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COUNTRYEDU PRIVATE LIMITED

GSTIN : 06AAJCC6151A1Z3 | CIN : U72900HR2021PTC096283

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

API Development Immersion Internship

Designed by: CountryEdu Private Limited

By CountryEdu Private Limited

(IT Managed Services & EdTech Solutions)

Program Objective :

To transform students into job-ready API Developers capable of:

- Building secure and scalable REST APIs using modern backend technologies
- Understanding API architecture, client-server communication, and backend workflows
- Developing backend systems with authentication, database integration, and API security
- Gaining hands-on experience in API testing, documentation, and deployment
- Learning industry-standard coding practices, debugging, and version control workflows
- Preparing students for careers in Backend Development, API Engineering, and Software Development

Program Structure :

- Duration: 12 Weeks (3 Months)
- Mode: Hybrid / Live / Classroom
- Tools Used: Node.js, Express.js, MongoDB, Postman, JWT, GitHub, VS Code
- Learning Model: Project-Based Learning Model
- Final Outcome: Ability to build, test, secure, and deploy real-world REST APIs + Internship Certificate

MONTH 1 – API DEVELOPMENT FUNDAMENTALS

Week 1: Introduction to API Development

- Introduction to APIs
- Understanding Client-Server Architecture
- REST API Fundamentals
- HTTP Methods & Status Codes
- API Request & Response Structure
- Setting Up Development Environment

~ Outcome: Strong foundation in API development concepts and backend workflows

Week 2: JavaScript & Node.js Basics

- JavaScript Fundamentals
- Functions & Arrow Functions
- Objects & Arrays
- Asynchronous JavaScript
- Promises & Async/Await
- Introduction to Node.js

~ Outcome: Ability to write backend JavaScript code for API development

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Week 3: Express.js Fundamentals

- Introduction to Express.js
- Creating API Servers
- Routing & Middleware
- Handling Requests & Responses
- CRUD Operations Basics
- API Testing using Postman

~ Outcome: Ability to build basic REST APIs using Express.js

Week 4: Database Integration

- Introduction to MongoDB
- Database Schema Design
- CRUD Operations with Database
- Mongoose ODM Basics
- Connecting APIs with MongoDB
- Error Handling Basics

~ Outcome: Ability to integrate databases with backend APIs

MONTH 2 – ADVANCED API DEVELOPMENT

Week 5: Authentication & Authorization

- User Authentication Basics
- JWT Authentication
- Password Encryption
- Login & Registration APIs
- Session & Token Management
- Role-Based Access Control

~ Outcome: Ability to build secure authentication systems in APIs

Week 6: Advanced API Features

- API Validation Techniques
- File Upload APIs
- Pagination & Filtering
- Search Functionality
- API Error Handling
- API Optimization Basics

~ Outcome: Ability to create scalable and feature-rich APIs

Week 7: API Security & Documentation

- API Security Best Practices
- Preventing Common Vulnerabilities
- CORS & Middleware Security
- API Documentation Basics
- Introduction to Swagger
- Logging & Monitoring Basics

~ Outcome: Ability to secure and document professional APIs

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Week 8: GitHub & API Deployment

- Git & GitHub Workflow
- Version Control Basics
- Environment Variables
- Deployment using Render/Railway
- API Testing & Debugging
- Backend Optimization Techniques

~ Outcome: Ability to professionally manage and deploy APIs

MONTH 3 – LIVE PROJECT & CAREER READINESS

Week 9–10: API Development Project

Students work on real-world API Projects such as:

- Authentication API
- E-Commerce Backend API
- Blogging Platform API
- Student Management API
- Task Management API
- Inventory Management API

Project Includes:

- Requirement Analysis
- API Architecture Planning
- Database Integration
- Testing & Debugging
- Final Project Presentation

~ Outcome: Ability to build complete real-world REST APIs professionally

Week 11: Deployment & Professional Workflow

- API Deployment Workflow
- Hosting & Server Basics
- API Documentation Preparation
- Portfolio Development
- GitHub Project Management
- Project Documentation

~ Outcome: Ability to professionally deploy and present API projects

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Week 12: Interview & Career Preparation

- API Development Interview Preparation
- Resume & LinkedIn Optimization
- Mock Interviews
- Backend Coding Challenges
- Freelancing & Internship Guidance
- Career Pathways (API Developer, Backend Developer, Node.js Developer, Software Engineer)

~ Outcome: Placement-ready API Developer with practical backend project experience

Key Skills Developed

- REST API Development
- Node.js & Express.js
- MongoDB Integration
- Authentication & Security
- API Testing using Postman
- API Documentation
- Git & GitHub Workflow
- Backend Deployment & Optimization

Target Roles After Completion

- API Developer
- Backend Developer
- Node.js Developer
- Software Engineer
- REST API Associate
- Freelance Backend Developer

Why This Program is Industry-Ready

- ✓ 100% Project-Based Learning
- ✓ Real-world API Development Experience
- ✓ Database & Authentication Exposure
- ✓ Industry-standard Backend Practices
- ✓ Portfolio & Career Preparation Included

From Beginner to Professional — Become an API Development Expert in 3 Months.