COLLEGE CODE : 9222

COLLEGE NAME: Theni Kammavar Sangam College Of Technology

DEPARTMENT: B.Tech(IT)

STUDENT NM-ID :7BC751C4446D12EB2464A8DB59FABE1A

ROLL NO: 23IT017

DATE : 19/09/2025

Completed the project named as Phase 2 TECHNOLOGY

PROJECT NAME : JOB APPLICATION TRACKER

SUBMITTED BY,

NAME :S.Kishor

MOBILE NO :7708887782

Solution Design & Architecture

TITLE:IBM-NJ-JOB APPLICATION TRACKER

1. Tech Stack Selection

Frontend (UI):

- React.js (for responsive and modular UI)
- Tailwind CSS / Material UI (for styling)
- Backend (API & Logic):
- Node.js with Express.js (lightweight REST API)

Database:

- MongoDB (NoSQL, flexible schema for job applications)
- OR PostgreSQL/MySQL (if structured relational data is preferred)
- Authentication:
- JWT (JSON Web Tokens) for secure login/session management
- Hosting & Deployment:
- Frontend =Vercel/Netlify
- Backend & DB =AWS / Render / Railway

2. UI Structure

- Main Screens/Pages:
- Login / Signup = Authentication page
- Dashboard = Overview of all job applications
- Application Form Page =Add/Edit job application details
- Application Detail Page =View status, notes, company info
- Settings/Profile =User profile, preferences.

3. API Schema Design

- Endpoints (REST API):
- POST /auth/signup = Register new user
- POST /auth/login = Authenticate user
- GET /applications = Fetch all applications (by user)
- POST /applications = Add a new job application
- GET /applications/:id = Fetch single application details
- PUT /applications/:id = Update job application
- DELETE /applications/:id = Delete job application

4. Data Handling Approach

- Frontend: State management with React Context / Redux for applications list
- Backend: REST APIs with validation (using Joi/Zod)
- Database: Store applications per user with indexing for faster queries
- Error Handling: Standard error responses (400, 401, 404, 500)
- Security: Password hashing (bcrypt), JWT-based authentication

5. Component / Module Diagram

Modules:

- Auth Module = Signup, Login, JWT verification
- Application Module = CRUD operations for job applications
- User Module = Profile management

Components:

- UI Components: Navbar, Sidebar, Application Card, Form, Status Tag
- Backend Services: AuthService, ApplicationService, Database Layer

6. Basic Flow Diagram

User Flow:

- User signs up/logs in
- System validates JWT
- User accesses Dashboard = fetch applications from DB
- User adds/edits/deletes an application = API updates DB
- Dashboard refreshes list with updated data
- User logs out = JWT invalidated