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Software-Engineering-Narrative

The artifact I chose for this category is the backend I built for Swiftside Rental, a fictional car rental website. This backend was created to expand on a project I had already started using Vite and React on the frontend. I wanted to turn it into a fully functional full-stack application, so I built a custom Express.js backend from scratch, complete with user authentication, vehicle management, and rental booking.

I picked this artifact because it shows my ability to design and build the backend of a web application using real-world tools and best practices. I set up JWT-based authentication, hashed passwords, organized routes, and connected everything to a PostgreSQL database. These backend components show that I understand how to build secure, scalable systems, and how to structure an app so it's easy to maintain and expand later.

This artifact lines up well with the course outcomes I planned to meet for Software Engineering and Design. My goal was to demonstrate that I can create clean, modular backend code that integrates with a separate frontend and follows industry standards—and I’ve done that here. While I haven’t connected the backend to the Vite React frontend just yet, all of the core functionality is in place and working.

During the process, I ran into some challenges, especially with getting the database hosted and handling SSL certificate errors. But dealing with those issues taught me a lot about deployment and security in real-world environments. It also helped me understand the importance of structuring your backend well, so that adding new features (or connecting a frontend later) is as smooth as possible.

Once I hook it up to the frontend, this will be a complete full-stack app—but even now, it’s a solid example of my backend development and software design skills.