

Node JS: <https://www.udemy.com/course/nodejs-the-complete-guide/>

## **Node.js Basics & Basic Core Modules**

- NodeJS benefits
- JS Refresher (Covers basic js functions and topics for backend)
- How the web works
- Creating a basic NodeJS server
- Understanding the NodeJS event loop
- Sending and receiving HTTP requests and responses
- Debugging

## **Express framework:**

- What is Express.js?
- Building an example web application with ExpressJS
- Implementing routing and middleware functionality
- Working with templating engines like EJS or Pug
- What is the MVC? And how to use it

## **Database and its Interactions:**

- Sequelize Introduction: Understand Sequelize as a popular ORM (Object-Relational Mapper) for interacting with databases.
- Using Node.js with SQL (MySQL) and Sequelize
- Using Node.js with NoSQL (MongoDB) and Mongoose

## **Advanced API Functionality and Integrations:**

- Sessions and Cookies: Implement session management with cookies and other techniques to maintain user state across requests.
- Authentication: How to handle authentication, Encrypting Passwords, Middleware to Protect Routes
- File Uploads and Downloads: Enable users to upload and download files through your NodeJS applications.
- Pagination and Data Caching: Optimize API performance with techniques like pagination and data caching to handle large datasets effectively.
- Email Integration with Nodemailer: Send emails from your NodeJS applications using Nodemailer library and configure delivery methods.
- Validating User Input
- Connect with external APIs and services like Stripe (payment)
- Building a Realtime Node.js App with Websockets

**GraphQL:**

- Building GraphQL APIs
- Authentication in GraphQL APIs
- File Upload in GraphQL APIs

**Testing:**

- Unit Testing and Test Coverage: Improve code quality with unit testing frameworks and achieve high test coverage for thorough validation.

**Deployment:**

- Use Environment Variables
- With Heroku

**Introduction to TypeScript:**

- Understand the benefits of TypeScript and learn how to integrate it with your NodeJS projects for enhanced type safety and code maintainability.

**Exploring Deno and Advanced Topics:**

- Deno Fundamentals and Comparison with NodeJS: Understand Deno features and advantages, and compare it with NodeJS.
- Building Basic Deno Applications and Modules: Create Deno programs, work with modules, and explore native

**two major projects:** An online shop (including checkout + payments) and a blog.

Course link: <a href="https://www.udemy.com/course/nodejs-the-complete-guide/">https://www.udemy.com/course/nodejs-the-complete-guide/</a>	
Modules	Timings (Hr)
<b>Node.js Basics &amp; Basic Core Modules</b>	
introduction	1.5
Js refresher	1
Basics	2.5
Debugging	2
<b>Express framework:</b>	
Working with Express	3
Working with Dynamic Content & Adding Templating Engines	3
The Model View Controller (MVC)	1
Optional: Enhancing the App	1
Dynamic Routes & Advanced Models	3
<b>Database and its Interactions:</b>	
SQL Introduction	2
Understanding Sequelize	3
Working with NoSQL & Using MongoDB	3
Working with Mongoose	2
<b>Advanced API Functionality and Integrations:</b>	
Sessions & Cookies	1.5
Adding Authentication	1
Sending Emails	0.5
Advanced Authentication	1
Understanding Validation	2
Error Handling	1
File Upload & Download	2

Adding Pagination	0.5
Understanding Async Requests	0.5
Adding Payments	1
Working with REST APIs - The Basics	1.5
Working with REST APIs - The Practical Application	4
Understanding Websockets & Socket.io	1
<b>GraphQL:</b>	
Working with GraphQL	4
Deploying our App	1.5
Testing Node.js Applications	3
Node.js as a Build Tool & Using npm	0.5
Modern JavaScript & NodeJS	0.5
<b>Introduction to TypeScript</b>	
NodeJS & TypeScript	2.5
<b>Exploring Deno and Advanced Topics</b>	
An Introduction to Deno	2.5
Deno, CRUD & Databases (MongoDB)	1
<b>Total</b>	<b>61</b>