Industry-Level Web Development Training Roadmap (MERN Stack - 3 Months)

Program Overview:

This **2-month industry-level MERN stack training** is designed to provide hands-on experience in full-stack web development. The program structure is as follows:

- **Month 1:** 3 sessions per week
- **Month 2:** 2 sessions per week
- **Project Reviews:** Every 2 weeks

Month 1: Fundamentals & Core Concepts

Week 1: Introduction to Web Development & JavaScript

- **Session 1:** Web Development Overview, MERN Stack Introduction
  [Reference: https://developer.mozilla.org/en-US/docs/Learn]
- **Session 2:** JavaScript Basics, ES6 Features & DOM Manipulation
  [Reference: https://javascript.info/]
- **Session 3:** Asynchronous JavaScript (Callbacks, Promises, Async/Await)
  [Reference: https://developer.mozilla.org/en-US/docs/Learn/JavaScript/Asynchronous]

Week 2: React.js - Frontend Development

- **Session 4:** React Basics: Components, Props, and State
  [Reference: https://react.dev/]
- **Session 5:** React Hooks (useState, useEffect) & Context API
  [Reference: https://react.dev/reference/react]
- **Session 6:** React Router & State Management with Redux
  [Reference: https://reactrouter.com/en/main]

🔍 **Project Review 1:** Basic React App with Routing & State Management

Week 3: Node.js & Express.js - Backend Development

- **Session 7:** Introduction to Node.js, Modules & NPM
  [Reference: https://nodejs.dev/en/learn/]
- **Session 8:** Express.js Basics & REST API Development
  [Reference: https://expressjs.com/en/guide/routing.html]
- **Session 9:** Middleware, Authentication with JWT & bcrypt
  [Reference: https://jwt.io/]

Week 4: MongoDB - Database Management

- **Session 10:** Introduction to MongoDB, Mongoose & CRUD Operations
  [Reference: https://www.mongodb.com/docs/manual/introduction/]
- **Session 11:** Aggregation, Indexing, and Performance Optimization
  [Reference: https://www.mongodb.com/docs/manual/aggregation/]
- **Session 12:** Connecting MongoDB with Node.js & Building Models
  [Reference: https://mongoosejs.com/docs/guide.html]

🔍 **Project Review 2:** REST API with Authentication & Database Integration

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Month 2: Advanced Concepts & Full-Stack Application Development

Week 5: Full-Stack Integration & Deployment

- **Session 13:** Integrating React Frontend with Node.js Backend
  [Reference: https://developer.mozilla.org/en-US/docs/Learn/Tools_and_testing/Client-side_JavaScript_frameworks/React_getting_started]
- **Session 14:** Deploying MERN App on Vercel/Netlify & Render
  [Reference: https://vercel.com/docs/deployments]

Week 6: Advanced Features & Security

- **Session 15:** WebSockets for Real-Time Communication
  [Reference: https://socket.io/docs/v4/]
- **Session 16:** Security Best Practices (Helmet, Rate Limiting, CORS)
  [Reference: https://www.owasp.org/index.php/Main_Page]

🔍 **Project Review 3:** Full-Stack MERN App with Authentication & Deployment

Week 7: Testing, CI/CD & Optimization

- **Session 17:** Unit & Integration Testing with Jest & Supertest
  [Reference: https://jestjs.io/docs/getting-started]
- **Session 18:** CI/CD Pipeline with GitHub Actions & Docker
  [Reference: https://docs.github.com/en/actions]

Week 8: Capstone Project & Career Guidance

- **Session 19:** Final Project Discussion & Implementation
  [Reference: https://www.freecodecamp.org/news/build-a-mern-stack-app/]
- **Session 20:** Resume Building & Career Opportunities in MERN
  [Reference: https://www.linkedin.com/learning/topics/full-stack-development]

🔍 **Final Project Review:** Industry-Ready Full-Stack Web Application

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Final Deliverables:

- **3 Mini Projects** (Frontend App, REST API, Full-Stack Integration)
- **1 Final Capstone Project**

AFTER 2 MONTHS THERE WILL BE 1 SESSION PER WEEK ON MOCK INTERVIEWS AND CERTIFICATION , RESUME BUILDING, LINKEDIN PROFILE OPTIMIZATION.