

Roadmap to Learn Full Stack in 6 Months

Days 1-7: HTML

Learn the basics of HTML, including essential tags (`<div>`, `<p>`, `<a>`), attributes, forms, and webpage structure. Focus on semantic HTML to build accessible and SEO-friendly web pages.

Topics: HTML tags, forms, media elements, semantic elements, hyperlinks, tables.

- Free Resources :

MDN Web Docs – HTML

<https://developer.mozilla.org/en-US/docs/Web/HTML>

W3Schools – HTML

<https://www.w3schools.com/html/>

Days 8-30: CSS

Dive into CSS to style your web pages, covering essential concepts like selectors, box model, Flexbox, Grid, and media queries for responsive design.

Topics: Selectors, box model, positioning, Flexbox, Grid layout, media queries, animations, transitions.

- Free Resources :

CSS-Tricks

<https://css-tricks.com/>

MDN Web Docs – CSS

<https://developer.mozilla.org/en-US/docs/Web/CSS>

FreeCodeCamp - Responsive Web Design

<https://www.freecodecamp.org/learn/responsive-web-design/>

Days 31-46: Basic JavaScript

Learn JavaScript fundamentals like variables, loops, functions, events, and manipulating the DOM.

Topics: Variables, data types, functions, loops, conditionals, DOM manipulation, event handling.

- Free Resources :

JavaScript.info

<https://javascript.info/>

MDN Web Docs – JavaScript <https://developer.mozilla.org/en-US/docs/Web/JavaScript>

Eloquent JavaScript

<https://eloquentjavascript.net/>

Days 47-61: Advanced JavaScript

Level up your JavaScript skills with topics like closures, async/await, promises, and ES6 features such as destructuring and modules.

Topics: Closures, callbacks, promises, async/await, classes, arrow functions, modules, destructuring.

- Free Resources:

JavaScript.info – Advanced

<https://javascript.info/advanced-functions>

MDN Web Docs - ES6

https://developer.mozilla.org/en-US/docs/Web/JavaScript/New_in_JavaScript/ECMAScript_2015_support_in_Mozilla

Days 62-65: Responsive Web Design

Master the techniques for creating responsive web designs using media queries and mobile-first principles.

Topics: Media queries, mobile-first design, viewport units, responsive images, Flexbox, Grid.

- Free Resources :

MDN Web Docs - Responsive Design

https://developer.mozilla.org/en-US/docs/Learn/CSS/CSS_layout/Responsive_Design

FreeCodeCamp - Responsive Web Design

<https://www.freecodecamp.org/learn/responsive-web-design/>

Days 66-80: Node.js

Learn Node.js, a runtime environment that lets you run JavaScript on the server, and start building server-side applications.

Topics: Node.js basics, modules, npm, building APIs, Express.js, file system, event-driven programming.

- Free Resources :

Node.js Official Docs

<https://nodejs.org/en/docs/>

MDN Web Docs - Node.js

https://developer.mozilla.org/en-US/docs/Learn/Server-side/Node_server_without_framework

The Net Ninja - Node.js

<https://www.youtube.com/playlist?list=PL4cUxeGkcC9jdm7QX143aMLAqyM-jTZ2x>

Days 81-95: MongoDB

Understand MongoDB, a NoSQL database, to handle and store data. Learn to perform CRUD operations and work with Mongoose for schema management.

Topics: NoSQL concepts, MongoDB basics, CRUD operations, Mongoose.

- Free Resources :

MongoDB University - Free Courses

<https://university.mongodb.com/>

FreeCodeCamp – MongoDB

<https://www.freecodecamp.org/learn/apis-and-microservices/mongodb-and-mongoose/>

MDN Web Docs – MongoDB

https://developer.mozilla.org/en-US/docs/Learn/Server-side/Express_Nodejs/mongoose

Days 96-104: React.js

Learn React.js to build modern, efficient, and interactive user interfaces. Focus on components, state, props, and hooks.

- Topics: JSX, components, props, state, hooks, lifecycle methods, React Router.

- Free Resources :

React Official Docs

<https://react.dev/>

FreeCodeCamp – React

<https://www.freecodecamp.org/learn/front-end-development-libraries/react/>

The Net Ninja – React

https://www.youtube.com/playlist?list=PL4cUxeGkcC9ij0Pxo1VZ1q5uJTg_M6lZ_

Days 105-113: Git/GitHub

Learn Git for version control and GitHub for collaboration, code sharing, and managing projects.

Topics: Git basics (commit, push, pull, clone), branching, merging, pull requests, GitHub workflows.

- Free Resources :

Git Official Docs

<https://git-scm.com/doc>

GitHub Learning Lab

<https://lab.github.com/>

MDN Web Docs – Git

https://developer.mozilla.org/en-US/docs/Learn/Tools_and_testing/GitHub

Days 114-126: JSON API

Learn how to design and consume JSON APIs for server-client communication.

Topics: REST API design, JSON format, HTTP methods (GET, POST, PUT, DELETE), API authentication.

- Free Resources :

MDN Web Docs – APIs

<https://developer.mozilla.org/en-US/docs/Web/API>

FreeCodeCamp - APIs and Microservices

<https://www.freecodecamp.org/learn/apis-and-microservices/>

Days 127-138: AWS or Google Cloud

Pick a cloud platform (AWS or Google Cloud) to learn the basics of deploying applications and managing services.

Topics: Cloud computing basics, S3 (storage), EC2 (servers), databases, deploying applications.

- Free Resources :

AWS Free Tier

<https://aws.amazon.com/free/>

Google Cloud Free Tier

<https://cloud.google.com/free>

FreeCodeCamp – AWS

<https://www.freecodecamp.org/news/getting-started-with-aws-amazon-web-services/>

Days 139-150: Revision

Spend time reviewing everything you've learned, revisiting challenging concepts, and solidifying your understanding by building mini-projects.

Topics: Revise JavaScript, React, Node.js, Git, and databases. Create mini-projects like a to-do list, portfolio site, or simple blog.

Days 151-180: CSS Frameworks and Projects

Learn CSS frameworks like Bootstrap or Tailwind and work on real-world projects. Start building full-stack applications using all the tools you've learned.

Topics: Bootstrap, Tailwind, Material UI, real-world projects like a portfolio site, blog, or e-commerce platform.

- Free Resources :

Bootstrap Docs <https://getbootstrap.com/docs/5.0/getting-started/introduction/>

Tailwind CSS Docs

<https://tailwindcss.com/docs>

The Net Ninja - Full Stack Project

<https://www.youtube.com/playlist?list=PL4cUxeGkcC9g8OhpOZxNdhXggFz2lOuCT>

Following this roadmap will give you a solid foundation in full-stack development. Be sure to take on projects and keep practicing!