

Creating RESTful Web Services with Node.js and Express

FA-0487 · 5 Days

Software Development · DevOps, Cloud & Infrastructure · Data & Analytics

Introduction

This course provides a comprehensive introduction to the world of web service development. Participants will embark on a journey to master the fundamentals of RESTful architecture, setting up a Node.js development environment, and harnessing the power of Express.js. Through a combination of engaging lectures and hands-on coding exercises, students will gain the skills required to create robust and scalable APIs. By the course's conclusion, learners will not only grasp the core concepts of RESTful web services but also have the practical ability to develop their own APIs from scratch. This course is a stepping stone for those seeking to embark on a rewarding career in web development and API design.

Course Duration: 5 Days

Learning outcomes

- Understand the principles of RESTful architecture.
- Set up a development environment with Node.js and npm.
- Create a basic Node.js server to handle HTTP requests and responses.
- Utilize Express.js to build routes, handle parameters, and implement middleware.
- Perform CRUD operations on data, validate user input, and handle errors.
- Implement authentication methods (Basic Auth, JWT) for secure APIs.
- Apply security measures to protect against common vulnerabilities.
- Version, document, and test RESTful APIs.
- Deploy RESTful APIs to a hosting service.

- Develop a fully functional RESTful API as a final project.

Prerequisites

- Basic understanding of JavaScript.
- Familiarity with web development concepts (HTML, CSS).

Training outline

1. Day 1

1. Introduction to Node.js and Express
2. Setting up a development environment
3. Creating a simple web server
4. Understanding HTTP requests and responses

2. Day 2

1. Working with databases (MongoDB)
2. Designing RESTful APIs
3. Creating endpoints for CRUD operations (create, read, update, and delete)
4. Validating user input

3. Day 3

1. Using middleware to authenticate users and authorize requests
2. Securing your RESTful API
3. Error handling

4. Day 4

1. Testing your API
2. Deploying your API to production
3. Handling security vulnerabilities (e.g., CSRF, SQL injection)

5. Day 5

1. Case study: Building a simple RESTful API with Node.js and Express

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