

# ■ FocusVault 90-Day Study Plan (Aug 20 – Dec 31)

This plan covers **Backend, Frontend, and Advanced Backend** in depth while excluding Sundays. You have ~115 study days (2.5 hrs/day = 287.5 hrs). Each day is broken into: - 45 mins → Learning (docs/videos) - 60 mins → Coding practice - 45 mins → Implementation/mini-projects Additionally: 15 mins/day reserved for project review (not listed in schedule). The schedule below is **day-wise**.

## Phase 1 (Aug 20 – Sept 10)

- Day 1-2: Advanced JS (scope, closures, hoisting, this)
- Day 3-4: ES6+ features (let/const, spread, destructuring, modules)
- Day 5-6: Async JS (Promises, async/await, event loop)
- Day 7-8: Error handling, debugging, try/catch, call stack
- Day 9-10: Git & GitHub basics (branches, PRs, merge, rebase)
- Day 11-13: Node.js core (fs, path, events, process)
- Day 14-15: npm & package.json, environment variables
- Day 16-18: Mini Project → CLI Task Manager (Node.js)

## Phase 2 (Sept 11 – Sept 30)

- Day 19-20: Express.js basics (server, routes, middleware)
- Day 21-22: REST APIs, CRUD patterns
- Day 23-24: Error handling, async middleware
- Day 25-26: MongoDB intro, CRUD operations
- Day 27-28: Mongoose schemas, models, validation
- Day 29-30: Authentication (bcrypt + JWT)
- Day 31-32: Role-based auth (user/admin)
- Day 33-34: Mini Project → Notes API with Auth

## Phase 3 (Oct 1 – Oct 20)

- Day 35-36: WebSockets basics, real-time comm
- Day 37-38: Socket.IO events (connect, disconnect, rooms)
- Day 39-40: Real-time chat app (basic version)
- Day 41-42: Enhance chat app (user join/leave, notifications)
- Day 43-44: File upload (Multer + Cloudinary)
- Day 45-46: Advanced backend patterns (services, controllers)
- Day 47-48: Logging (winston, morgan), error tracking
- Day 49-50: Mini Project → Real-time Collab Notes App

## Phase 4 (Oct 21 – Nov 15)

- Day 51-52: React basics (components, props, JSX)
- Day 53-54: React hooks (useState, useEffect)
- Day 55-56: React Router (routes, params, nested routes)
- Day 57-58: Context API, state management
- Day 59-60: Advanced hooks (useReducer, custom hooks)
- Day 61-62: Tailwind CSS fundamentals
- Day 63-64: ShadCN UI setup + components
- Day 65-66: Framer Motion basics (animations)

- Day 67-68: Performance optimization (memo, lazy loading)
- Day 69-70: Mini Project → Animated Dashboard

## **Phase 5 (Nov 16 – Dec 20)**

- Day 71-72: Connecting React with Express APIs
- Day 73-74: Authentication flow (frontend + backend)
- Day 75-76: State management with Context/Redux
- Day 77-78: Socket.IO integration with React
- Day 79-80: Testing APIs with Jest & Supertest
- Day 81-82: Testing React components (RTL)
- Day 83-84: Deployment (Vercel + Render)
- Day 85-86: Environment variables & security
- Day 87-88: Caching + optimization (Redis basics)
- Day 89-90: Wrap-up + polish + mock interviews