

COUNTRYEDU PRIVATE LIMITED

GSTIN : 06AAJCC6151A1Z3 | CIN : U72900HR2021PTC096283

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

2-Months API Development Immersion Internship

Designed by: CountryEdu Private Limited

By CountryEdu Private Limited

(IT Managed Services & EdTech Solutions)

Program Objective :

- Understanding API architecture, communication protocols, and modern backend integration techniques
- Developing expertise in RESTful APIs, web services, and API lifecycle management
- Learning API design, development, testing, documentation, and deployment methodologies
- Building secure, scalable, and high-performance APIs for web and mobile applications
- Understanding authentication, authorization, and API security best practices
- Preparing students for careers in API Development, Backend Engineering, and Software Integration

Program Structure :

- Duration: 8 Weeks (2 Months)
- Mode: Hybrid / Live / Classroom
- Tools Used: Node.js, Express.js, Postman, Swagger, GitHub, MySQL, MongoDB, JWT, REST APIs
- Final Outcome: Enterprise API Development Project + Internship Certificate

MONTH 1 – API DEVELOPMENT FOUNDATION

Week 1: Introduction to APIs & Backend Communication

- Fundamentals of APIs & Web Services
- API Architecture & Communication Models
- REST API Fundamentals
- HTTP Methods & Status Codes
- Request & Response Lifecycle

~ Outcome: Strong foundation in API concepts, web communication, and service architecture.

Week 2: API Design & Development Fundamentals

- RESTful API Design Principles
- Resource Modeling & Endpoint Design
- CRUD Operations Implementation
- JSON Data Handling
- API Versioning Strategies

~ Outcome: Ability to design and develop structured, scalable REST APIs.

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Week 3: Database Integration & Data Management

- Database Fundamentals
- MySQL & MongoDB Integration
- Data Modeling Techniques
- Query Optimization Basics
- API & Database Connectivity

~ Outcome: Ability to build APIs connected to relational and NoSQL databases.

Week 4: Authentication & Security Fundamentals

- API Authentication Mechanisms
- JWT Authentication
- Authorization & Role Management
- Password Encryption Techniques
- API Security Best Practices

~ Outcome: Ability to implement secure authentication and authorization systems in APIs.

MONTH 2 – ADVANCED API DEVELOPMENT

Week 5: Advanced API Features & Integration

- Middleware Implementation
- File Upload & Media Management APIs
- Third-Party API Integration
- Payment Gateway API Integration
- Error Handling & Validation Frameworks

~ Outcome: Ability to build feature-rich APIs and integrate external services effectively.

Week 6: API Testing & Documentation

- API Testing Fundamentals
- Postman Advanced Features
- Automated API Testing
- Swagger Documentation
- API Monitoring & Debugging

~ Outcome: Ability to test, document, and maintain production-ready APIs.

Week 7: Performance Optimization & Scalability

- API Performance Optimization
- Caching Strategies
- Rate Limiting & Traffic Management
- Scalability & Load Handling
- Logging & Monitoring Techniques

~ Outcome: Ability to optimize APIs for high performance and large-scale applications.

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Week 8: Deployment & Industry Best Practices

- API Deployment Strategies
- Cloud Hosting Fundamentals
- CI/CD for APIs
- Git & GitHub Workflow
- Industry Standards & Best Practices

~ Outcome: Ability to deploy and manage enterprise-grade APIs in production environments.

LIVE PROJECT & CAREER READINESS

Major Project Development

Students work on real-world API Development projects such as:

- E-Commerce Backend API
- Student Management System API
- Authentication & Authorization Service
- Payment Gateway Integration API
- Inventory Management API
- CRM Backend Service

Project Includes:

- Requirement Analysis & API Planning
- Database Design & Integration
- Authentication & Security Implementation
- API Testing & Documentation
- Deployment & Performance Optimization
- Final Project Presentation

~ Outcome: Fully functional industry-level API solution demonstrating backend development, database integration, security implementation, and deployment capabilities.

From beginner to job-ready — Become an API Development Professional in 2 Months.