



Next JS 15 Real-Time Project

by

Crystal Syntax

Powered by KalpaniX Technologies

v 1.0

| Introduction to Next.js 15 and Project Setup

Concept

- Introduction to Next.js 15
- Differences between App Router and Pages Router (focus on App Router)
- Folder structure overview
- Client vs Server Components
- Setting up TypeScript and Tailwind CSS
- Adding custom fonts and global styling

Hands-On:

- Create a new project with App Router
- Configure Tailwind and create base layout

| Routing, Layouts, and Metadata

Concepts:

- Nested and dynamic routes
- Route groups and intercepting routes
- Shared layouts and templates
- Error and loading UI patterns
- Generating metadata with generateMetadata

Hands-On:

- Build a Portfolio or Blog site structure
- Implement 404 and error boundaries

| Data Fetching and API Routes

Concepts:

- Static Site Generation (SSG) with `generateStaticParams`
- Server Side Rendering (SSR) with `getServerSideProps`
- Client fetching using SWR or React Query
- API routes and route handlers
- Middleware and Edge Functions

Hands-On:

- Build a blog or dashboard with static and dynamic pages
- Add a contact API route
- Implement middleware for auth logging

| Authentication and State Management

Concepts:

- Setting up NextAuth.js for OAuth and credentials
- Session-based auth and JWTs
- Form handling with React Hook Form and Zod
- State management using Zustand, Redux, or Context API

Hands-On:

- Implement Login, Signup with validations
- Build Protected Routes and Role-based Dashboard

| **TypeORM & Database Integration**

Concepts:

- TypeORM with PostgreSQL
- Schema definition, migration, and relations
- CRUD operations with TypeORM Client

Hands-On:

- Build DB models (User, Post, Comment)
- Connect APIs to TypeORM
- Add validation and relationships

| **Deployment & Final Project**

Concept:

- Vercel deployment and ENV management
- SEO best practices with metadata, sitemap, robots.txt
- Performance tuning with Lighthouse & Web Vitals
- CI/CD with GitHub Actions

Final Project:

- Build a complete SaaS app or Job Board
- Implement features from all modules
- Deploy to Vercel + GitHub source code

Deliverables

- GitHub Repository
- Deployed URL (Vercel)
- Swagger/Postman API collection
- Final Demo Presentation and Video

Outcome

- Master Modern Web Development with Next.js 15
- Build End-to-End Web Applications
- Work with Real-World Technologies
- Develop a Production-Ready Project
- Be Interview and Job Ready

Certification

- Awarded after successful project submission and review
- Course Completion Certificate

Contact Us

Crystal Syntax

+91 7077919007

support@crystalsyntax.com

crystalsyntax.com