Week 8: MVC architecture and Session

02.05.2017

Learning Objectives

- Build an application with separate controller and router

- Understand and practice session

Question 1: Prepare folder structure

Start Eclipse and open the project you have created in week 6. Create the folder structure similar to Figure 1. Note that the "views" folder parallel to the "app" folder is the one you created in week 6. You can leave it there as is.
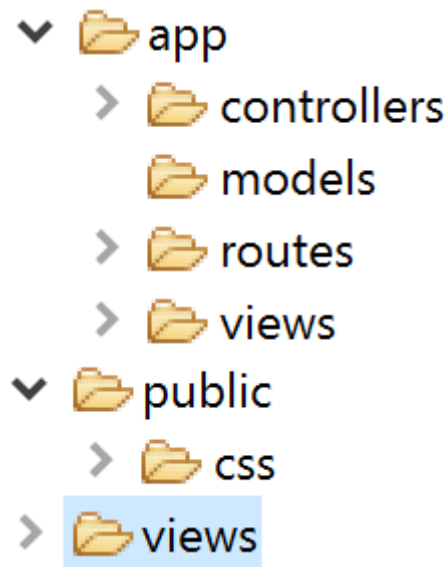

Figure 1: MVC based folder structure

Question 2: Install express-session package

Open file "package.json" and add the following line at the end of the "dependencies"

```
"express-session": "^1.15.0"
```

Save the file and right click it on the project explorer panel to `Run As` then `npm update`. Alternatively, you can run the command "npm install express-session –save" from your project's root directory in a command line window to install the session package. This is the method you used to install other packages in week 6 lab.

Question 3: Convert week 6 app to full MVC structure

In the following steps, we use the sample code in week 8 lecture slides to convert week 6 application to full MVC structure. Make sure you put the files in correct location and update their location reference accordingly in the code.

a) Create a JavaScript file `survey.server.controller.js` in folder `app/controllers`. Copy the code in Week 8 lecture slide 8 in as the content.

b) Create a JavaScript file `survey.server.routes.js` in folder `app/routes`. The content of this file can be found in week 8 lecture slide 9.

c) Create a JavaScript file `server.js` in your project's **root** directory. This is the entry file that set up various configuration and start the server. The content of this file should be similar to that in week 8 lecture slide 9.

d) Copy the "survey.pug" you used last week to folder `app/views`; make sure you update the form's action to the correct URL. Copy "surveyresult.pug" from week 6 solution to folder `app/views`

e) Now right click `server.js` on the project explorer panel and select from the drop down menu to 'Run As" "Node.js application"

Question 4: Session Aware Survey

a) Week 8 slides 19-20 show sample code of a simple session aware survey that will prevent users from voting twice in 30 minutes interval using the same browser. Implement the code in your project and try to use chrome DevTools to inspect the cookies in various request and response header.

b) Now update the sample code to display more information in the result. In particular, if a user has not voted before, the result page should look like Figure 2. Most of the change happens in the result template where you need to add respective message depends on the session data. In the controller, you also need to pass the user's actual vote to the result template.

If a user has voted, the result page should look like Figure 3

Thank you for participating in the survey

You vote for huawei p9.

Current Survey Results:

For Female Respondents:
iphone 7: 0
huawei p9: 1
Pixel XL: 0
Samsung S7: 0

For Male Respondents
iphone 7: 0
huawei p9: 0
Pixel XL: 0
Samsung S7: 0

Figure 2: Result page for users who have not voted before

We are sorry you cannot vote more than once!

You have voted huawei p9.

Current Survey Results:

For Female Respondents:
iphone 7: 0
huawei p9: 1
Pixel XL: 0
Samsung S7: 0

For Male Respondents
iphone 7: 0
huawei p9: 0
Pixel XL: 0
Samsung S7: 0

Figure 3: Result page for users who have voted