure
Source
Validate
TestNG
Properties





This will make sure our jar is properly added in our project.

Let's begin with logic building for username and password checking and fetching all employees from database.

Servlet code look like this, we only need to change Servlet code replacing hard coding with database.

```java
package com.javabykiran;

import java.io.IOException;

@WebServlet("/login")
public class LoginServlet extends HttpServlet {

    protected void doPost(HttpServletRequest request, HttpServletResponse response)        throws ServletException, IOExcep
        Connection connection = null;
        Statement statement = null;
        boolean userExist = false;
        String username = request.getParameter("uname");
        String password = request.getParameter("pword");
        try {
            Class.forName("com.mysql.jdbc.Driver");
            connection = DriverManager.getConnection("jdbc:mysql://localhost:3306/test", "root", "root");
            statement = connection.createStatement();
            String sql = "select * from users where username='" + username + "'";
            System.out.println(sql);
            ResultSet resultSet = statement.executeQuery(sql);
            if (resultSet.next()) {
                userExist = true;
            }
            if (userExist) {
                String sql1 = "select username from users";
                ResultSet resultSet1 = statement.executeQuery(sql1);
                ArrayList<String> alUnameList = new ArrayList<>();
                while (resultSet1.next()) {
                    alUnameList.add(resultSet1.getString(1));
                }
                request.setAttribute("data", alUnameList);
                RequestDispatcher rd = request.getRequestDispatcher("home.jsp");
                rd.forward(request, response);
            } else {
                request.setAttribute("msg", "Your userId and Password are Wrong");
                RequestDispatcher rd = request.getRequestDispatcher("login.jsp");
                rd.forward(request, response);
            }
        } catch (Exception e) {
            e.printStackTrace();
            System.out.println("some issue in connection.....");
        }

    }

}
```

All db related variables are declared

Only user name is checked . Homework : check here password as well

Checking if user name is correct

Only if user is valid we are fetching user names otherwise it will go to else block

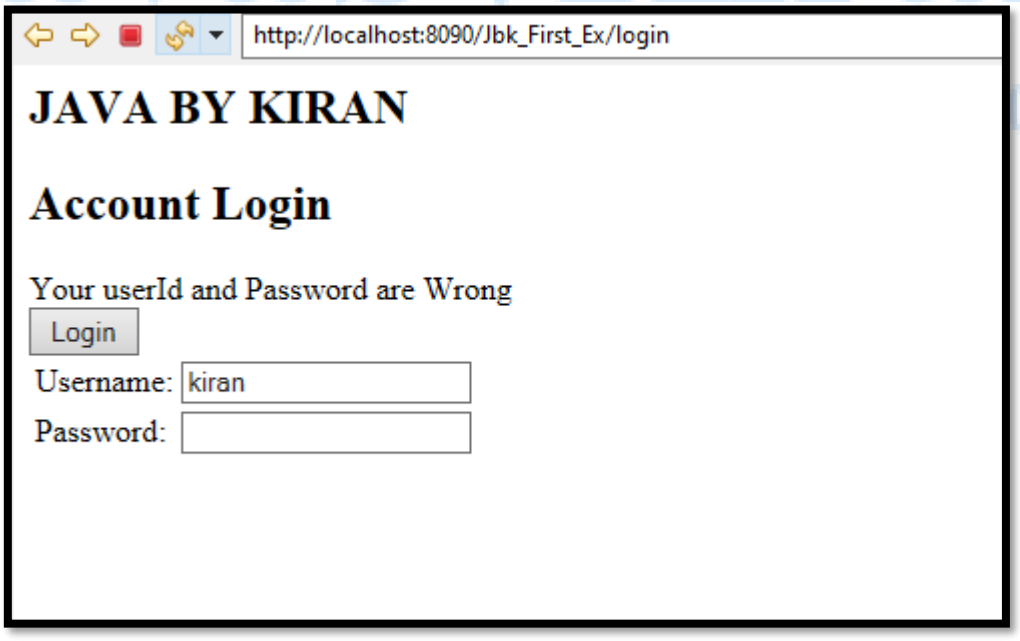
Adding every value in Arraylist

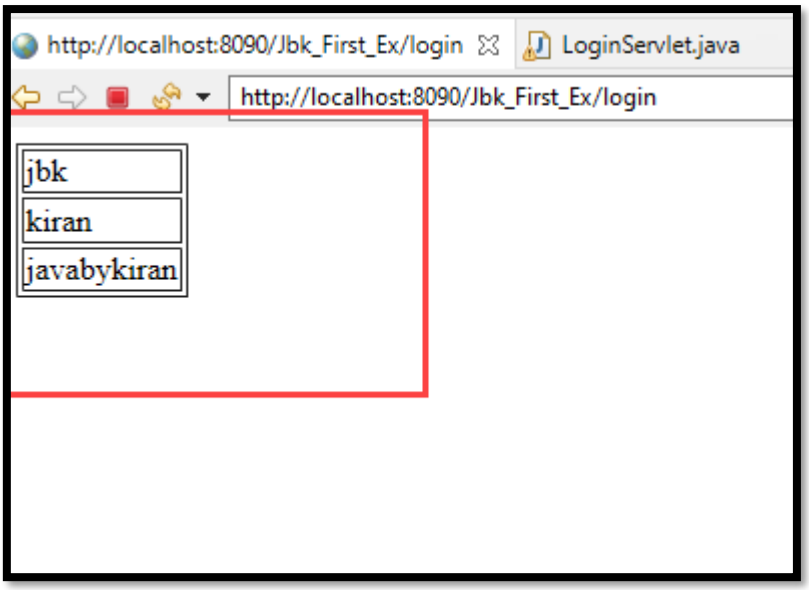
LoginServlet.java code will look like this.

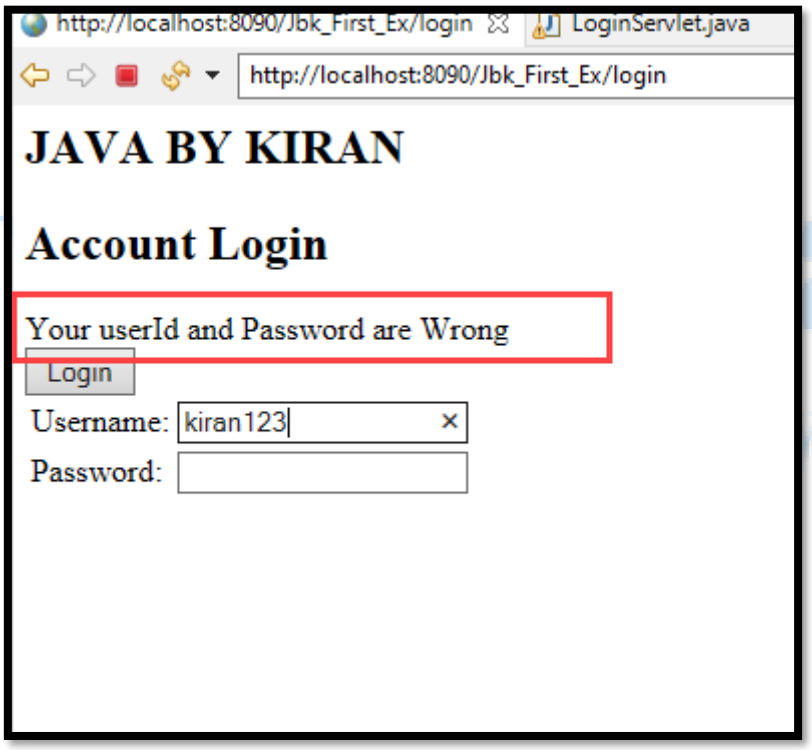
```
package com.javabykiran;

import java.io.IOException;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;
import java.sql.Statement;
import java.util.ArrayList;

import javax.servlet.RequestDispatcher;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

@WebServlet("/login")
public class LoginServlet extends HttpServlet {

	protected void doPost(HttpServletRequest request, HttpServletResponse response)
	throws ServletException, IOException {
		Connection connection = null;
		Statement statement = null;
		boolean userExist = false;
		String username = request.getParameter("uname");
		String password = request.getParameter("pword");
		try {
			Class.forName("com.mysql.jdbc.Driver");
			connection =
DriverManager.getConnection("jdbc:mysql://localhost:3306/test", "root", "root");
			statement = connection.createStatement();
			String sql = "select * from users where username='" + username + "'";
			System.out.println(sql);
			ResultSet resultSet = statement.executeQuery(sql);
			if (resultSet.next()) {
				userExist = true;
			}
			if (userExist) {
				String sql1 = "select username from users";
				ResultSet resultSet1 = statement.executeQuery(sql1);
				ArrayList<String> alUnameList = new ArrayList<>();
				while (resultSet1.next()) {
					alUnameList.add(resultSet1.getString(1));
				}
```

```
                request.setAttribute("data", alUnameList);
                RequestDispatcher rd = request.getRequestDispatcher("home.jsp");
                rd.forward(request, response);
            } else {
                request.setAttribute("msg", "Your userId and Password are Wrong");
                RequestDispatcher rd = request.getRequestDispatcher("login.jsp");
                rd.forward(request, response);
            }
        } catch (Exception e) {
                e.printStackTrace();
                System.out.println("some issue in connection.....");
        }

        }

}
```

Now run a project




http://localhost:8090/Jbk_First_Ex/login
LoginServlet.java
http://localhost:8090/Jbk_First_Ex/login
jbk
kiran
javabykiran


http://localhost:8090/Jbk_First_Ex/login
LoginServlet.java
http://localhost:8090/Jbk_First_Ex/login
JAVA BY KIRAN
Account Login
Your userId and Password are Wrong
Login
Username: kiran123
Password:

Homework:

1. Modify table with password column.
2. Verify username and password from DB in this document only username validation is covered.
3. Display usernames and passwords on home.jsp in this document we only displayed usernames.
    a. Hint: use HashMap instead of arrayList

Download:

https://drive.google.com/drive/folders/1T491ZkQve-v-Z5vu9mfB83Dx2iVmZPln?usp=sharing