

FullStack

SALIENT TECH SOLUTIONS'

FULL STACK DEVELOPER

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TECH SOLUTIONS



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Week 1: HTML, CSS, and Responsive Design Fundamentals

Day 1: HTML5 Basics

- HTML Structure and Elements
- Semantic Tags, Forms, and Input Types
- **Project:** Build a personal profile page using HTML5

Day 2: CSS3 Basics

- Selectors, Properties, Box Model
- Styling and Layout with CSS
- **Project:** Style the HTML profile page using CSS3

Day 3: Layout Techniques

- Flexbox, Grid System
- Positioning and Alignment
- **Project:** Create a responsive grid-based image gallery

Day 4: Responsive Design

- Media Queries and Viewport
- Mobile-First Design Approach
- **Project:** Make the profile page mobile-responsive

Day 5: Basic UI/UX Principles

- Design Basics and Best Practices
- Typography and Color Theory
- **Project:** Redesign profile page focusing on improved UI/UX

Week 2: JavaScript Fundamentals and DOM Manipulation

Day 6: JavaScript Basics

- Variables, Data Types, Operators
- Control Flow Statements
- **Project:** Create a simple calculator with conditional logic

Day 7: Functions and Arrays

- Declaring and Calling Functions
- Array Methods and Loops
- **Project:** Build a to-do list using functions and arrays

Day 8: Objects and Events

- JavaScript Objects
- Event Listeners and Handlers
- **Project:** Add interactivity to to-do list using event handling

Day 9: DOM Manipulation

- Selecting, Modifying Elements
- Creating and Deleting Elements
- **Project:** Build a notes app using DOM manipulation

Day 10: Asynchronous JavaScript

- Callbacks and Promises
- Basic Fetch API
- **Project:** Fetch and display data from a public API

Week 3: Front-End Framework (React.js)

Day 11: React Basics

- Components, JSX Syntax
- Props and State
- **Project:** Create a reusable card component

Day 12: React Hooks

- useState and useEffect
- useContext Overview
- **Project:** Build a dynamic counter with useState and useEffect

Day 13: React Router

- Setting up Routes and Links
- Dynamic Routing
- **Project:** Build a multi-page portfolio website

Day 14: Component Lifecycle and Structure

- Functional Lifecycle using Hooks
- Component Reusability
- **Project:** Refactor portfolio app with reusable components

Day 15: State Management Basics

- Context API Introduction
- Redux Basics (if applicable)
- **Project:** Add global state to a shopping cart component

Week 4: Front-End Development Advanced Topics and API Integration

Day 16: Form Handling

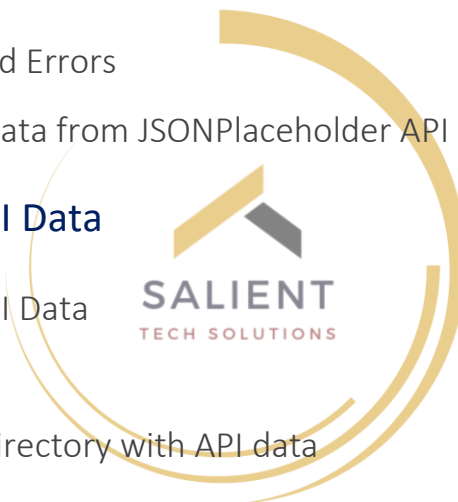
- Controlled vs Uncontrolled Components
- Input Validation
- **Project:** Build and validate a contact form in React

Day 17: API Requests

- Axios vs Fetch
- Handling Response and Errors
- **Project:** Display user data from JSONPlaceholder API

Day 18: Working with API Data

- State Updates with API Data
- Lists and Keys
- **Project:** Build a user directory with API data



Day 19: Intro to Testing

- Testing Components with Jest
- React Testing Library Basics
- **Project:** Write unit tests for form and API components

Day 20: Build Tools

- Webpack, Babel, and Vite
- Setting up a custom project build
- **Project:** Configure a basic React project with Vite

Week 5: Back-End Development Fundamentals (Node.js and Express.js)

Day 21: Introduction to Node.js

- Node Environment, Event Loop
- Using npm and creating modules
- **Project:** Build a basic server using Node.js

Day 22: Express.js Basics

- Express Routing and Middleware
- Handling Requests and Responses
- **Project:** Create a simple API with Express.js

Day 23: RESTful APIs

- HTTP Methods and Status Codes
- RESTful Route Design
- **Project:** Design a blog API with CRUD functionality

Day 24: Working with Databases

- Intro to MongoDB/PostgreSQL
- Connecting Database with Express
- **Project:** Store blog data in MongoDB and retrieve it via API

Day 25: CRUD Operations

- Create, Read, Update, Delete Logic
- Error Handling and Response Codes
- **Project:** Complete blog API with all CRUD operations

Week 6: Database Management and Authentication

Day 26: Database Design

- Schema Design and Relationships
- Normalization Concepts
- **Project:** Design schema for a social media app

Day 27: Database Queries

- Query Builders and Joins (if SQL)
- Aggregations and Filters
- **Project:** Query complex user and post data

Day 28: User Authentication Basics

- JWT Authentication and Middleware
- Login/Logout Flows
- **Project:** Add user login to blog app using JWT

Day 29: Password Security

- Hashing with bcrypt
- Secure Storage Practices
- **Project:** Secure user registration with password hashing

Day 30: Database Migrations

- Mongoose/Sequelize Basics
- Migration Scripts
- **Project:** Set up version-controlled database migrations

Week 7: Full Stack Integration and Deployment

Day 31: Connecting Front-End and Back-End

- API Consumption from React
- Handling CORS
- **Project:** Connect React app with blog API

Day 32: Deployment – Front-End

- Netlify or Vercel Deployment
- Environment Variables
- **Project:** Deploy React app with live API connection

Day 33: Deployment – Back-End

- Deploy Express API on Heroku or Render
- CI/CD Basics
- **Project:** Deploy full-stack app to cloud platform

Day 34: Git and Version Control

- Branching, Merging, Pull Requests
- Collaboration via GitHub
- **Project:** Practice collaboration via GitHub repository

Day 35: Debugging and Logs

- Console Logs, Breakpoints, Dev Tools
- Server-Side Debugging
- **Project:** Debug and fix issues in full-stack app

Week 8: Advanced Back-End Topics and Testing

Day 36: Express Middleware Advanced

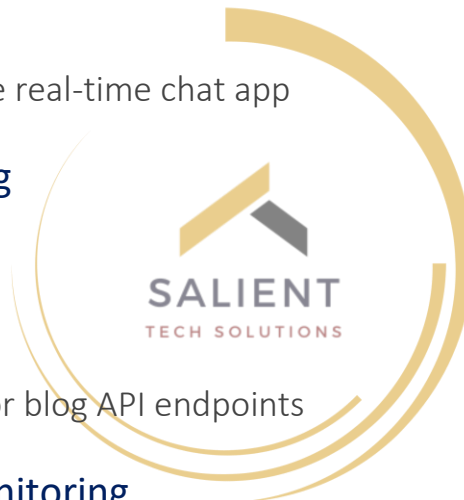
- Error Handling Middleware
- Custom Middleware Functions
- **Project:** Add error-handling middleware to blog API

Day 37: WebSockets Basics

- Real-Time Communication Concepts
- Setting up Socket.io
- **Project:** Build a simple real-time chat app

Day 38: Back-End Testing

- Jest and Supertest
- API Test Coverage
- **Project:** Write tests for blog API endpoints



Day 39: Logging and Monitoring

- Winston or Morgan Logging
- Basic Monitoring Tools
- **Project:** Integrate logging middleware into backend app

Day 40: Security Best Practices

- OWASP Guidelines
- Input Validation and Rate Limiting
- **Project:** Secure all API routes using headers and validation

Week 9: Project and Review

Day 41: Capstone Project Planning

- Choose Project Scope and Requirements
- Wireframe and API Design
- **Project:** Final Project Planning Document

Day 42: Capstone Project Development – Part 1

- Front-End and Back-End Setup
- **Project:** Start building full-stack capstone app

Day 43: Capstone Project Development – Part 2

- Core Features Implementation
- **Project:** Continue full-stack development

Day 44: Capstone Project Development – Part 3

- Testing and Optimization
- **Project:** Test and optimize the full-stack application

Day 45: Project Presentation and Review

- Final Review and Demos
- Code Quality and Feedback
- **Project:** Present capstone project and get feedback