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COUNTRYEDU PRIVATE LIMITED

GSTIN : 06AAJCC6151A1Z3 | CIN : U72900HR2021PTC096283

Email : query@countryedu.com, grievances@countryedu.com

2-Months MERN Full Stack Development Immersion Internship

Designed by: CountryEdu Private Limited

By CountryEdu Private Limited

(IT Managed Services & EdTech Solutions)

Program Objective :

- Understanding full-stack web development using the MERN (MongoDB, Express.js, React.js, Node.js) technology stack
- Developing expertise in frontend development, backend development, database management, and API integration
- Learning modern web application architecture, authentication systems, and deployment workflows
- Building scalable, responsive, and data-driven web applications using industry-standard technologies
- Understanding full-stack development lifecycle, version control, and project management practices
- Preparing students for careers in MERN Stack Development, Full Stack Engineering, Web Development, and Software Engineering

Program Structure :

- Duration: 8 Weeks (2 Months)
- Mode: Hybrid / Live / Classroom
- Tools Used: MongoDB, Express.js, React.js, Node.js, GitHub, VS Code, Postman, JWT, REST APIs
- Final Outcome: Full Stack Web Application Project + Internship Certificate

MONTH 1 – MERN STACK FOUNDATION

Week 1: Introduction to MERN Stack & Web Development Fundamentals

- Introduction to Full Stack Development
- MERN Stack Architecture Overview
- Frontend vs Backend Development
- Development Environment Setup
- Git & GitHub Fundamentals

~ Outcome: Strong foundation in MERN Stack architecture and modern web development workflows.

Week 2: Frontend Development with React.js

- React.js Fundamentals
- Components, Props & State
- React Hooks
- Event Handling & Forms
- Responsive UI Development

~ Outcome: Ability to build interactive and responsive user interfaces using React.js.

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

- Node.js Fundamentals
- Express.js Framework
- Server Creation & Routing
- Middleware Implementation
- REST API Development

~ Outcome: Ability to develop scalable backend services and APIs using Node.js and Express.js.

Week 4: MongoDB Database Management

- MongoDB Fundamentals
- Database Design & Collections
- CRUD Operations
- Mongoose Integration
- Data Modeling Techniques

~ Outcome: Ability to design and manage databases for full-stack applications.

MONTH 2 – ADVANCED MERN STACK DEVELOPMENT

Week 5: API Integration & Full Stack Connectivity

- Frontend-Backend Integration
- API Consumption using Axios
- JSON Data Exchange
- Error Handling Techniques
- Data Validation & Processing

~ Outcome: Ability to connect frontend and backend systems seamlessly in MERN applications.

Week 6: Authentication & Security

- User Registration & Login Systems
- JWT Authentication
- Role-Based Access Control
- Password Encryption Techniques
- Security Best Practices

~ Outcome: Ability to implement secure authentication and authorization mechanisms.

Week 7: Advanced MERN Features & Optimization

- State Management Concepts
- Application Performance Optimization
- File Upload & Media Management
- Real-Time Application Concepts
- Project Structure & Code Organization

~ Outcome: Ability to build optimized and scalable full-stack web applications.



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Week 8: Deployment & Professional Development Workflow

- Application Deployment Fundamentals
- Cloud Hosting Concepts
- GitHub Collaboration Workflow
- Project Documentation Standards
- Industry Best Practices

~ Outcome: Ability to deploy and maintain production-ready MERN applications following industry standards.

LIVE PROJECT & CAREER READINESS

Major Project Development

Students work on real-world MERN Full Stack Development projects such as:

- E-Commerce Web Application
- Student Management System
- Employee Management Portal
- Customer Relationship Management (CRM) Platform
- Online Learning Management System
- Real Estate Property Management Portal

Project Includes:

- Requirement Analysis & Planning
- UI/UX Design & Frontend Development
- Backend API Development
- Database Design & Integration
- Authentication & Security Implementation
- Testing, Deployment & Final Presentation

~ Outcome: Fully functional industry-level MERN application demonstrating frontend development, backend development, database integration, authentication, and deployment capabilities.

From beginner to job-ready — Become a MERN Full Stack Development Professional in 2 Months.