

Homework 2

In this assignment you are to create the following two (2) Servlets:

Login

Location: <http://cs3.calstatela.edu:8080/cs320stuXX/Homework2/Login>

The Login Servlet should display the following four (4) HTML elements:

- Username
 - The username field should be a text input box
- Password
 - The password should be a password input box
- Checkbox with Label
 - The label should read “Remember Me”
- Login Button
 - The text on the button should read “Login”

When the User enters their credentials and clicks “Login”, the login form should be submitted back to the Login Servlet.

If you did not do so in Homework 1, you are to create an ArrayList of type CS320User objects. (The CS320User class is defined below.) This ArrayList should be stored in the Application Scope as “HomeworkUsers”. That is to say, any and all Servlets will have access to this collection.

In Homework 2, you are to create two (2) accounts with the following information:

Name: John Doe
E-mail: john@doe.com
Password: 1!

Name: Joe Boxer
E-mail: joe@boxer.com
Password: 2@

These two Users should be instantiated in your Servlet’s init method.

CS320User Class

CS320User Class has the following properties:

- first
 - String – Represents the User's first name
- last
 - String – Represents the User's last name
- email
 - String – Represents the User's e-mail address
 - Note: This is also the User's username
- password
 - String – Represents the User's password

Login Servlet Behavior

Upon form submission, your Login Servlet should perform the following actions:

Search all CS320User objects stored in the HomeworkUsers ArrayList for a User object that has matching credentials.

If a User object is found to have matching credentials, you are to:

1. Create a Session
2. Store a reference to the User object (NOT a new object) in the Session as "CurrentUser"
3. If the "Remember Me" checkbox is checked, you are to create a Cookie with the name "Homework2" and a value that is the SHA256 hash of the User's e-mail address. Note, this value should be the hex value represented as a 64-character string.
4. Finally, you are to redirect the User to the following URL:
 - a. <http://cs3.calstatela.edu:8080/cs320stuXX/Homework2/Welcome>

If no User object is found with matching credentials, you are to re-display the form with an error message that reads:

"Invalid Username and/or Password"

Welcome Servlet

Your Welcome Servlet will have the following behavior:

1. If a `CurrentUser` object exists in Session scope, you are to display a message that reads, "Welcome, *First Last*!" where *First Last* is replaced with the first and last name of the User stored in Session scope.
2. If a `CurrentUser` object doesn't exist in Session scope, but a cookie with the name "Homework2" exists, you should search all `CS320User` objects stored in the `HomeworkUsers` `ArrayList` for a match.
 - a. Note: The value of the cookie is the SHA256 hash of the User's e-mail address, so you will have to hash the e-mail address of every User until it is found.
 - b. If a match is found, you should create a Session and store a reference to the User as "CurrentUser", and you should display the same welcome message outlined above in (1).
 - c. If no match is found, you should redirect the User to the Login Servlet

Grading

- 10pts - Deployed to Correct URL
- 10pts - `CS320User` Class
- 20pts - `ArrayList` of Users
 - Note, if the default Users are not created you will not receive credit for Sessions or Cookies
- 80pts - Session Support
- 80pts - Cookie Support

As always, submit all source files to CSNS for credit. Also submit an `Assignments.html` file linking to your working CS3 Demo.