Front-End Developer Roadmap (2025)

BEGINNER LEVEL - FOUNDATIONS

1. Basic Web Development

- HTML5 - Structure (headings, paragraphs, forms, tables, etc.)

- CSS3 - Styling (selectors, box model, flexbox, grid)

- JavaScript (JS) - Logic (variables, functions, conditionals, loops)

Practice: Build a personal portfolio, landing page, or a to-do app.

2. Developer Tools

- Code Editor: VS Code (recommended)

- Version Control: Git & GitHub

- Browser DevTools: Inspect elements, console, network

INTERMEDIATE LEVEL - MODERN WEB DEVELOPMENT

3. Advanced JavaScript

- DOM Manipulation, Event Listeners, JSON & Fetch API

- ES6+ Features: let/const, arrow functions, destructuring, promises, async/await

4. Responsive Design

- Media Queries, Mobile-first design, rem/em/%, Flexbox & Grid

5. Package Managers

- npm or yarn

6. Build Tools

- Webpack / Vite / Parcel, Babel, ESLint / Prettier

7. CSS Preprocessors / Frameworks

- SASS/SCSS, Tailwind CSS, Bootstrap

ADVANCED LEVEL - FRAMEWORKS & BEYOND

8. JavaScript Framework (Pick One)

- React.js: Components, Props, State, Hooks, Router, Context API, Next.js

9. State Management

- Redux / Zustand / Recoil, Context API

10. API Integration

- REST API, GraphQL (Apollo Client)

11. Testing

- Jest, React Testing Library, Cypress / Playwright

12. Performance Optimization

- Lazy Loading, Code Splitting, Memoization, Lighthouse

BONUS SKILLS

13. UI/UX Basics

- Figma / Adobe XD, Accessibility (a11y), SEO Basics

14. Deployment & Hosting

- GitHub Pages / Netlify / Vercel, Firebase / Supabase

15. Soft Skills

- Communication, Agile, Debugging

SUMMARY ROADMAP (SIMPLIFIED)

HTML -> CSS -> JS -> Git -> Responsive Design ->

ES6+ -> DOM -> React -> API -> State Management ->

Tailwind/SASS -> Testing -> Performance -> Deployment

Backend Developer Roadmap Using Python

Stage 1: Core Python (Days 110)

Master Python basics: Variables, Data Types, Loops, Functions, File I/O, Error Handling, and OOP.

Resources: w3schools.com, realpython.com, Python Docs.

Stage 2: Web Frameworks Flask or FastAPI (Days 1125)

Learn routing, request handling, templates (Jinja2), middleware, JSON handling.

Projects: To-Do API, Blog App, E-commerce Backend.

Stage 3: Database Integration (Days 2635)

Master SQL (PostgreSQL), CRUD, ORM (SQLAlchemy), relationships, and migrations.

Stage 4: Authentication & Authorization (Days 3640)

User login/signup, bcrypt, JWT, session management, and role-based access.

Stage 5: RESTful API Development (Days 4145)

Understand REST principles, endpoints, validation, pagination, and API testing tools.

Stage 6: Deployment & DevOps Basics (Days 4650)

Deploy with Render, Railway, or Heroku. Learn Docker basics, Gunicorn + Nginx.

Stage 7: Version Control & Best Practices

Learn Git, GitHub, branching, clean code, modular structure (MVC).

Stage 8: Testing (Optional)

Unit testing with pytest/unittest, mocking, fixtures, and integration testing.

Tools to Know

Backend Developer Roadmap Using Python

Postman, Docker, Git, VS Code, Linux CLI, Gunicorn, Nginx.

Final Projects to Add to Portfolio

Blog/E-commerce API, Auth system with JWT, File uploader, API with PostgreSQL.

Bonus Tips to Get Hired

Host projects on GitHub, write good README, resume on Indeed/LinkedIn, build portfolio site.