

COUNTRYEDU PRIVATE LIMITED

GSTIN : 06AAJCC6151A1Z3 | CIN : U72900HR2021PTC096283

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

Node.js 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 Python Developers capable of:

- Building a strong foundation in Python programming and software development concepts
- Developing logical thinking and problem-solving skills using Python
- Gaining hands-on experience in real-world programming, automation, and project development
- Understanding industry-standard coding practices, debugging, and version control workflows
- Preparing students for real-world software development and backend programming requirements

Program Structure :

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

MONTH 1 – NODE.JS & BACKEND DEVELOPMENT FUNDAMENTALS

Week 1: Introduction to Backend Development & Node.js

- Introduction to Backend Development
- Understanding Client-Server Architecture
- Introduction to Node.js
- Installing Node.js & Environment Setup
- Writing First Node.js Program
- Understanding NPM Packages

~ Outcome: Strong foundation in backend development and Node.js programming basics

Week 2: JavaScript for Node.js

- JavaScript Fundamentals Revision
- Functions & Arrow Functions
- Objects & Arrays
- Asynchronous JavaScript
- Promises & Async/Await
- Error Handling Basics

~ Outcome: Ability to write efficient JavaScript code for backend applications

COUNTRYEDU PRIVATE LIMITED

GSTIN : 06AAJCC6151A1Z3 | CIN : U72900HR2021PTC096283

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

Week 3: Express.js Fundamentals

- Introduction to Express.js
- Creating Web Servers
- Routing & Middleware
- Request & Response Handling
- REST API Basics
- API Testing using Postman

~ Outcome: Ability to create backend servers and RESTful APIs using Express.js

Week 4: Database Fundamentals

- Introduction to Databases
- MongoDB Basics
- CRUD Operations
- Database Schema Design
- MySQL Fundamentals
- Connecting Node.js with Databases

~ Outcome: Ability to integrate databases with backend applications

MONTH 2 – ADVANCED NODE.JS DEVELOPMENT

Week 5: REST APIs & Authentication

- Advanced REST API Development
- API Documentation Basics
- User Authentication & Authorization
- JWT Authentication
- Password Encryption
- Session & Cookie Management

~ Outcome: Ability to build secure backend systems with authentication features

Week 6: Advanced Database Integration

- Mongoose ODM
- Advanced MongoDB Queries
- Relationships & Data Modeling
- MySQL Queries & Joins
- Database Optimization Basics
- Error Handling with Databases

~ Outcome: Ability to manage and optimize backend databases professionally

Week 7: Backend Architecture & File Handling

- MVC Architecture
- File Upload Handling
- Working with Cloud Storage Basics
- Email Integration
- Logging & Debugging Techniques
- Backend Validation Methods

~ Outcome: Ability to structure and manage professional backend applications

COUNTRYEDU PRIVATE LIMITED

GSTIN : 06AAJCC6151A1Z3 | CIN : U72900HR2021PTC096283

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

Week 8: GitHub & Deployment

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

~ Outcome: Ability to professionally manage and deploy Node.js applications

MONTH 3 – LIVE PROJECT & CAREER READINESS

Week 9–10: Node.js Project Development

Students work on real-world Node.js Projects such as:

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

Project Includes:

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

~ Outcome: Ability to build complete backend systems and REST APIs using Node.js

Week 11: Deployment & Professional Workflow

- Backend Deployment Workflow
- API Documentation using Postman
- Environment Configuration
- Database Hosting Basics
- Project Documentation
- Portfolio Development

~ Outcome: Ability to professionally deploy and present backend applications

COUNTRYEDU PRIVATE LIMITED

GSTIN : 06AAJCC6151A1Z3 | CIN : U72900HR2021PTC096283

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

Week 12: Interview & Career Preparation

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

~ Outcome: Placement-ready Node.js Developer with practical backend project experience

Key Skills Developed

- Node.js & Express.js
- REST API Development
- MongoDB & MySQL
- Authentication & Security
- Database Integration
- Backend Deployment
- Git & GitHub Workflow
- Backend Optimization Techniques

Target Roles After Completion

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

Why This Program is Industry-Ready

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

From Beginner to Professional — Become a Node.js Development Expert in 3 Months.