



Frontend Developer Roadmap

Level 1 – Foundations (Core Web)

- ☐ **HTML5** → Semantic, forms, accessibility.
 - ☐ **CSS3** → Flexbox, grid, responsive, animations.
 - ☐ **JavaScript (ES6+)** → Variables, DOM, events, arrays, objects, ES6 syntax.
 - ☐ **Practice Projects:**
 - ☐ Resume Page (HTML5)
 - ☐ Responsive Landing Page (CSS3)
 - ☐ To-Do App (JS)
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Level 2 – Advanced JavaScript & Browser APIs

- ☐ Closures, promises, async/await.
 - ☐ Event loop & call stack.
 - ☐ Fetch API, localStorage/sessionStorage, Canvas.
 - ☐ **Practice Projects:**
 - ☐ Weather App (Fetch API)
 - ☐ Notes App (localStorage)
 - ☐ Image Editor (Canvas)
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Level 3 – Workflow & Collaboration

- ☐ **Git & GitHub** → Branches, PRs, conflicts.
- ☐ Markdown, project documentation.
- ☐ **Practice Projects:**

- ☐ Open-source contribution
 - ☐ Portfolio repo with branches
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Level 4 – Styling Mastery

- ☐ Tailwind CSS (utility-first).
 - ☐ Bootstrap (optional).
 - ☐ Responsive/mobile-first design.
 - ☐ Dark/Light mode toggling.
 - ☐ **Practice Projects:**
 - ☐ Portfolio (Tailwind)
 - ☐ Blog Layout with Dark Mode
 - ☐ E-commerce Product Page
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Level 5 – React.js (Core Skill)

- ☐ Components, props, state.
 - ☐ Hooks: `useState` , `useEffect` , `useContext` , `useReducer` .
 - ☐ React Router.
 - ☐ **Practice Projects:**
 - ☐ Movie Search App (React + API)
 - ☐ Task Manager (Hooks + LocalStorage)
 - ☐ Multi-Page Portfolio (React Router)
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Level 6 – TypeScript for Frontend

- ☐ Interfaces, types, generics.
- ☐ Typing props, state, API responses.
- ☐ **Practice Projects:**

- ☐ Convert Movie App to TypeScript
 - ☐ Dashboard with typed components
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Level 7 – UI/UX & Component Libraries

- ☐ UI frameworks: shadcn/ui, Material UI, Ant Design.
 - ☐ Accessibility (WCAG basics, ARIA roles).
 - ☐ **Practice Projects:**
 - ☐ Dashboard UI (Material UI)
 - ☐ Interactive Data Table (filter/sort)
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Level 8 – State Management & Data Handling

- ☐ Redux Toolkit or Zustand.
 - ☐ React Query (data fetching, caching).
 - ☐ **Practice Projects:**
 - ☐ E-commerce Cart System (Redux Toolkit)
 - ☐ GitHub Repo Explorer (React Query)
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Level 9 – Security & Authentication

💡 This is where **frontend devs stand out in interviews**.

- ☐ **Authentication (AuthN)**
 - JWT-based login/logout flows.
 - Firebase Auth or Auth0.
 - OAuth (Google/GitHub sign-in).
- ☐ **Authorization (AuthZ)**
 - Role-based access control (Admin/User).
 - Route protection in React Router.

☐ **Web Security Basics**

- HTTPS, CORS, CSRF, XSS prevention.
- Secure handling of tokens (localStorage vs HttpOnly cookies).

☐ **Practice Projects:**

- Login/Signup system with JWT
 - Role-based Dashboard (Admin/User views)
 - Google OAuth Login (React + Firebase)
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Level 10 – APIs & Backend for Frontend

☐ REST API consumption.

☐ GraphQL basics.

☐ API security (rate limiting awareness, token usage).

☐ **Practice Projects:**

- Blog App (React + JSON Server/Firebase backend)
 - Authenticated Notes App (JWT + API)
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Level 11 – Testing & Performance

☐ **Testing**

- Jest, React Testing Library, Cypress (E2E).

☐ **Performance Optimization**

- Code splitting, lazy loading, memoization.
- Lighthouse audits.

☐ **Practice Projects:**

- Test cases for Task Manager
 - Optimize Portfolio for Lighthouse 90+
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Level 12 – Deployment & DevOps Basics

- ☐ Deploy with Netlify, Vercel, GitHub Pages.
 - ☐ CI/CD basics (GitHub Actions).
 - ☐ Environment variables & secrets.
 - ☐ **Practice Projects:**
 - Deploy Portfolio with CI/CD pipeline
 - Deploy Auth-enabled App on Vercel
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Final Resume-Worthy Capstone Projects

These will **demonstrate complete mastery** (frontend + auth + deployment):

- **E-Commerce App** → Cart, Checkout, Auth, Role-based Dashboard, Payment Integration (Stripe).
 - **Social Media Clone** → Auth, Posts, Likes, Comments, Real-time feed.
 - **Admin Dashboard** → Charts, Analytics, Dark Mode, Role-based Access.
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