

MERN STACK DEVELOPER SYLLABUS

HTML5 (Structure)

- HTML Basics & Syntax
- Semantic HTML
- Forms & Input Types
- Media Elements
- SEO-friendly HTML
- Mini Project (Static Page)

CSS3 (Styling)

- CSS Selectors & Properties
- Box Model
- Flexbox
- CSS Grid
- Responsive Design
- Media Queries
- Animations
- Bootstrap / Tailwind CSS

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JavaScript

Core JavaScript

- Variables & Data Types
- Operators
- Loops & Conditions
- Functions
- Arrays & Objects
- DOM Manipulation
- Events



Advanced JavaScript

- Closures
- Hoisting
- Scope
- Callbacks
- Promises
- Async / Await
- Fetch API
- ES6+ Features

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FRONTEND — REACT.JS

React Fundamentals

- What is React & Why React
- JSX
- Components (Functional)
- Props
- State
- Event Handling



React Hooks & Routing

- useState
- useEffect
- useContext
- Custom Hooks
- React Router
- Protected Routes

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React Advanced Concepts

- Context API
- API Integration
- Forms & Validation
- Authentication UI
- Error Handling
- Performance Optimization

React Projects

- Portfolio Website
- CRUD App
- Authentication UI
- Dashboard UI



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BACKEND — NODE.JS & EXPRESS.JS

Node.js Fundamentals

- What is Node.js
- Event Loop
- Modules
- NPM
- File System
- HTTP Server



Express.js Framework

- Express Setup
- Routing
- Middleware
- Request & Response
- REST API Creation
- MVC Architecture
- Error Handling

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DATABASE — MONGODB

MongoDB Basics

- NoSQL Database Concepts
- Documents & Collections
- CRUD Operations
- Schema Design
- Indexing



Using MongoDB

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- Schema & Models
- Validation
- Relationships
- Population
- Middleware