Personalized Roadmap to Become a Full-Stack Developer

This roadmap is designed for a 16-year-old Computer Science diploma student at beginner level, who wants to become a full-stack developer, dive into mobile app development, and build scalable, efficient, safe, and useful apps in the AI era.

Phase 1: Foundations (Weeks 1–4)

- Learn HTML, CSS, and JavaScript basics.
- Build simple static websites.
- Understand Git and GitHub for version control.
- Reasoning: Strong front-end foundation is essential.

Phase 2: Frontend Development (Weeks 5–10)

- Master advanced JavaScript (ES6+, async/await, promises).
- Learn React (components, state, props, hooks).
- Build small projects (to-do app, notes app).
- Reasoning: React is widely used and future-proof.

Phase 3: Backend Development (Weeks 11–16)

- Learn Node.js and Express.js.
- Understand REST APIs.
- Learn MongoDB and SQL basics.
- Build APIs for your React apps.
- Reasoning: Backend powers real-world apps.

Phase 4: Integration & Full-Stack Projects (Weeks 17–20)

- Connect frontend and backend.
- Build authentication and CRUD apps.
- Host apps on free platforms (Vercel, Render, Railway).
- Reasoning: Integration makes you full-stack.

Phase 5: Mobile App Development (Weeks 21–22)

- Learn React Native with Expo.
- Convert your web apps into mobile apps.
- Reasoning: One codebase → web + mobile.

Phase 6: DevOps Basics (Weeks 23–24)

- Learn GitHub Actions for CI/CD.
- Basics of Docker (containers).
- Reasoning: DevOps ensures scalability and efficiency.

Ongoing Practices

- Daily: 1–2 hours consistent learning.
- Weekly: Build or update a small project.
- Explore: AI APIs, cloud services.
- Keep portfolio updated on GitHub.