

ReactJS Full Stack Roadmap

SECTION I

JavaScript Fundamentals through CLI Apps (10-15 Days)

Topics to Cover:

- ☐ Basics: Variables, Data Types, Loops, Conditional Statements.
- ☐ Functions: Writing reusable code, scope, and return values.
- ☐ Arrays and Objects.
- ☐ JSON: Parsing and iterating through JSON data.

Hands-On Projects:

- ☐ Sales Report generator: Generate a report with the data given in JSON format.
- ☐ Class Report: Generator a class report with Student performance
- ☐ Marketing Report: Generate a marketing report with summarized campaign data.

Key Advice for Mastery

Focus on programmatic thinking. Using JSON makes your logic closer to real-world data handling—think like a developer early on.

SECTION II

HTML & CSS Basics (5-8 Days)

Topics to Cover:

- ☐ HTML: Basic structure, forms, lists, images, and links.
- ☐ CSS: Margin, padding, box model and selectors.
- ☐ Multi Page site structure and linking pages.

Hands-On Projects:

- ☐ Build multi-page portfolios
- ☐ Build a multi page portfolio to showcase your work.
- ☐ Websites of famous personalities: Like A.P.J. Abdul Kalam, Sachin Tendulkar.

🌟 Key Advice for Mastery

Avoid diving too deep into design. Stick to creating clean, structured websites with proper linking and styling.

SECTION III

Vanilla JavaScript + API Calls (15-20 Days)

🚀 Topics to Cover:

- ☐ DOM Manipulation: Select, modify, create, and delete elements dynamically.
- ☐ Event handling and debugging with Chrome DevTools.
- ☐ Fetch API: GET and POST requests.

💻 Hands-On Projects:

- ☐ Employee Management System: CRUD functionality with local or API data.
- ☐ Player Manager: Fetch player data from a sports API and manage it (filter, sort).
- ☐ Movie Database: Build a front-end to fetch and display movies with filters.

🌟 Key Advice for Mastery

Master Chrome DevTools for debugging—it's a superpower for developers. Combine API calls and DOM manipulation for dynamic apps.

SECTION IV

Getting Ready for React (ES6 + Functional Programming) (7-10 Days)

🚀 Topics to Cover:

- ☐ ES6: let/const, arrow functions, spread/rest operators, destructuring, and template literals.
- ☐ Functional Programming: map, reduce and filter.

💻 Hands-On Projects:

- ☐ Total of a Cart: Calculate the total using reduce.
- ☐ Dynamic Array Filtering: Filter an array dynamically (e.g., checkbox click filters data on the DOM).

🌟 Key Advice for Mastery

Practice functional programming with real-world examples. Build confidence in transforming and filtering data.

SECTION V

Introduction to React (4 Weeks)

🚀 Topics to Cover:

- ☐ JSX: Writing HTML-like syntax in JavaScript.
- ☐ React Router: Navigation and multi-page apps.
- ☐ State Management: `useState` for managing dynamic data.
- ☐ Fetch API: Integrate API calls with React.

💻 Hands-On Projects:

- ☐ To-Do App: Build a multi-page application for task management.
- ☐ Zomato Clone: Basic restaurant listing with product cart, filters, and navigation.
- ☐ Simple E-Commerce App: Features include add-to-cart functionality, filtering, mapping, and product search.

🌟 Key Advice for Mastery

Use React for practical, real-world projects. Start small and incrementally scale complexity.

SECTION VI

Get Started with Backend (1-1.5 Months)

🚀 Topics to Cover:

- ☐ REST APIs: Build APIs with Express.js.
- ☐ Database: MongoDB or MySQL basics.
- ☐ CRUD Operations: Endpoints for GET, POST, PUT, DELETE.

💻 Hands-On Projects:

- ☐ Restaurant Management API: Manage menus, orders, and customers efficiently.

🌟 Key Advice for Mastery

Focus on clean and simple REST APIs. Start with one database—don't complicate things early.

SECTION VII

Backend Integration (2-3 Weeks)

🚀 Topics to Cover:

- ☐ Integrate React frontend with backend APIs.
- ☐ Fetch and display API data.

💻 Hands-On Projects:

- ☐ Meetup App: Includes event search, event details page, and filtering functionality.

🌟 Key Advice for Mastery

Master the frontend-backend connection. Building full-stack features boosts your confidence as a developer.

SECTION VIII

Redux Toolkit (2 Weeks)

🚀 Topics to Cover:

- ☐ State Management using Redux Toolkit.
- ☐ Actions, reducers, and stores.

💻 Hands-On Projects:

- ☐ School Management App: A comprehensive app to manage student data, track attendance, and record grades for streamlined academic management.
- ☐ Finance Management App: An intuitive app to manage your finances, track expenses, monitor budgets, and plan savings efficiently.

🌟 Key Advice for Mastery

Redux improves app scalability. Learn it through simple projects before adding complexity.

SECTION IX

React Advanced Topics (2 Weeks)

Topics to Cover:

- ☐ Hooks: `useReducer`, `useContext`, `useMemo`, and custom hooks.

Hands-On Projects:

- ☐ React Project Upgrades
- ☐ Enhance existing React projects by incorporating custom hooks and `useReducer` for better state management and code reusability.

Key Advice for Mastery

Custom hooks simplify React code. Learn when and how to create them effectively.

SECTION X

Advanced CSS (2 Weeks)

Topics to Cover:

- ☐ Flexbox and Grid layout.
- ☐ Responsive design and UI components.

Hands-On Projects:

- ☐ Blog Layout: Design a responsive blog layout using grids and flexbox for modern web design.
- ☐ UI Component Practice: Focus on building small, reusable UI components like cards, modals, and forms.

Key Advice for Mastery

Advanced CSS is about layout precision. Learn to build clean, responsive components.

SECTION XI

JS Concepts for Interviews (2 Weeks)

Topics to Cover:

- ☐ Core Concepts: call, bind, apply, closures, promises, hoisting, event loop.

Hands-On Projects:

- ☐ Practical Task: Record live coding videos to explain each concept and demonstrate problem-solving techniques in real-time.

Key Advice for Mastery

Explain JavaScript concepts clearly—this is crucial for interviews and will deepen your knowledge.

SECTION XII

Full-Stack Plus (Advanced Features) 2-3 Weeks

Topics to Cover:

- ☐ WebSockets: Real-time apps using Socket.IO.
- ☐ Authentication: JWT and OAuth (Google/GitHub).

Hands-On Projects:

- ☐ Chat App: Build a chat application with real-time messaging and user authentication for secure communication.

Key Advice for Mastery

Learn to handle real-world challenges like real-time updates and secure logins.

SECTION XIII

Frontend Plus Plus (2 Weeks)

Topics to Cover:

- ☐ TypeScript: Types, interfaces, and applying TypeScript to projects.

- ☐ Testing: Basics of unit testing with Jest.
- ☐ Performance: Debugging and optimization techniques.
- ☐ Build Tools: Webpack and build processes.

Hands-On Projects:

- ☐ Enhancement: Apply TypeScript for type safety and integrate unit tests into existing projects to ensure reliability and maintainability.

Key Advice for Mastery

TypeScript and testing give you an edge in interviews. Use these to write reliable, maintainable code.

Conclusion (8-10 Months)

Outcome:

- ☐ A strong portfolio with diverse projects: CLI apps, frontend, backend, integrations, and advanced full-stack apps.
- ☐ Expertise in real-world concepts: APIs, state management, authentication, and TypeScript.

Key Advice for Mastery

Stay consistent. Each section builds on the last—don't skip steps. Focus on projects to learn by doing, and explain concepts clearly to master them.