Milestone 2 Mock Assessment – Project Report

Project Title
Full Stack Web Application using React (Frontend) and Node.js + Express (Backend)

Objective
To design and implement a full stack web application demonstrating React concepts such as hooks, routing, event listeners, and Formik form validation, along with backend concepts like API development, middleware, validation, and authentication using Node.js.

Technologies Used

Component	Technology
Frontend	React.js, React Router, Formik, Yup
Backend	Node.js, Express.js, CORS, JSON Web Token (JWT)
Tools	Postman / Thunder Client

Frontend Features Implemented

Question	Description
Q1	Product card using Props
Q2	Login form using useRef and useState
Q3	Display User Status using useEffect with 2-sec delay
Q4	Dynamic routing using React Router and fetching user details via API
Q5	Window resize detector using custom event listener hook
Q6	Form validation using Formik and Yup

Backend Features Implemented

Question	Description
Q7	Basic Express server with REST API
Q8	Custom logger middleware
Q9	POST /products API with input validation using express-validator
Q10	JWT Authentication with Login + Protected Route (/dashboard)

API Endpoints Summary

Method	Endpoint	Function
GET	/products	Fetch all products
POST	/products	Create product with validation
GET	/users/:id	Fetch single user (used in React Q4)
POST	/login	Generate JWT token
GET	/dashboard	Access data only after successful authentication

Testing

➢ Frontend tested using browser logs and dynamic UI behavior

➢ Backend tested using Thunder Client / Postman

➢ JWT token successfully authenticated access to restricted route

Outcome

All required full stack concepts were successfully implemented and tested. The project demonstrates understanding of both frontend and backend workflow along with validation, authentication, and routing.

Conclusion

The assessment provided hands-on experience in full stack development using React and Node.js. It strengthened knowledge in state management, hooks, form handling, REST API development, middleware usage, input validation, and JWT-based authentication.