

MYRON ODAMETHEY-1704451095

KELVIN ESSIEN-1703765698

Full Technical Documentation: Guest Stay Web Application

Deployment Flow







- **Frontend** → Vercel (auto-deploy from GitHub)
- **Backend** → Render / Heroku (Docker container)
- **Database** → PostgreSQL (Supabase) or MongoDB Atlas
- **CI/CD** → GitHub Actions (test + deploy)

Technology Stack






Layer	Technology
Frontend	React 18, TailwindCSS, React Router, Axios
Backend	Node.js, Express.js, JWT, bcrypt, Prisma ORM
Database	PostgreSQL (preferred) or MongoDB Atlas
Deployment	Vercel (frontend), Render/Heroku (backend)
Testing	Jest (backend unit tests), Cypress (UI tests)

Testing Logs

Unit Testing

- **Auth Service:**
 -  Register user → hashed password stored
 -  Login → returns JWT
 -  Invalid credentials
- **Booking Service:**
 -  Booking created with valid user/stay/date
 -  Prevent overlapping bookings
 -  Cancel booking → status updated

UI Testing

-  Home page loads within 2s
-  User can search for stays
-  Booking flow works (search → details → book)
-  Dashboard lists user bookings
-  Edge case: Booking dates outside availability → handled with error

6. Project Reflections

Challenges

- Managing **date overlaps** in bookings required custom logic.
- Ensuring **secure JWT authentication** while keeping UX smooth.
- Optimizing database queries for search/filter functionality.

Achievements

- Built a scalable **microservices-ready backend**.
- Clean, responsive UI with **TailwindCSS**.
- CI/CD pipeline automated deployments.

Future Improvements

- Add **Mobile Money payment** integration.
- Implement **reviews & ratings** for stays.
- Enhance search with **location map filters**.
- Introduce **role-based admin dashboard**.