

FULL STACK DEVELOPMENT

- **Advanced MEAN Stack Certification (AMAC)**
- **Advanced MERN Stack Certification (AMRC)**



About ***Offenso Tech School**

Offenso Tech School is an innovative **coding and programming academy** founded by the team behind **Offenso Hackers Academy**, Kerala's most-followed cybersecurity institute. Our mission is to **redefine how coding is taught** by moving beyond traditional classroom methods and creating a **practical, industry-aligned learning experience**.

We aim to build the **best academy to learn programming in Kerala**, empowering students and professionals to confidently enter the tech workforce.

#Code the Future

About **FULL STACK DEVELOPMENT** (MERN & MEAN)

The Full Stack Development (MERN & MEAN) program equips you with the knowledge and hands-on skills to build modern, scalable, and dynamic web applications. Over the span of 6 months, you'll embark on a comprehensive learning journey, mastering both frontend and backend technologies while developing real-world projects that prepare you for the fast-growing tech industry.



Course **Outline**

FOUNDATIONS OF WEB DEVELOPMENT

Master the essentials of HTML, CSS, and JavaScript along with Git & GitHub for industry-standard version control. Build your first mini project to kickstart your portfolio.

BACKEND DEVELOPMENT WITH NODE & EXPRESS

Learn Node.js, npm, and Express.js for building scalable REST APIs. Gain expertise in routing, middleware, authentication (JWT, OAuth2), role-based access, and secure API design with logging, error handling, and TypeScript integration.

FRONTEND DEVELOPMENT (MERN & MEAN TRACKS)

- MERN Track: React and Next.js fundamentals including hooks, state management, SSR/SSG, and performance optimization.
- MEAN Track: Angular with TypeScript, components, services, dependency injection, routing, and NgRx state management.
- Develop mini projects to showcase your frontend skills.

DATABASES & INTEGRATION

Work with MongoDB for CRUD operations, indexing, query optimization, and aggregation pipelines. Connect frontend and backend seamlessly, manage file uploads, and implement secure schema validation with Mongoose.



ADVANCED FEATURES & REAL-WORLD SCALING

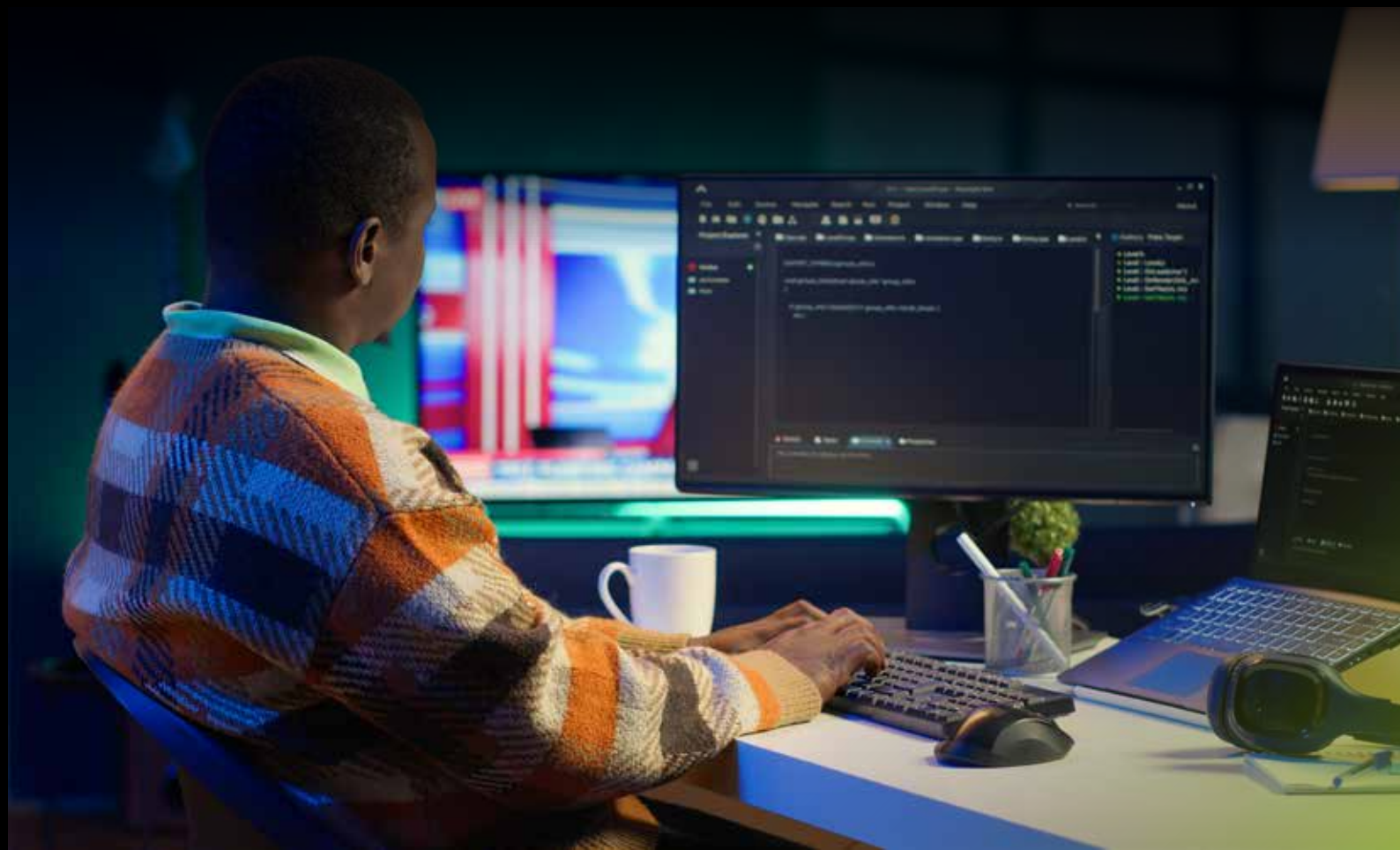
Build real-time communication apps with Socket.IO and WebRTC. Learn scaling strategies including clustering, message queues (RabbitMQ/Kafka), load balancing, and secure coding best practices.

TESTING & DEPLOYMENT

Develop confidence with unit, integration, and E2E testing using Jest, Cypress, and Playwright. Deploy applications on Vercel, Netlify, AWS, or your own Linux server. Master Docker containerization and orchestration with Docker Compose.

MONITORING, LOGGING & ERROR TRACKING

Monitor and optimize applications using Prometheus, Grafana. Implement centralized logging with ELK or Loki, and integrate error tracking with Sentry. Ensure reliability with automated backups and recovery strategies.





Why This Course

The Full Stack Development program is designed to launch and accelerate your career in web technologies. Here's why you should choose this program

- **COMPREHENSIVE CURRICULUM**

Master both frontend and backend development with industry-leading stacks (MERN & MEAN), covering everything from databases to deployment.

- **HANDS-ON LEARNING**

Work on multiple real-world projects, mini apps, and capstone assignments that showcase your skills to future employers.

- **CAREER-ORIENTED PROGRAM**

Prepare for in-demand roles such as Full Stack Developer, Backend Engineer, Frontend Engineer, and DevOps Associate.

- **INDUSTRY-RELEVANT TOOLS & PRACTICES**

Gain expertise in Git, Docker, CI/CD, monitoring, cloud deployments, and scalable application design — skills employers value today

- **100% PLACEMENT ASSISTANCE**

Kickstart your tech career with our resume building, mock interviews, and dedicated placement support program.

#CODE THE FUTURE



Course Modules

1

FOUNDATIONS OF WEB DEVELOPMENT

HTML • CSS • JavaScript • Git & GitHub • Mini Projects

2

BACKEND DEVELOPMENT

Node.js • Express.js • REST API • CRUD • Authentication & Security
• Error Handling • Logging • TypeScript Integration

3

FRONTEND DEVELOPMENT

MERN (React + Next.js) or MEAN (Angular) — State Management
• Performance Optimization • Projects

4

DATABASE & INTEGRATION

MongoDB • Mongoose • Indexing & Aggregation • File Uploads
• API Integration • Scalable Database Design

5

ADVANCED FEATURES

Socket.IO • WebRTC • Message Queues (RabbitMQ/Kafka)
• Load Balancing • Secure Coding Practices

6

TESTING & DEPLOYMENT

Unit & E2E Testing • CI/CD • Docker • Docker Compose
• Cloud & Linux Server Deployment

7

MONITORING & ERROR TRACKING

Prometheus • Grafana • ELK Stack • Sentry • Backup & Recovery



TOOLS USED

- VS Code
- Git & GitHub
- Postman
- MongoDB Compass
- Docker

CAREER OPPORTUNITIES

- FULL STACK DEVELOPER
- MERN DEVELOPER
- MEAN DEVELOPER
- FRONTEND ENGINEER
- BACKEND ENGINEER
- API DEVELOPER
- DEVOPS ASSOCIATE
- CLOUD APPLICATION ENGINEER



FAQs

- **WHAT TOPICS ARE COVERED IN THE FULL STACK DEVELOPMENT COURSE?**

Frontend & backend development using MERN & MEAN stacks, including HTML, CSS, JavaScript, Node.js, Express.js, React, Next.js, Angular, MongoDB, REST APIs, authentication & security, testing, cloud deployment, Docker, and monitoring tools.

- **WHO WOULD BENEFIT FROM ENROLLING IN THIS COURSE?**

Anyone looking to start a career in web development, IT professionals enhancing full stack skills, or students aiming to build scalable modern web applications.

- **IS PRIOR PROGRAMMING KNOWLEDGE REQUIRED TO JOIN THIS COURSE?**

No prior experience needed — the course starts with fundamentals and progresses to advanced full stack development and cloud deployment.

- **WHAT IS THE DURATION OF THE COURSE?**

6 months with project-based learning throughout.

- **WHAT ARE THE MINIMUM SYSTEM REQUIREMENTS?**

Intel i5 or equivalent processor, 8GB RAM, stable internet. Suitable for running code, databases, and Docker containers.

- **WHAT TYPES OF JOBS CAN YOU PURSUE AFTER THIS COURSE?**

Full Stack Developer, MERN Developer, MEAN Developer, Frontend Engineer, Backend Engineer, API Developer, DevOps Associate, Cloud Application Engineer.

