Full Stack

Audience Note

If you are already a full-stack developer you should visit these roadmaps instead.

Frontend | Backend | DevOps

Target audience for this roadmap is absolute beginners wanting to get into full stack development.

Find the detailed version of this checklist With details on how to implement these

- Project Ideas Inside
- Key topics to learn
- Change of Domain

HTML
CSS
JavaScript
Checkpoint — Static Webpages
Checkpoint — Interactivity
npm
Checkpoint — Collaborative Work
Checkpoint — External Packages
React
Tailwind
GitHub
Git

Feel free to skip and revisit after learning some backend.

Checkpoint — Frontend Apps

You can pick any backend programming language. My recommendation is Node.js because you are already familiar with JavaScript and it's easier to pick.

Start Backend Development

Node.js

Backend Starts Here

Checkpoint — CLI Apps

Learn Frontend Frameworks
If you skipped earlier

PostgreSQL

Checkpoint — Simple CRUD

Redis
JWT Auth
RESTful APIs

Checkpoint — Complete App

Use the checkpoints and do not forget to practice what you learn. There are project ideas at each checkpoint that you can build to solidify your knowledge.

Route53
SES
EC2
VPC
S3

Get Some DevOps Knowledge

Linux Basics
Basic AWS Services

Checkpoint — Deployment

Monit

Checkpoint — Automation
Checkpoint — CI / CD
Checkpoint — Monitoring

Ansible
GitHub Actions

Terraform

Checkpoint — Infrastructure

Continue Learning with following relevant tracks

Frontend Roadmap | Backend Roadmap | DevOps Roadmap

Topics related to Technology

Front-End Development	- HTML/CSS: Semantic HTML5, CSS3 basics, Responsive design (Flexbox, Grid), CSS frameworks (Bootstrap, Tailwind CSS)
	- JavaScript: ES6+ features, DOM manipulation, Event handling, Asynchronous JavaScript (Promises, async/await)
	- Front-End Frameworks/Libraries: React, Angular, Vue.js, Svelte
	- State Management: Redux, Context API, Vuex (for Vue.js)
	- Front-End Build Tools: Webpack, Babel, Vite, Parcel
	- Version Control: Git basics and workflows, GitHub/GitLab/Bitbucket
Back-End Development	- Server-Side Languages: Node.js, Python (Django, Flask), Ruby (Rails), PHP (Laravel), Java (Spring), C# (ASP.NET)
	- Database Management: SQL (MySQL, PostgreSQL), NoSQL (MongoDB, Firebase), ORMs (Sequelize, TypeORM, Mongoose)
	- Server Management: Setting up servers (Express.js for Node.js, Nginx), RESTful APIs, GraphQL APIs, Authentication and Authorization (JWT, OAuth)
	- Microservices and APIs: Designing RESTful services, API documentation (Swagger), Inter-service communication
	- Serverless Architecture: AWS Lambda, Google Cloud Functions, Azure Functions
Fullstack Integration	- MVC Architecture: Understanding MVC pattern, Implementing MVC in different frameworks
	- Authentication and Security: User authentication (JWT, OAuth2), Data validation and sanitization, Secure storage (environment variables, encryption)
	- Performance Optimization: Caching strategies (Redis, Memcached), Load balancing, Code splitting and lazy loading
	- Testing: Unit testing (Jest, Mocha, Chai), Integration testing, End-to-end testing (Cypress, Selenium)
DevOps and Deployment	- CI/CD: CI/CD tools (Jenkins, Travis CI, GitHub Actions), Automated testing and deployment pipelines
	- Containerization: Docker basics and Docker Compose, Kubernetes for orchestration
	- Cloud Services: AWS (EC2, S3, RDS), Google Cloud Platform (App Engine, Cloud Storage), Microsoft Azure (App Service, Azure Storage)
	- Monitoring and Logging: Application performance monitoring (New Relic, Datadog), Logging tools (ELK stack, Splunk)
Soft Skills and Best Practices	- Agile Methodologies: Scrum, Kanban, Project management tools (Jira, Trello)
	- Code Quality: Code reviews, Linters and formatters (ESLint, Prettier)
	- Documentation: Writing effective documentation, Tools for documentation (Markdown, JSDoc)
	- Collaboration Tools: Communication (Slack, Microsoft Teams), Collaboration platforms (Confluence)
Emerging Trends	- WebAssembly, Progressive Web Apps (PWAs), Jamstack Architecture, GraphQL and Apollo

1. Technical Skills

Programming Languages: Proficiency in languages such as Python, Java, C++, JavaScript, and others relevant to your field.

Software Development: Understanding of software development methodologies like Agile, Scrum, and DevOps.

Database Management: Knowledge of SQL and NoSQL databases, data modeling, and database design.

Networking: Understanding of network protocols, configurations, and network security.

Operating Systems: Familiarity with various operating systems, including Windows, Linux, and macOS.

Cybersecurity: Knowledge of cybersecurity principles, practices, and tools to protect systems and data.

Cloud Computing: Experience with cloud platforms like AWS, Azure, and Google Cloud.

Data Analysis and Machine Learning: Skills in data analysis, machine learning algorithms, and tools like TensorFlow, PyTorch, and R.

System Administration: Ability to manage and maintain IT infrastructure, including servers and networks.

Web Development: Proficiency in front-end and back-end development technologies, including HTML, CSS, JavaScript, and frameworks like React, Angular, or Node.js.

2. Soft Skills

Problem-Solving: Strong analytical and problem-solving abilities to troubleshoot issues and develop solutions.

Communication: Clear and effective communication skills, both written and verbal, to collaborate with team members and stakeholders.

Teamwork: Ability to work well in a team environment, contributing to collaborative projects.

Adaptability: Flexibility to adapt to new technologies, tools, and processes in a fast-changing field.

Time Management: Effective time management and organizational skills to handle multiple tasks and meet deadlines.

Critical Thinking: Ability to think critically and make informed decisions based on data and analysis.

Attention to Detail: Precision and attention to detail to ensure quality and accuracy in work.

3. Industry-Specific Knowledge

Domain Knowledge: Understanding of the specific industry you’re working in, whether it's finance, healthcare, automotive, or another sector.

Compliance and Regulations: Awareness of industry-specific regulations and compliance requirements.

Emerging Trends: Staying updated with the latest trends, technologies, and best practices in your field.

4. Certifications and Continuous Learning

Relevant Certifications: Earning certifications such as CompTIA A+, Cisco CCNA, AWS Certified Solutions Architect, or Certified Information Systems Security Professional (CISSP) can be valuable.

Continuous Learning: Commitment to ongoing education through courses, workshops, webinars, and staying current with technological advancements.

5. Project Management

Project Planning: Ability to plan, execute, and manage technology projects.
Tools and Software: Familiarity with project management tools like JIRA, Trello, or Asana.

6. Interpersonal Skills

Leadership: Leadership skills for those aiming for managerial or team lead positions.

Customer Service: Good customer service skills, especially for roles involving client interaction or technical support.

Vedios related to Technology

Bing Videos