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PROFESSIONAL

# TECHELEARN

— IT TRAINING —  
HANDBOOK

## NODEJS CERTIFICATION COURSE



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# NodeJS Certification Course

## "Empower Your Backend Development with NodeJS"

Unlock the power of backend development with **NodeJS** and become proficient in building fast, scalable, and efficient server-side applications.



Our **NodeJS Certification Course** at **TECHELEARN** is designed to equip you with the skills to develop and deploy server-side applications using JavaScript, making you a sought-after candidate in the tech industry.

NodeJS is the backbone of many modern web applications and real-time services, providing exceptional performance through its event-driven, non-blocking I/O model. Whether you're building APIs, handling requests, or working with databases, NodeJS allows you to create powerful and highly scalable applications. This course will take you from basics to advanced techniques in NodeJS development, ensuring you're ready for the fast-paced world of web development.

### Why NodeJS?

NodeJS has become the go-to solution for modern backend development due to its ability to handle asynchronous operations and process large volumes of data. With a vast ecosystem and community, NodeJS enables developers to build





everything from small APIs to large-scale web applications with efficiency and ease.

- **Performance:** Built on Google Chrome's V8 engine, NodeJS provides high performance for handling concurrent requests.
- **Scalable:** Ideal for building scalable applications such as real-time web apps, chat applications, and streaming services.
- **JavaScript Across the Stack:** With NodeJS, you can use JavaScript both on the client and server side, enabling full-stack development.
- **Large Ecosystem:** The NodeJS ecosystem has a wide range of libraries and frameworks (like Express.js) that speed up development.
- **Job Opportunities:** NodeJS developers are in high demand globally due to its wide usage in enterprise applications, startups, and web services.

### What Will You Learn?

Our **NodeJS Certification Course** covers everything you need to become proficient in server-side JavaScript development. From fundamental concepts to advanced techniques, you will learn how to build and deploy powerful backend applications.



## Core Areas of Learning:

### 1. Introduction to NodeJS:

- Understanding NodeJS architecture and event-driven programming
- Setting up NodeJS environment on your machine
- Understanding the core modules and how to use them effectively

### 2. Asynchronous Programming with NodeJS:

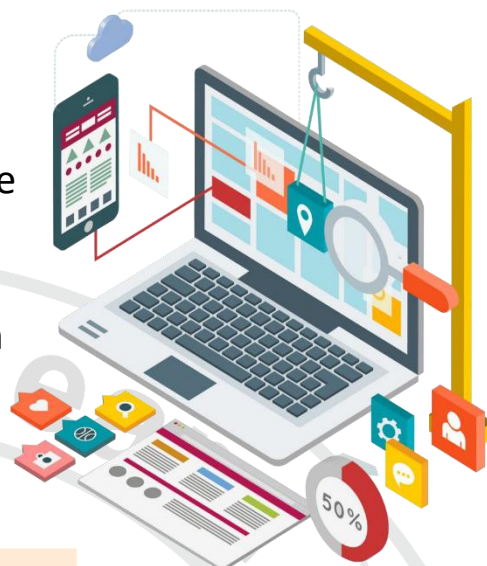
- Understanding asynchronous programming and its importance in NodeJS
- Working with callbacks, promises, and async/await
- Event Loop and non-blocking I/O in NodeJS

### 3. Working with NodeJS Core Modules:

- File System (fs) module and its usage
- Path, HTTP, Events, and Streams modules
- Buffer, URL, and OS modules

### 4. Building Web Servers with NodeJS:

- Creating your first HTTP server with NodeJS
- Handling requests and responses
- Working with query strings and URL parameters



## 5. Express.js Framework:

- Introduction to Express.js for building robust APIs
- Setting up Express.js for creating RESTful APIs
- Routing, middleware, and request handling in Express.js
- Implementing authentication and security in NodeJS applications



## 6. Working with Databases:

- Connecting NodeJS with relational (MySQL, PostgreSQL) and NoSQL (MongoDB) databases
- Performing CRUD operations (Create, Read, Update, Delete)
- Understanding ORMs and ODMs (Sequelize, Mongoose)

## 7. Building Real-Time Applications:

- Real-time data with WebSockets in NodeJS
- Building chat applications, live notifications, and real-time data streaming

## 8. RESTful API Development:

- Designing and implementing RESTful APIs with NodeJS
- Handling requests, routing, and status codes
- Implementing error handling and validation



## 9. Error Handling and Debugging:

- Understanding error handling in NodeJS applications
- Debugging your NodeJS applications with tools like Node Inspector



## 10. Deployment and Performance

### Optimization:

- Deploying NodeJS applications on cloud platforms (AWS, GCP, etc.)
- Optimizing NodeJS applications for performance and scalability
- Load balancing, clustering, and monitoring tools

## 11. Securing NodeJS Applications:

- Implementing HTTPS in NodeJS applications
- Protecting against common web vulnerabilities (SQL Injection, XSS, CSRF)
- Using JWT tokens and OAuth for secure authentication

## 12. Testing in NodeJS:

- Introduction to testing frameworks (Mocha, Chai, Jest)
- Writing unit tests and integration tests for NodeJS applications
- Continuous integration and automated testing





## Course Highlights

- **Comprehensive Curriculum:** Covering everything from basic NodeJS concepts to building complex web applications and APIs.
- **Hands-On Learning:** Gain practical experience by working on real-world projects and assignments that prepare you for the job market.
- **Certification:** Earn a globally recognized **NodeJS Certification** upon completing the course and showcasing your expertise to potential employers.
- **Expert-Led Training:** Learn from experienced instructors who are industry professionals with years of hands-on experience in NodeJS development.
- **Flexible Learning:** Learn at your own pace, from anywhere in the world, with our user-friendly online platform.
- **Job Assistance:** Get career support, including resume building, interview preparation, and job placement assistance.

## Course Modules

Our **NodeJS Certification Course** is divided into 12 engaging modules that cover essential topics and techniques to become an expert in NodeJS:



1. **Module 1: Introduction to NodeJS**
2. **Module 2: Asynchronous Programming**
3. **Module 3: Working with NodeJS Core Modules**
4. **Module 4: Building Web Servers with NodeJS**
5. **Module 5: Express.js Framework**
6. **Module 6: Working with Databases**
7. **Module 7: Building Real-Time Applications**
8. **Module 8: RESTful API Development**
9. **Module 9: Error Handling and Debugging**
10. **Module 10: Deployment and Performance Optimization**
11. **Module 11: Securing NodeJS Applications**
12. **Module 12: Testing and CI/CD in NodeJS**



### Who Should Take This Course?

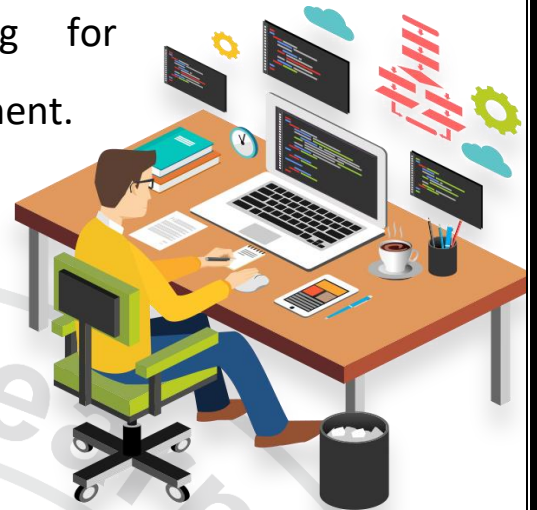
This course is ideal for:

- **Web Developers** looking to transition into backend development with NodeJS.
- **JavaScript Developers** who want to expand their skills and learn server-side programming.
- **Full Stack Developers** interested in mastering NodeJS for backend development.





- **Aspiring Backend Developers** looking for industry-relevant skills in NodeJS development.
- **Software Engineers and App Developers** aiming to build scalable and efficient server-side applications.



### Course Format

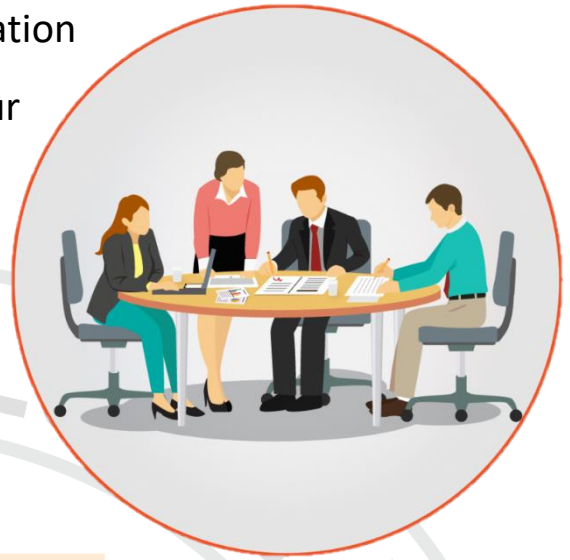
Format Detail	Description
<b>Duration</b>	3 Months Training + 1 Month Practice
<b>Learning Approach</b>	30% Theory + 70% Practical
<b>Assessment</b>	90-minute certification exam with 60 MCQs
<b>Passing Score</b>	70%
<b>Certification Criteria</b>	Successful project submission + exam pass

### Why Choose TECHELEARN?





- **Industry-Aligned Curriculum:** Stay ahead of the curve with our up-to-date and comprehensive course content.
- **Real-World Projects:** Gain hands-on experience with projects that showcase your abilities to future employers.
- **Certified Instructors:** Learn from industry experts with practical experience in NodeJS development.




- **Global Certification:** Get a certification recognized worldwide to enhance your career opportunities.
- **Career Support:** Receive job placement assistance, interview preparation, and career counselling.



### Training Modes

-  **Live Instructor-Led Online Training**
-  **Self-Paced Learning + Assignments**
-  **Corporate On-Demand Training Workshops**
-  **Hybrid Model for Flexibility & Impact**

 Includes: Source Code, Assignments, Quizzes, Final Capstone Project & Certificate Exam



### Bonus Add-ons

- ✓ **GitHub Portfolio Setup**
- ✓ **Resume & LinkedIn Optimization**
- ✓ **Interview Preparation Sessions**
- ✓ **Lifetime Access to Developer Community**



 **Partner with TECHELEARN – Upskill Your Team**


TECHELEARN offers customized **NodeJS Development** training for businesses.

 **Talk to Our Enterprise Team**

 **Request a Tailored Group Training Plan**

 **Get Started Blockchain Journey Today**

Join **11,000+** learners who trust **TECHELEARN** for career-ready skills.

 **NodeJS** skills are in high demand. Don't just learn—**Master it with TECHELEARN.**





# GET IN TOUCH

- *Personalized Support:* Whether you're seeking technical assistance or career guidance, we offer personalized, professional support.
- *Collaborate with Us:* We partner with educational institutions, businesses, and experts to offer training that meets industry needs.

## **JOIN US IN THIS EXCITING JOURNEY!**



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