

90-Day Study Plan

Advanced Backend, System Design, and Advanced DevOps

Month 1:

Week 1:

- Introduction to message queues and PubSubs
- Exploring Proxies and Load Balancers
- Redis Deep Dive

Week 2:

- Kafka Deep Dive
- Common Design Patterns in JS
- Advanced DB concepts (Indexing, normalization)

Week 3:

- Rate Limiting
- Captchas and DDoS protection
- Sharding, Replication, Resiliency

Week 4:

- Horizontal and vertical scaling
- Polling and WebSockets
- gRPC

Month 2:

90-Day Study Plan

Week 5:

- Capacity Estimation
- Load Balancers
- CAP Theorem

Week 6:

- Testing Node.js Apps in 2023
- Real-time communication, basics of WebRTC

Week 7:

- Docker Deep Dive
- Container orchestration, Docker Swarm

Week 8:

- Kubernetes
- CI/CD

Month 3:

Week 9:

- Monitoring systems basics to advance
- Prometheus, Grafana
- New Relic as a paid service

Week 10:

90-Day Study Plan

- Serverless Deep Dive
- AWS Constructs (EC2, S3, CDNs, LB, EKS)

Week 11:

- Zerodha end-to-end project

Week 12:

- Zapier end-to-end project
- Real-world open-source projects

Web Development

Month 1:

Week 1:

- What is Web? Understanding the Client-Server Architecture
- Setting up Developer Environment
- HTML: Structure, Tags, Block vs. Inline, Forms

Week 2:

- CSS: Introduction, Selectors, Box Model, Units
- CSS Transitions and Transforms

Week 3:

- Flexbox: Flex properties, layouts, Media Queries
- Responsive Design principles

90-Day Study Plan

Week 4:

- Bootstrap: Grid system, Components
- Tailwind CSS: Basics, Components, Responsive Design

Month 2:

Week 5:

- JavaScript Basics: Variables, Operators, Conditional, Loops
- Functions, Scope, Hoisting

Week 6:

- Objects and Arrays in JS
- DOM manipulation and Events

Week 7:

- Advanced JS: IIFE, Closures, Prototypes
- Asynchronous JavaScript: Promises, Callbacks, Async/Await

Week 8:

- AJAX and Fetch API
- ES6+ Features

Month 3:

Week 9:

90-Day Study Plan

- Node.js: Introduction, Setting up, Writing the first server
- Express.js: Creating apps, Middleware, MVC architecture

Week 10:

- Databases: SQL, MongoDB, CRUD operations
- MongoDB Mongoose

Week 11:

- React: Introduction, Components, Styling, Lifecycle Methods

Week 12:

- Major Project: Building a Full Stack Application
- Deployment and Final Review