

Internship Diary

Name: Narendra Babu

Course: B.E. (8th Semester)

Institution: The National Institute of Engineering, Mysore

Internship Duration: 17th February 2025 –17th April 2025

Mode: Intern

Company:Hashedin By Deloitte

Week 1: Company Orientation, DevOps, Git & GCP

Feb 17 (Mon)

- - Official internship inauguration, welcome session & goodies distribution.
- - Overview of company structure, development cycles, expectations from interns.
- - Briefed on industry practices: Agile methodology, Scrum framework, and project planning using SDLC.
- - Assigned to technical learning tracks (Java, Angular, .NET, Node.js, GenAI).

Feb 18 (Tue)

- - Introduction to Docker: Image creation, container execution, Docker Hub usage.
- - Worked with Docker Compose to define multi-container applications.
- - Understood container orchestration basics and scalability.

Feb 19 (Wed)

- - Version control with Git and GitHub: Branching strategies, pull requests, merge conflicts, and issue tracking.
- - Used GitHub Projects for task tracking.
- - Explored Google Cloud Platform (GCP): Hands-on with Compute Engine, VM setup, firewall configs.
- - Deployment of Dockerized apps on GCP.
- - Gained exposure to CI/CD practices using GitHub Actions.

Week 2: Java Spring Boot – Social Network (SOCIO Project)

Feb 20 (Thu)

- - Began Java backend project 'SOCIO' – a mini social media platform.

- - Set up Spring Boot with JDBC, MySQL, REST controllers, and exception handling.
- - Designed the database schema with Users, Posts, Groups, and Follows.

Feb 21 (Fri)

- - Built User Module: Registration, login, and profile privacy toggle.
- - Integrated Spring Security for basic auth using in-memory credentials.

Feb 24 (Mon)

- - Migrated to JPA and Hibernate for ORM support.
- - Added entity classes, repositories, and relationships (OneToMany, ManyToMany).
- - Implemented user authentication using JWT (JSON Web Token).
- - Defined secure endpoints based on user roles.

Feb 25 (Tue)

- - Built Post Management APIs: Create, update, delete posts.
- - Metadata: likes, comments, share count.
- - Introduced @PreAuthorize annotations for access control.

Feb 26 (Wed)

- - Implemented User Interactions: Follow/Unfollow other users.
- - Report abusive posts with justification.
- - Developed Group Management: Group creation, adding/removing users, privacy settings.
- - Integrated logging and exception responses.

Week 3: Frontend Development with Angular – SOCIO UI

Feb 27 (Thu)

- - Initialized Angular project with CLI.
- - Created base module structure with routing and lazy loading.
- - Designed layout components (header, navbar, dashboard).

Feb 28 (Fri)

- - Created reactive forms for registration and login.
- - Added form validations, error messages, and navigation guards.
- - Integrated Angular Material components for UI enhancement.

Mar 3 (Mon)

- - Connected backend APIs using HttpClientModule.
- - Created auth service to manage tokens and user sessions.
- - Secured routes using guards and role-based directives.

Mar 4 (Tue)

- - Designed user and post dashboards with reusable card components.
- - Built group feed module: visibility control and member listing.
- - Implemented conditional rendering for Admin vs User roles.

Mar 5 (Wed)

- - Added toast notifications, loader indicators, and route animation.
- - Created shared module and custom pipes for formatting dates and post content.
- - Completed SOCIO frontend with full functionality.

Week 4: Generative AI Track – LangGraph Project

Mar 6 (Thu)

- - Overview of LangGraph and how LLMs automate frontend generation.
- - Defined LangGraph nodes for component generation, testing, and debugging.

Mar 7 (Fri)

- - Uploaded SRS documents and UI screenshots.
- - Used Llama 3 Vision to extract component structure, state management needs, API expectations, and design guidelines.

Mar 10 (Mon)

- - Generated Angular components from AI output.
- - Ensured component modularity and responsiveness.
- - Applied SCSS themes and accessibility features.

Mar 11 (Tue)

- - Integrated APIs and managed frontend state using BehaviorSubject.
- - Automated test case generation using Cypress.
- - Debugged UI issues using feedback loops in LangGraph.

Mar 12 (Wed)

- - Logged and monitored graph runs using LangSmith.
- - Benchmarked UI for performance, accessibility, and maintainability.
- - Finalized AI-generated project setup and documentation.

Week 5: .NET Core & C# – Blogging Platform

Mar 14 (Fri)

- - Created .NET 8 Web API using Visual Studio 2022.
- - Structured project into Controllers, Services, Models, DTOs, and Data.

- - Connected to MySQL via Entity Framework Core.

Mar 17 (Mon)

- - Developed secure endpoints for user registration/login using JWT tokens.
- - Role-based access: Admin, Blogger, Subscriber.
- - Used FluentValidation to validate input models.

Mar 18 (Tue)

- - Implemented CRUD APIs for Blog Posts: create, update, delete, fetch.
- - Created comment system: users can comment, edit, or delete their comments.

Mar 19 (Wed)

- - Admin controls: Moderate blogs, assign/revoke user roles, delete users and posts.
- - Tested with Postman and Swagger documentation.

Mar 20 (Thu)

- - Prepared and submitted final Blogging Platform assignment.
- - Verified token handling, RBAC logic, and test coverage.

Week 6: Node.js + Express – CRUD API with MySQL

Mar 21 (Fri)

- - Initialized Node.js project using Express.js.
- - Configured routes, middleware, and connected to MySQL using mysql2.
- - Structured project using MVC architecture.

Mar 24 (Mon)

- - Developed CRUD APIs for user and product management.
- - Implemented token-based authentication manually.
- - Added middleware for error handling and logging.
- - Tested endpoints using Postman, validated DB transactions.

Final Summary

Technologies & Tools Used

- - Backend: Java (Spring Boot), .NET Core, Node.js (Express)
- - Frontend: Angular 16, HTML5, SCSS, Angular Material
- - Database: MySQL
- - DevOps & Tools: Docker, Git, GitHub, GCP, Swagger, Postman
- - AI/Automation: LangGraph, Llama 3 Vision, Cypress
- - Security: JWT, Spring Security, FluentValidation

Projects Completed

- - SOCIO – Full-fledged social network using Java Spring Boot & Angular
- - Blogging Platform – Role-based platform in .NET with secure post/comment management
- - LangGraph AI UI Generator – SRS-based automated frontend builder
- - Grocery API – Node.js CRUD backend with Express and MySQL