Workshop 21: Server side MVC and Frameworks

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Objectives

Introduction to server side MVC and server side MVC frameworks. Basic concepts; templating, routing, request, response, redirect, session, etc.

Resources

Slides and code samples from lecture 12.
JSP Tutorial
Many code samples for Servlets, Filters, and some JSP.
{{mustache}}
Mustache man page
Express

Templating

Testing two different templating systems. Download **l21.zip** und unzip.

Mustache

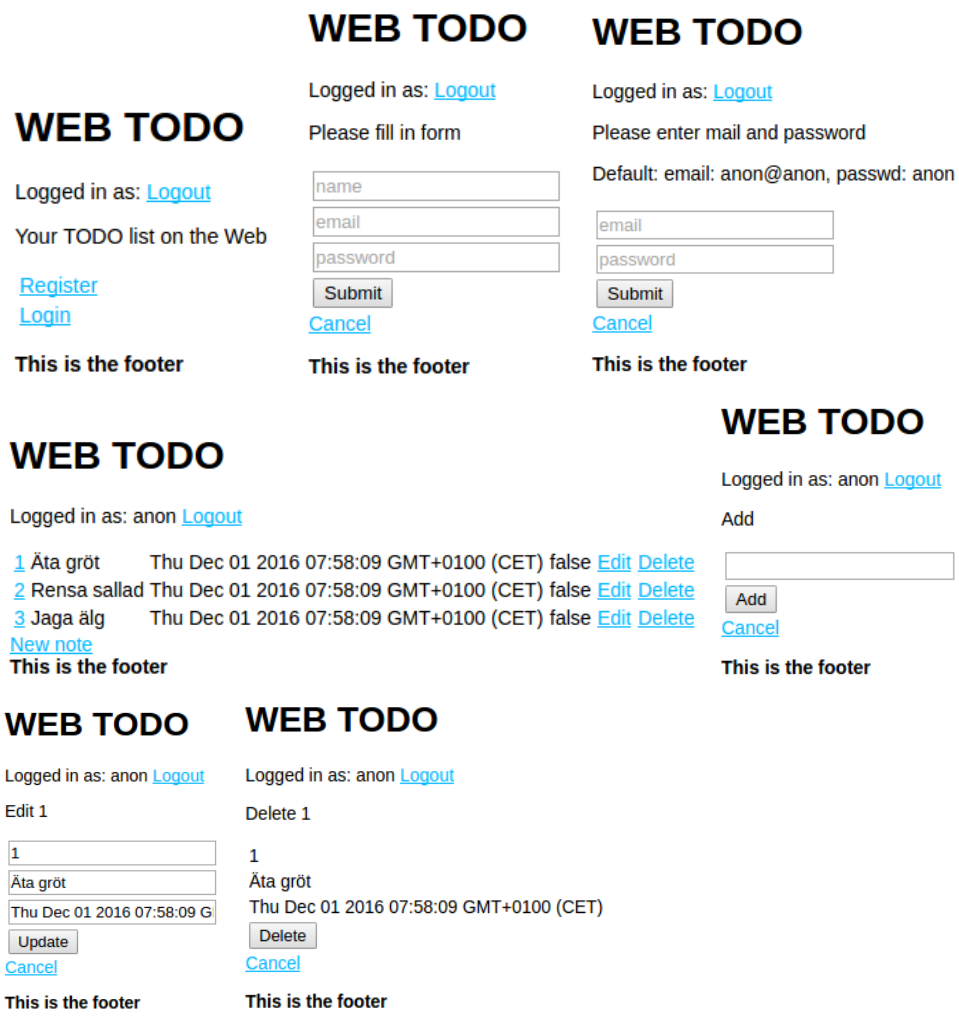
1. Go to /l21/templating/mustache
2. Install packages
3. Start application
4. Visit localhost:8080
5. Do some modifications to get some other browser output.

Java Server Pages

1. Open /l21/templating/jsp in NetBeans
2. Run application
3. Visit localhost:8080
4. Do some modifications to get some other browser output.

Server side MVC Frameworks

We'll implement a very basic TODO-list app. Application design will be server side-MVC. To exercise session handling we also let a user login (on index page or other page). When user login he/she (or just name) is placed in the session object. Each page should display logged in user name. Check with two different browsers and names! The pages …(details page missing).



Functionality for the TODO-list is:

- Register as a user
- Login and logout
- If logged in
    - Create, add a new TODO-note to a list
    - Read, lookup a note given the note id (for the listing, not general search).
    - Update, replace old note with a new given note (with same id)
    - Delete a note from the list

The app should use the PRG-pattern for POSTs.

Choose one of the approaches, JEE or NodeJS, below and implement the TODO-list application (don't spend any time on "the look", this is only functionality and application design)

1. JEE (i.e. no framework, Java, JSP/JSTL, Tomcat)

In-house design (because of no framework) using Servlets and JSPs. Nothing for free but you have full control.

Suggestion for the in-house design:

- All GETs handled by JSPs.
- JSPs backed up by beans to supply data (view model).
- All POSTs handled by single servlet.
- All POSTs use hidden parameter "action" to inform Servlet what to do. The Servlet redirects (i.e. using PRG-pattern).

1. Run l21/jee_mvc. Grasp design, trace flow.
2. Run l21/session/jee_session. Check techniques.
3. Download **jee_todo.zip**
4. It should be possible to run (but non functional).
5. Implement missing parts. Check for //TODO comments

Optional

Use the filter (class Router) to create fancy (clean, semantic) URLs

2. NodeJS (JavaScript, Express, Mustache templating, Node)

For easier workflow install nodemon.

1. Run l21/node_express_mvc. Grasp design, trace flow
2. Run l21/session/node_express_session. Check techniques.
3. Download **node_todo.zip**
4. Install packages
5. It should be possible to run (but non functional).
6. Implement the missing parts check for //TODO comments.

Optional

Select the other approach.

Examination

Contact teaching assistant for a demo.