



FULL STACK WEB DEVELOPMENT (MERN)

HTML . CSS . JAVASCRIPT . M
REACT . NODE . EXPRESS . M
TH . TESTING . DEPLOYMENT

DURATION

120 Hours

LEVEL

**Beginner to
Advanced**

MODULES

10

MODE

**Classroom •
Online • Hybrid**

01 COURSE OVERVIEW

A full stack course building production-shaped applications on the MongoDB, Express, React and Node stack. The course moves from web fundamentals to a deployed application with authentication, file uploads, payments and tests. React is taught with hooks and modern routing; the API is built with Express and Mongoose against a real schema.

Learners ship three applications and finish with a portfolio-ready capstone.

WHO IT IS FOR

Graduates targeting developer roles
Front-end developers adding back-end skills
Career changers with basic programming
Freelancers building client applications

PREREQUISITES

Basic programming logic. HTML and JavaScript are taught from the start.

02 LEARNING OUTCOMES

01 Build responsive interfaces with semantic HTML and CSS.

03 Compose React applications with hooks and routing.

05 Model data in MongoDB with Mongoose.

07 Test and deploy a full stack application.

02 Write modern JavaScript including async patterns.

04 Design REST APIs with Express and middleware.

06 Implement authentication, authorisation and file upload.

01 WEB FUNDAMENTALS

HTML5 semantics

CSS layout with flexbox and grid

Accessibility basics

Forms

Responsive design

Dev tools

LAB

RESPONSIVE LANDING PAGE

02 JAVASCRIPT

Types and scope

Arrays and objects

Promises and async/await

Fetch

Functions and closures

DOM APIs

Modules

LAB

INTERACTIVE DASHBOARD

03 REACT FUNDAMENTALS

JSX

State

Lists and keys

Forms

Components and props

Events

Conditional rendering

LAB

TASK APPLICATION

04 REACT ADVANCED

useEffect

Context

Data fetching patterns

Performance

Custom hooks

React Router

Error boundaries

LAB

MULTI-PAGE APP WITH AUTH GUARD

05 NODE AND EXPRESS

Node runtime

Express routing

Error handling

Environment configuration

npm

Middleware

Validation

LAB

REST API

06 MONGODB AND MONGOOSE

Documents and collections

Schemas and validation

Indexes

CRUD

Relationships

Aggregation basics

LAB

DATA LAYER WITH RELATIONS

07 AUTHENTICATION AND SECURITY

Password hashing

Sessions and cookies

CORS

Input sanitisation

JWT

Role-based access

Rate limiting

LAB

SECURED API AND CLIENT

08 INTEGRATIONS

File uploads

Email

Third-party APIs

Cloud storage

Payment gateway

Webhooks

LAB

CHECKOUT FLOW

09 TESTING AND QUALITY

Unit tests with Jest

API tests with Supertest

Git workflow

React Testing Library

Linting

Code review

10 DEPLOYMENT

Environment variables

Hosting the client and API

Logging

Build pipelines

MongoDB Atlas

Monitoring

PROJECT

DEPLOYED FULL STACK APPLICATION

04 ASSESSMENT & CERTIFICATION

Module assignments and labs	25%
Mini projects	20%
Internal assessments	15%
Final project and review	40%

CERTIFICATION

Learners who complete all modules, submit the final project and clear the review receive a course completion certificate from Kaizen Infinities Private Limited. Project work is documented for the learner's portfolio, and interview preparation is included in the closing sessions.

05 CAREER OUTCOMES

ROLES THIS PROGRAMME PREPARES FOR

FULL STACK DEVELOPER

MERN DEVELOPER

FRONT-END DEVELOPER

BACK-END DEVELOPER (NODE)

WEB APPLICATION DEVELOPER

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