Backend Development

Lab 4

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TGDU3

1. Tasks and implementations  
   Lab 4 could be viewed as a summary of what we’ve learned during the course. The task was to implement a register and login function, including password encryption, authentication with JWT and access control.  
     
   The code implementation is mostly boilerplate, but with some noteworthy functions.

En bild som visar text, skärmbild, programvara, Operativsystem

Automatiskt genererad beskrivning

I separated the authentication middleware into a separate file to reduce clutter. Once I had this implementation, I could basically forget about it, and add the exported function to any route that needed it.

En bild som visar text, skärmbild, programvara, Operativsystem

Automatiskt genererad beskrivning

This is not the greatest implementation, considering that the redirect route includes the token, making it visible. But considering the basic frontend implementation provided, it will do just fine for this assignment. The expiration timer helps making it somewhat secure.

En bild som visar text, skärmbild, Teckensnitt

Automatiskt genererad beskrivning

I decided to create a separate protected route for the access control. It uses the authentication function mentioned earlier, making sure the user is redirected to the appropriate page.

This is clearly not optimal, since the frontend implementation requires every admin, teacher, and student to have their own .ejs page file. But that would be best solved by modifying the frontend code to make the pages dynamic, using what’s inside the database to render the appropriate page content.

1. Issues

I faced some issues figuring out how to implement the access control properly and securely, without a more developed frontend using something like fetch API or axios. I faced no issues outside of this.

1. What I’ve learned  
   Since this was primarily an exercise that combines the implementations of the previous labs. The main lesson was making it all work together. I’m not entirely happy with how it turned out, I’d rather have worked with a more complete frontend. I intentionally made the decision to not implement the frontend code myself, considering the scope of the backend course.