

## Assignment - 4

Title : Add dynamic web application features to previously selected application using servlet, JSP and backend

Problem statement :

Add dynamic web application features using Servlet, JSP and backend to any one application :

- 1) Online pizza order application
- 2) Student information system for TPO
- 3) Leave management Application
- 4) Blogging platform

Objective :

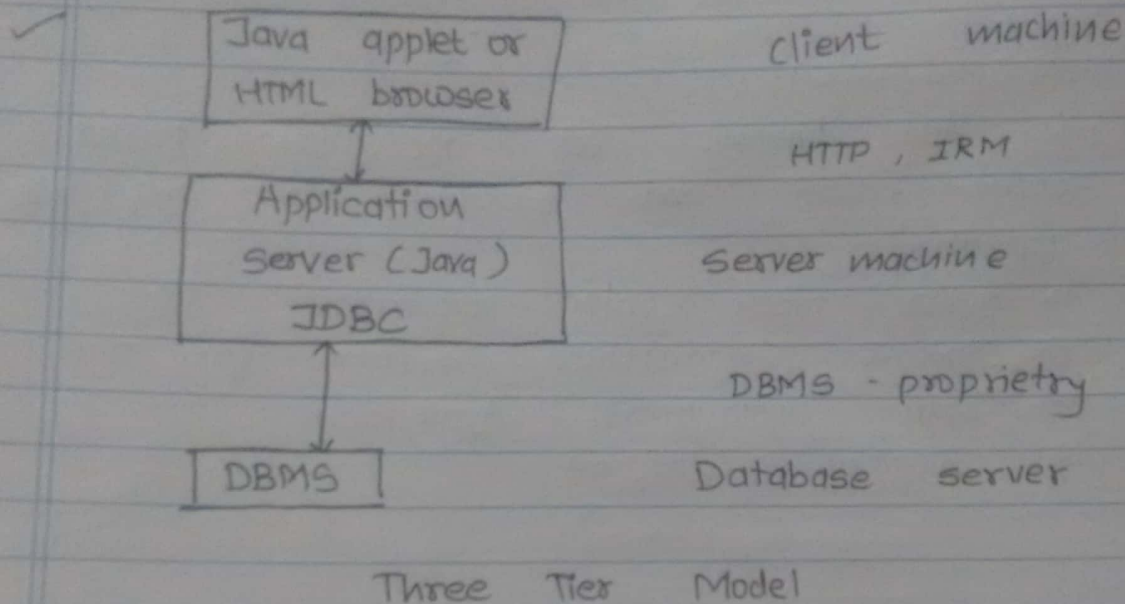
- ✓ To understand 3-tier application
- ✓ To explore the usage of servlet, JSP
- ✓ To understand database connectivity

slw packages and h/w packages :

OS : fedora 20

IDE : netbeans 8.1

browser : Google chrome

Theory:Database Server:

MySQL version -- 5.6.37

steps:

1. On Server machine open terminal
2. Change user to root using su command
3. type "yum install mysql mysql-server"
4. On server machine type service mysql start.
5. To enable mysql service to execute in any level type checkConfig.
6. execute mysql\_secure\_installation command
7. set password, type yes and provide new pass.



## MySQL client side installation :

1. On each client machine open terminal.
2. Change user to root user using su
3. use command --  
yum install mysql
4. Once installed client can login to connect server  
mysql -u ip-address-server -u user-name

## for JSP development :

On developers machine install suitable version of JAVA. Install Apache tomcat suitable version using few steps.

## To host JSP pages with database connectivity :

1. Create lib directory using mkdir command inside tomcat-installation /webapps / ROOT / WEB-INF /
2. Now in order to host jsp pages which will connect to database we have to copy jstl-1.2.jar and mysql-connector.jar to tomcat-installation / webapps / ROOT / WEB-INF / lib directory.

14. Shutdown tomcat server using `./shutdown.sh` command from bin directory.
15. cp .jsp files to tomcat-installation / webapps / ROOT / .
16. Start tomcat using `./startup.sh`

### Sample Application : Login

1. Create table users in your mysql database:  
> `mysql -h ip-address-of-server -u user-name -p`  
> `use student-db;`  
> `create table users ( user-name , password );`
2. Insert some records into user :  
> `insert into user values ( 'abc' , '123' );`  
> `insert into user values ( 'xyz' , '456' );`  
> `insert into user values ( 'pqr' , '789' );`
3. To check  
> `select * from user;`

### Step B : Create html page.

• html file - to be saved in tomcat-installation / webapps  
open editor and create a file /ROOT  
login.html .

Paste following lines .



login.html :

```
<body>
<form action = "login.jsp" method = "post">
  username : <input type = "text" name = "user">
  password : <input type = "password" name = "pwd"/>
  <input type = "submit" />
</form>
</body>
```

Step C : Developing JSP with database connect.

\* JSP file - To be saved in tomcat-installation/  
webapps / ROOT /  
open editor and create a file login.jsp  
paste following lines in login.jsp

```
<%@ page import = " java.sql.* " %>
<%@ page import = " javax.sql.* " %>
<%
```

```
String userid = request.getParameter("usr");
String pwd = request.getParameter("pwd");
Class.forName("com.mysql.jdbc.Driver");
java.sql.Connection ("jdbc:mysql://mysql-server-ip:
3306/student_db", "username", "password");
```

```
Statement st = Con.createStatement();
```

```
ResultSet rs = st.executeQuery("select * from users
where username = " + userid + "");
```

```

if (rs.next())
{
    if (rs.getString(2).equals(password))
    {
        out.println ("welcome " + userid);
    }
    else
    {
        out.println ("invalid password");
    }
}
%>

```

### To Run the Application :

Open browser

type : `http://localhost:login.html`

OR

Type -- `http://ip-address-of-developer:login.html`

HTML page content will be shown.

Enter username and password.

Click on submit query button.

If you provide valid username & correct password  
the WELCOME page will be shown.

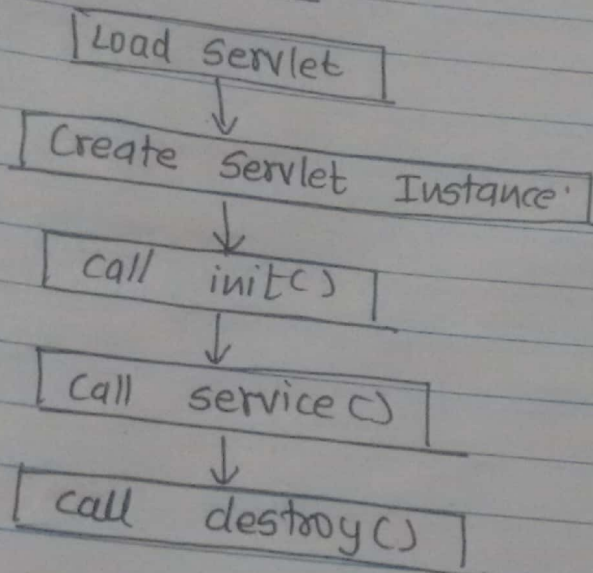


## ✓ Elements of Jsp page :

There are 3 important types of elements

- 1) Scripting Elements
- 2) Directives
- 3) Action and templates.

## ✓ Life Cycle of Servlet.



## ✓ conclusion :

☞ In this way, we have successfully implemented programs on servlet, JSP and backend.