Documentation of Project for Web Applications course

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Installation guideline

To create the webpage the code needs to first be downloaded from the provided github repository. When code is downloaded extract zip-file into some folder. Open folder with eg. VS Code. Open new terminal. In terminal write following things:

```
npm install
```

```
npm start
```

This should start the website. It is usually hosted on localhost:3000.

Technology choices

I have used Pug template engine to create different pages. The reasoning behind this choice is the added flexibility of the language, as it is possible to set variables and for example iterate through lists. For example the posts.pug -file gets a list of posts from the router, in pug it is possible to go through each post in the posts list and display the posts dynamically, without having to use a separate javascript to do this. Additionally the pug framework is in my opinion easier to use as there is less writing required and it looks quite neat in comparison to html. Pug also provides the feature of extending other pug files, and for example I have utilized this by creating a layout page, where I have the links to materialize, as well as a javascript file that needs to be available to all pages, as well as a body which contains the menu.pug file which is for rendering the nav bar. The block content in layout.pug then gets filled with information in the files that extend the layout.

For the server side I have used nodejs and expressjs and while expressjs was not required it is the framework we have been studying and using in this course and I didn't want to experiment with some other framework that I am not familiar with. Expressjs was also chosen because it makes it easier to build nodejs-based applications and it provides routing options, which can be used to specify how the application reacts when the client side requests some route or path. Expressjs can also handle different HTTP method requests ("GET", "POST").

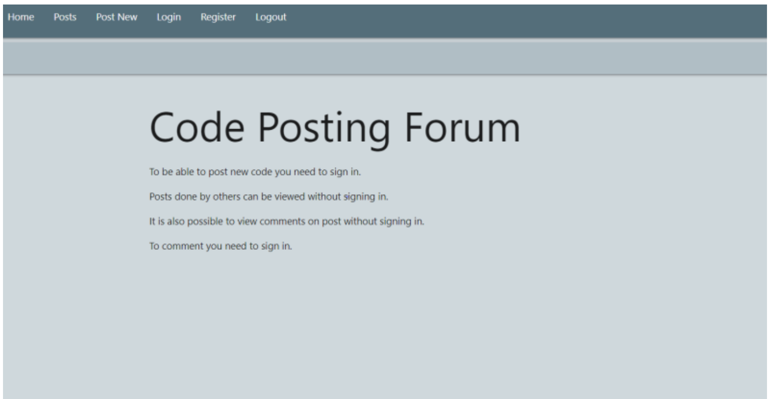
For some client requests for example logging in, registering, posting new posts and commenting I have used AJAX to send information from client side to server side. For logging in I need to be able to save a jwt token into local storage so that I can verify if user is logged in in order to be able to post and comment. For posting new post and commenting I get from local storage the token and using AJAX send it to the server side where it can be verified. If token cannot be found in local storage AJAX will inform user that they are not authenticated and that they should log in. For registering AJAX was used in order to be able to inform user if the username they are trying to register with is not available i.e. it is already in use.

I have also created some middleware for authenticating the token in cases of wanting to post new post or comment. When the route "/users/postNew" or "/users/postNewComment" are called, they first go to validateToken.js or validateToken2.js middleware, where the token sent from AJAX is checked, if the token is not provided then it is not possible to access "/users/postNew" or "/users/postNewComment", which means that the users new comment or post can't be added to the database.

Lastly, I have used mongoose to create a mongoDB database. Mongoose is also used to create 3 table/model schemas: User, Posts and Comments. Post is connected to user by username, comments are connected to posts by post _id. Mongoose was chosen because of the simplicity in creating schemas and flexibility when adding new information to models.

User manual

The application starts with the home page, which just contains simple information on what features are available for signed in users and what features are available without signing in. To access this page press the Home button on the navigation bar.



Code Posting Forum

To be able to post new code you need to sign in.

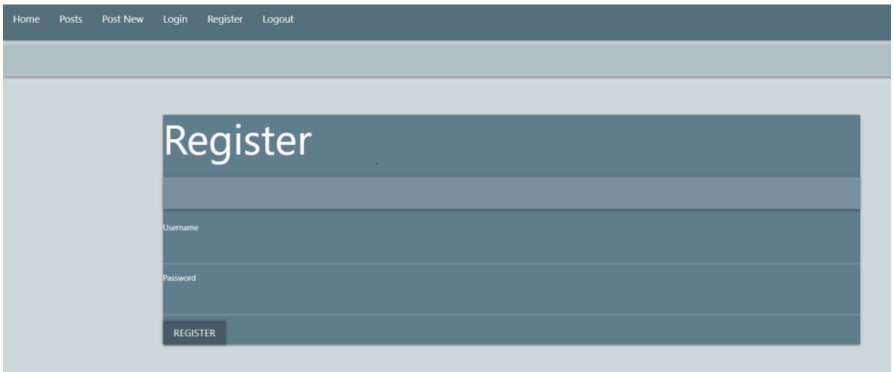
Posts done by others can be viewed without signing in.

It is also possible to view comments on post without signing in.

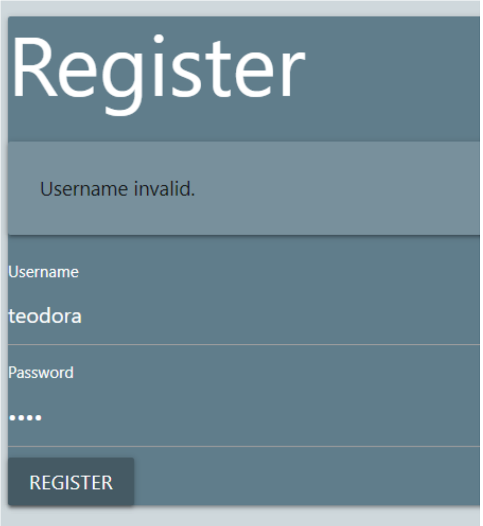
To comment you need to sign in.

Registering

To go to registering page press the Register- button on the navigation bar. It shows the following:



In the page there is possibility to provide username and password. These are both required in order to register. If you provide a username that is already in the database, you will get the following error:



Username invalid.

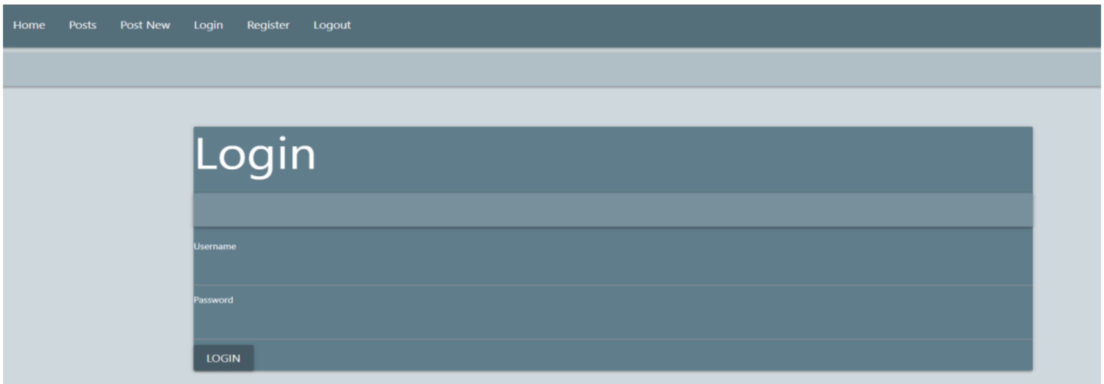
Username
teodora

Password
••••

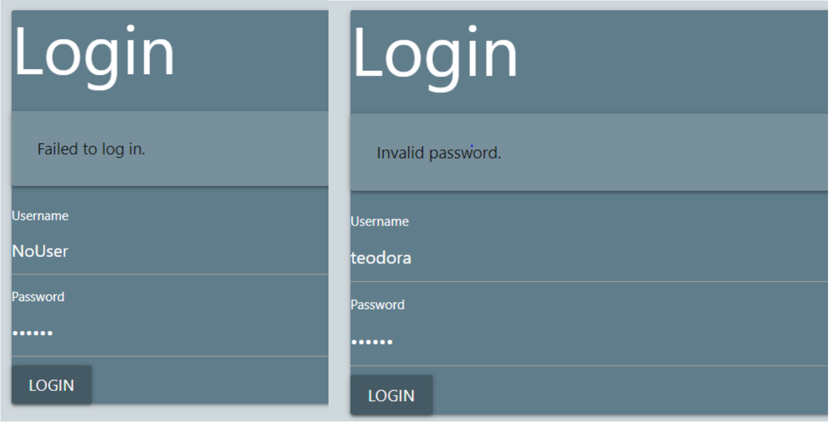
Once you have successfully registered, your information will be saved to the user-database and you will be redirected to the log in page.

Logging in

The log in page can be accessed through the navigation bar, you will also be redirected to the log in page when you successfully register. The page looks like this:



In here you have the possibility to give your username and password. If the username or password is invalid, you will get one of the following errors:



Failed to log in.

Username
NoUser

Password
••••••

Invalid password.

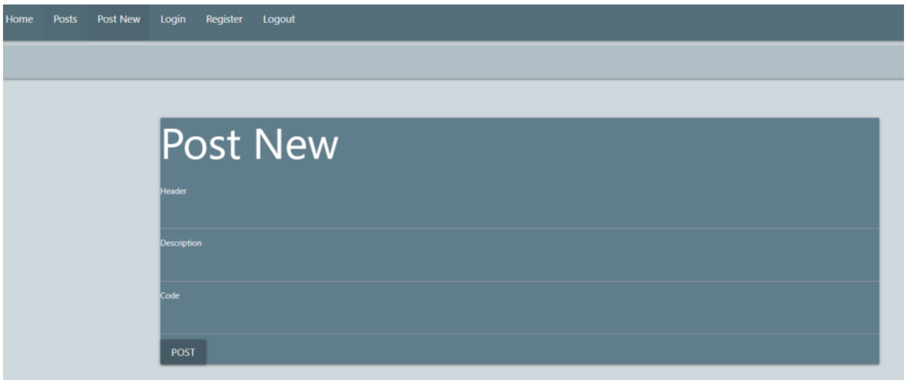
Username
teodora

Password
••••••

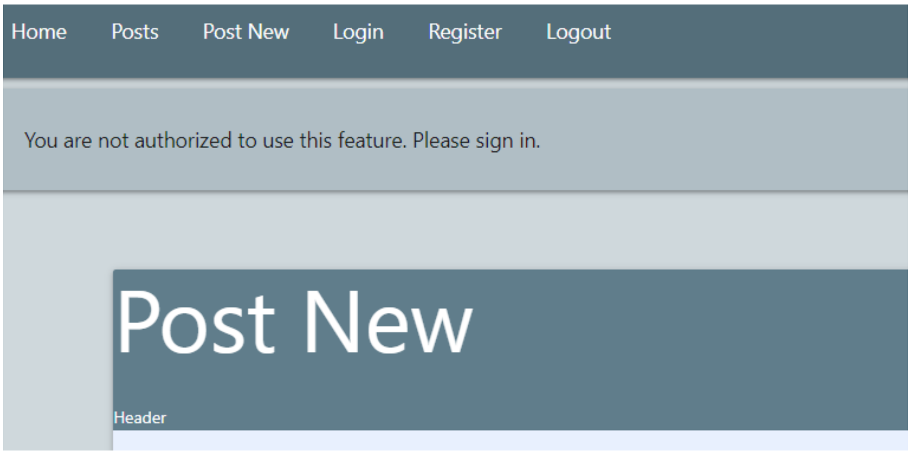
When you successfully log in you will be redirected to the Home page.

Posting new post

Only users that are logged in can post new posts. To post a new post select from the navigation bar Post New. It will take you to the following page:



In here you have fields for header (required), description, and code (required). Once you fill these fields and press post, if you are not logged in you will get the following error:



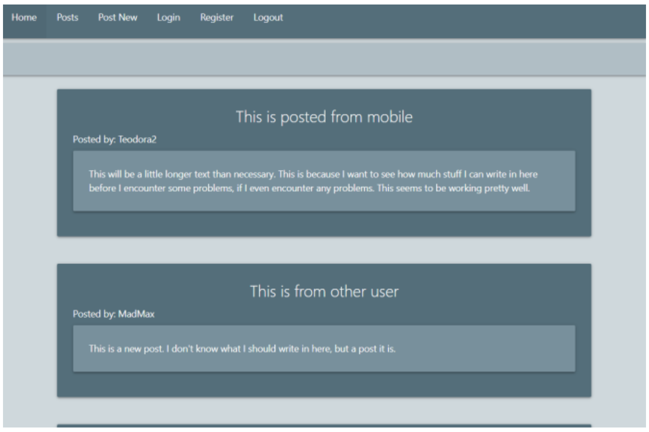
You are not authorized to use this feature. Please sign in.

Post New

If you are signed in you will get redirected to Posts page where your new post will be added to the bottom of the posts list.

Viewing all posts

To access all posts page select from navigation bar Posts, you also get redirected to this page once you have posted a new post successfully. The page looks like this:



This is posted from mobile

Posted by: Teodora2

This will be a little longer text than necessary. This is because I want to see how much stuff I can write in here before I encounter some problems, if I even encounter any problems. This seems to be working pretty well.

This is from other user

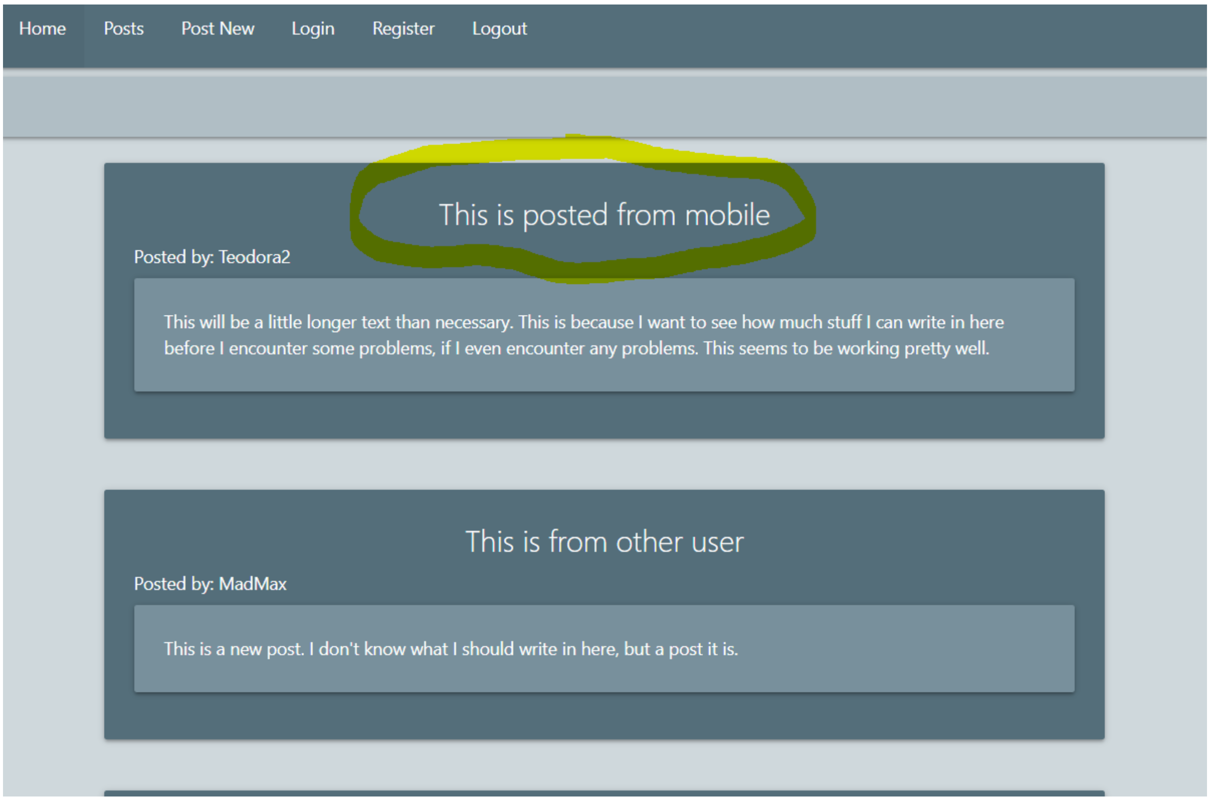
Posted by: MadMax

This is a new post. I don't know what I should write in here, but a post it is.

Even users that aren’t logged in can access this page. Your newest post will be at the bottom of the page.

Viewing single post with comments

If you want to look at a specific post with all the comments on it go from navigation bar to posts. In here press the specific post’s header:



This is posted from mobile

Posted by: Teodora2

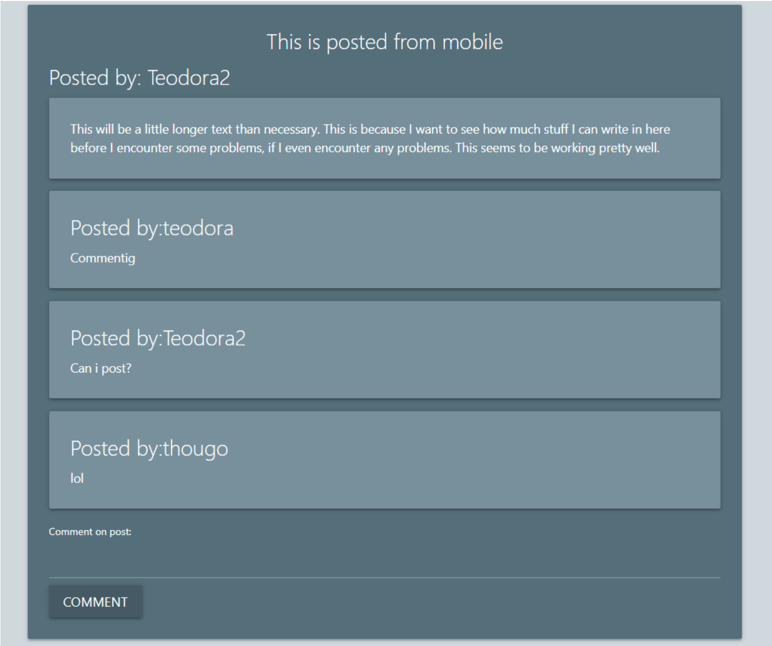
This will be a little longer text than necessary. This is because I want to see how much stuff I can write in here before I encounter some problems, if I even encounter any problems. This seems to be working pretty well.

This is from other user

Posted by: MadMax

This is a new post. I don't know what I should write in here, but a post it is.

This will take you to a separate page where you will view the post as well as all of the comments on the post. It looks like this:



This is posted from mobile

Posted by: Teodora2

This will be a little longer text than necessary. This is because I want to see how much stuff I can write in here before I encounter some problems, if I even encounter any problems. This seems to be working pretty well.

Posted by:teodora

Commentig

Posted by:Teodora2

Can i post?

Posted by:thougo

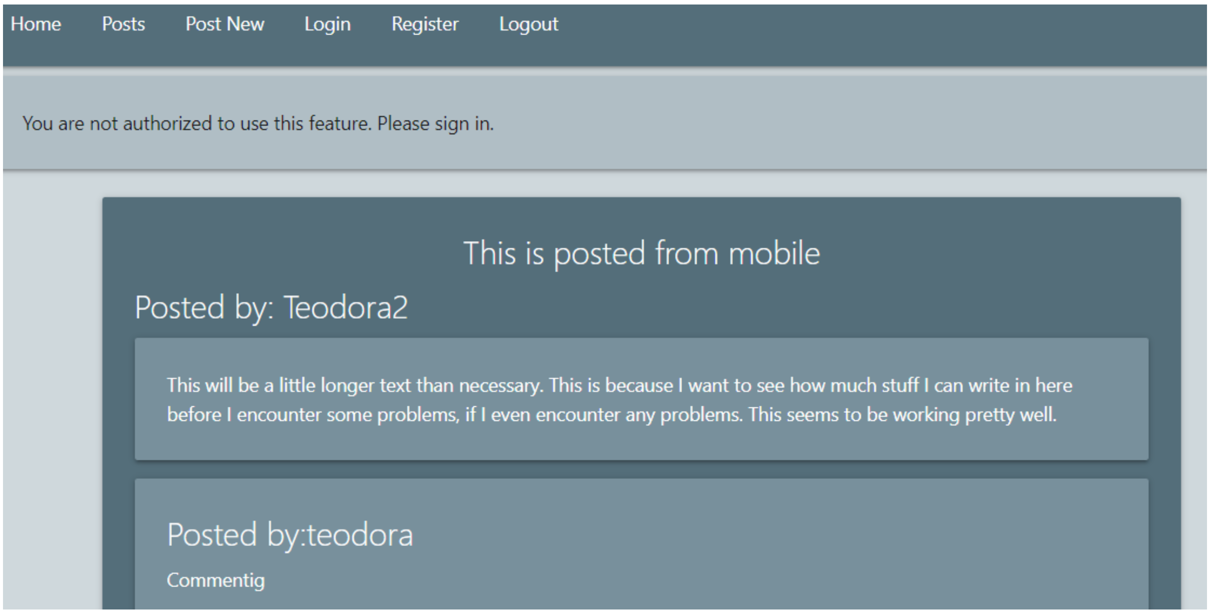
lol

Comment on post:

You are able to access this page without logging in.

Commenting

Commenting feature is only available to users that are signed in. To comment go from navigation bar to Posts, from there go to a single comment by pressing the post’s header. At the bottom of this page there is a field to write a comment in. The field needs to contain something to be able to comment, empty field is not accepted. If you are not signed in and try to comment you get the following error:



You are not authorized to use this feature. Please sign in.

This is posted from mobile

Posted by: Teodora2

This will be a little longer text than necessary. This is because I want to see how much stuff I can write in here before I encounter some problems, if I even encounter any problems. This seems to be working pretty well.

Posted by:teodora

Commentig

If you are logged in your comment will appear as the last comment on the page.

Logging out

To log out press the Logout button on the navigation bar. This will empty the local storage of tokens, thus making it impossible to post new posts or comments.

Implemented features and number of points

The features I have implemented are the mandatory requirements to pass this course. The amount of points I am aiming for is 25.

The features are:

-Implementation of backend with Node.js

-Utilization of database

-Features

1. Authenticated users can:
   - Post new code snippets
   - Comment on existing posts
2. Non-authenticated users can see posts and comments
3. There is some page listing all the post, after opening one post, comments are also listed

-Responsive design

- ○ The app needs to be usable with mobile devices and desktop browsers (tested mobile version also)

-Documentation

- There needs to be documation describing the technology choices, installation guidelines and user manual
- Also list the features you have implemented and the number of points you are aiming at