Dt : 27/5/2022

**imp*

Session Tracking in Servlet Programming:

define Session?

=>The time interval b/w login to logout is known as Session.

define Session Tracking process?

=>The process of tracking the 'user state' from login to logout is known as Session Tracking process.

=>We use the following four techniques to perform Session Tracking process:

(a)Cookie

(b)HttpSession

(c)URL re-write

(d)Hidden form fields

(a)Cookie:

=>The piece of information persisted b/w multiple client requets is known as cookie.

=>Cookies are stored in WebBrowser and tracks the user.

=>These Cookies are categorized into two types:

(i)Persistent Cookies

(ii)Non-Persistent Cookies

(i)Persistent Cookies:

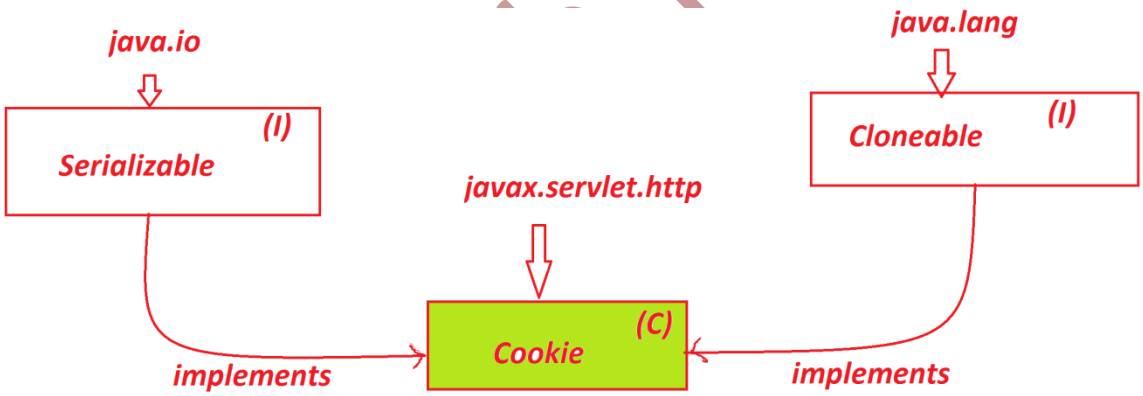
=>The Cookies which are available in WebBrowser until user logs out are known as Persistent Cookies.

(ii)Non-Persistent Cookies:

=>The Cookies which are destroyed automatically when the WebBrowser is closed are known as Non-Persistent Cookies.

=>we use 'javax.servlet.http.Cookie' class to construct Cookie Session Tracking process.

Hierarchy of Cookie:



=>The following are some important methods from Cookie:

public javax.servlet.http.Cookie(java.lang.String, java.lang.String);

public void setMaxAge(int);

public int getMaxAge();

public void setValue(java.lang.String);

public java.lang.String getValue();

public java.lang.String getName();

=>we use the following process to construct Cookie Session Tracking:

step-1 : When the Login process is Successfull then construct the Cookie.

syntax:

Cookie ck = new Cookie("name","value");

step-2 : Add the Cookie to the response

syntax:

res.addCookie(ck);

step-3 : Get cookies from the request

systax:

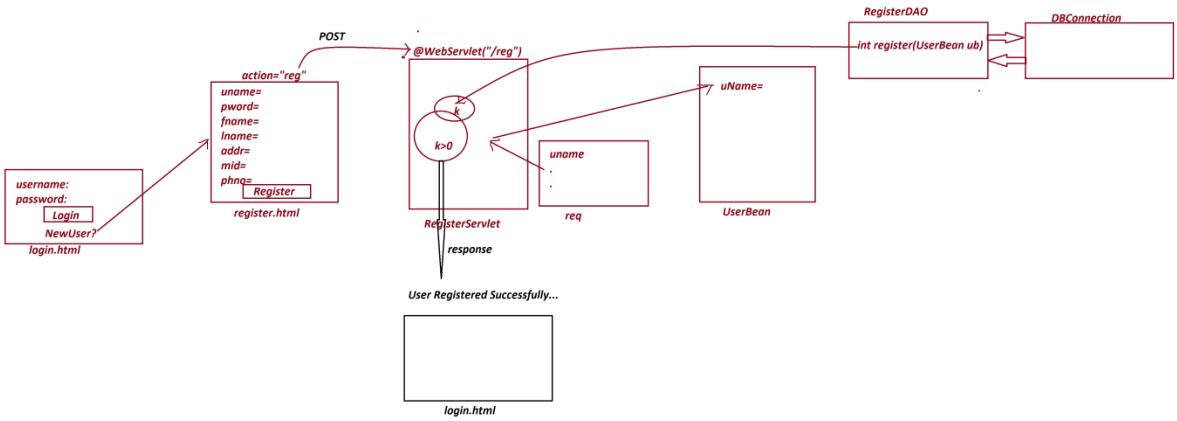
Cookie c[] = req.getCookies();

step-4 : Invalidating the Cookie

syntax:

c.setMaxAge(0);

Ex:



DBConnection.java

```
package test;
import java.sql.*;
public class DBConnection {
    private static Connection con=null;//reference variable
    private DBConnection() {}
    static
    {
     try {
          Class.forName("oracle.jdbc.driver.OracleDriver");
          con = DriverManager.getConnection

("jdbc:oracle:thin:@localhost:1521:xe","system","manager");
     }catch(Exception e) {e.printStackTrace();}
    }
    public static Connection getCon()
    {
     return con;
    }
}
```

UserBean.java

```
package test;
import java.io.*;
@SuppressWarnings("serial")
public class UserBean implements Serializable{
  private String uName,pWord,fName,lName,addr,mId;
  private long phNo;
  public UserBean() {}
public String getuName() {
```

```
	return uName;
}
public void setuName(String uName) {
	this.uName = uName;
}
public String getpWord() {
	return pWord;
}
public void setpWord(String pWord) {
	this.pWord = pWord;
}
public String getfName() {
	return fName;
}
public void setfName(String fName) {
	this.fName = fName;
}
public String getlName() {
	return lName;
}
public void setlName(String lName) {
	this.lName = lName;
}
public String getAddr() {
	return addr;
}
public void setAddr(String addr) {
	this.addr = addr;
}
public String getmId() {
	return mId;
}
public void setmId(String mId) {
	this.mId = mId;
}
public long getPhNo() {
	return phNo;
}
public void setPhNo(long phNo) {
	this.phNo = phNo;
}

}
```

login.html

```java
package test;
import java.io.*;
@SuppressWarnings("serial")
public class UserBean implements Serializable{
  private String uName,pWord,fName,lName,addr,mId;
  private long phNo;
  public UserBean() {}
public String getuName() {
      return uName;
}
public void setuName(String uName) {
      this.uName = uName;
}
public String getpWord() {
      return pWord;
}
public void setpWord(String pWord) {
      this.pWord = pWord;
}
public String getfName() {
      return fName;
}
public void setfName(String fName) {
      this.fName = fName;
}
public String getlName() {
      return lName;
}
public void setlName(String lName) {
      this.lName = lName;
}
public String getAddr() {
      return addr;
}
public void setAddr(String addr) {
      this.addr = addr;
}
public String getmId() {
      return mId;
}
public void setmId(String mId) {
      this.mId = mId;
}
public long getPhNo() {
      return phNo;
}
public void setPhNo(long phNo) {
```

```
        this.phNo = phNo;
}

}
```

register.html

```
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
  <form action="reg" method="post">
  UserName:<input type="text" name="uname"><br>
  PassWord:<input type="text" name="pword"><br>
  FirstName:<input type="text" name="fname"><br>
  LastName:<input type="text" name="lname"><br>
  Address:<input type="text" name="addr"><br>
  MailId:<input type="text" name="mid"><br>
  PhoneNo:<input type="text" name="phno"><br>
  <input type="submit" value="Register">
  </form>
</body>
</html>
```

RegisterDAO.java

```
package test;
import java.sql.*;
public class RegisterDAO {
    public int k=0;
    public int register(UserBean ub)
    {
     try {
     Connection con = DBConnection.getCon();
      PreparedStatement ps = con.prepareStatement
      ("insert into UserReg45 values(?,?,?,?,?,?,?)");
      ps.setString(1,ub.getuName());
      ps.setString(2,ub.getpWord());
      ps.setString(3,ub.getfName());
      ps.setString(4,ub.getlName());
      ps.setString(5,ub.getAddr());
      ps.setString(6,ub.getmId());
      ps.setLong(7,ub.getPhNo());
```

```
        k = ps.executeUpdate();
        }catch(Exception e) {e.printStackTrace();}
        return k;
      }
}
```

RegisterServlet.java

```
package test;

import java.io.*;

import javax.servlet.*;

import javax.servlet.http.*;

import javax.servlet.annotation.*;

@SuppressWarnings("serial")

@WebServlet("/reg")

public class RegisterServlet extends HttpServlet{

 protected void doPost(HttpServletRequest req,HttpServletResponse res)

 throws ServletException,IOException{

          UserBean ub = new UserBean();

          ub.setuName(req.getParameter("uname"));

          ub.setpWord(req.getParameter("pword"));

          ub.setfName(req.getParameter("fname"));

          ub.setlName(req.getParameter("lname"));

          ub.setAddr(req.getParameter("addr"));

          ub.setmId(req.getParameter("mid"));

          ub.setPhNo(Long.parseLong(req.getParameter("phno")));

          int k = new RegisterDAO().register(ub);

          PrintWriter pw = res.getWriter();
```

```
        res.setContentType("text/html");
        if(k>0) {
            pw.println("User Registered Successfully...<br>");
            RequestDispatcher rd=
                    req.getRequestDispatcher("login.html");
            rd.include(req, res);
        }
 }
}
```

Web.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<web-app>
  <welcome-file-list>
     <welcome-file>login.html</welcome-file>
  </welcome-file-list>
</web-app>
```