Full Stack Web Development

Problem Statements • Technical Specifications • Evaluation Guide

4 Weeks (Flexible & Self-Paced)
Task-Based & Verified Certification

01. DOMAIN OVERVIEW & LEARNING OBJECTIVES

Build scalable full-stack web applications using React, Next.js, Node.js, and modern databases. Complete industry-standard tasks covering responsive UI systems, database indexing, API rate limiting, and production CI/CD deployments.

02. INTERNSHIP CREDENTIALS & BENEFITS

✓ Official Offer Letter	✓ MSME Verified Certificate	✓ Letter of Recommendation
✓ Unique Credential ID	✓ QR Verification Endpoint	✓ Resume & Code Review

MANDATORY SUBMISSION & REPOSITORY INSTRUCTIONS

1. **SINGLE GITHUB REPOSITORY:** All assigned tasks must be stored in **one single GitHub repository** named `GeminalStudios_full_stack_Tasks` with dedicated subdirectories (e.g., `/Task-1`, `/Task-2`). Do not create separate repositories for each task.
2. **Task Completion Criteria:** Complete any **2 or 3 out of 4 tasks** listed in this document. Submitting only 1 task will be deemed incomplete.
3. **LinkedIn Update:** Share your offer letter and progress on LinkedIn tagging **@Geminal Studios** with `#GeminalStudiosInternship`.
4. **Documentation:** Provide a clean `README.md` with architecture overview and video demonstration links.
5. **Submission Portal:** Submit deliverables at **https://www.geminalstudios.site/internship/submit**.

03. TASK POOL — SECTION A (COMPLETE ANY 2 OR 3 TASKS)

TASK 1: Responsive Dashboard & State Architecture — BEGINNER

Objective: Build a modern responsive analytics dashboard with dark/light themes, dynamic data charts, and local storage state persistence.

Skills & Tech Stack: React / Next.js, Tailwind CSS, Component Architecture

Key Deliverables:

- • Clean responsive UI
- • Modular component hierarchy
- • Theme switcher with persistent state

TASK 2: Secure Authentication & Role-Based Access (RBAC) — INTERMEDIATE

Objective: Implement JWT/OAuth2 authentication with protected routes, password hashing, user session management, and admin/user roles.

Skills & Tech Stack: Node.js, JWT / OAuth, Database Modeling

Key Deliverables:

- • Login / Register workflows
- • Protected middleware routes
- • Database user schema with RBAC

04. TASK POOL — SECTION B (ADVANCED PROBLEM STATEMENTS)

TASK 3: E-Commerce / SaaS Backend with API Rate Limiting

INTERMEDIATE

Objective: Engineer a scalable REST or GraphQL API backend supporting product catalog filtering, cart state, order creation, and Redis/in-memory rate limiting.

Skills & Tech Stack: Express / Next.js API Routes, PostgreSQL / Prisma, API Design

Key Deliverables:

- • Documented RESTful API endpoints
- • Database queries & indexing
- • Error handling & input validation (Zod)

TASK 4: Full-Stack Real-Time Application with Live Deployment

ADVANCED

Objective: Build and deploy a complete production web application (e.g. Real-time Collaboration Tool, Task Management Board, or AI Query Interface) with live hosting.

Skills & Tech Stack: Full Stack Integration, WebSockets / Realtime, Cloud Deployment

Key Deliverables:

- • Live deployed URL (Vercel / Render)
- • Comprehensive README with architecture diagram
- • Automated CI/CD workflow

05. EVALUATION RUBRIC & CODE QUALITY STANDARDS

TECHNICAL REVIEW CRITERIA

- **Code Hygiene & Structure:** Clean directory structure, modular design, and descriptive commit history.
- **Functionality & Completeness:** Core features working as described with proper input validation and error handling.
- **Documentation:** Clear README with installation instructions, dependencies, and demonstration notes.
- **Single Repository Rule:** All completed tasks organized under one repository with dedicated folders (`/Task-1` , `/Task-2`).

FINAL SUBMISSION & CREDENTIALING PROTOCOL

1. Once you complete your chosen 2 or 3 tasks, submit your public GitHub link at: **https://www.geminalstudios.site/internship/submit**.
2. Complete the nominal ₹99 evaluation fee for portfolio review and credential issuing.
3. Upon technical evaluation, your **Govt. MSME Certificate of Completion & LOR** will be emailed and permanently verifiable at `geminalstudios.site/verify/[ID]`.

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