



NodeJS Training

Soumarshi Nag Biswas ⁺

Topics

- + INTRODUCTION TO NODE.JS
- + ASYNCHRONOUS PROGRAMMING
- + STREAMS & EVENTS
- + HTTP
- + EXPRESS
- + MONGODB
- + TESTING
- + REST API USING EXPRESS & MONGOOSE
- + MICROSERVICE ARCHITECTURE
- + PROJECT WORK

INTRODUCTION TO NODE.JS

- + What is Node.js?
- + Why Node.js?
- + Node modules
- + Node built-in packages
- + Creating your own package
- + Importing your own package
- + NPM (Node Package Manager)
- + Local and global packages
- + Hands-on Exercise:
 - + Install Node.js
 - + Run a simple Node.js script
 - + Create a Node module and use it in your code
 - + Search in the NPM repository to find a package and install it in your project

ASYNCHRONOUS PROGRAMMING

- + What is asynchronous programming in JavaScript?
- + JavaScript EventLoop
- + Callbacks
- + Promises
- + Async Await
- + Hands-on Exercise:
 - + Demonstrate the use of callbacks, promises, and async-await

STREAMS & EVENTS

- + What are streams in Node.js?
- + Reading and writing streams
- + Understanding and using the EventEmitter class
- + Emitting events
- + Responding to events
- + Hands-on Exercise:
 - + Read data from a file using Input Stream and display on the screen

EXPRESS

- + What is ExpressJS?
- + Installing ExpressJS
- + Creating a simple HTTPServer using ExpressJS
- + Routing in Express
- + Templating in Express
- + Templating using JADE
- + Middleware
- + Hands-on Exercise:
 - + Create a simple ExpressJS application with routes and templates

MONGODB

- + What is MongoDB?
- + MongoDB Advantages
- + Documents
- + Collections
- + Mongoose ODM
- + Creating schemas and models using Mongoose
- + CRUD Operations in MongoDB using Mongoose and Express
- + Hands-on Exercise:
 - + Create a simple TodoList application using ExpressJS and Mongoose

TESTING

- + What is unit testing?
- + Why unit testing?
- + Unit testing frameworks
- + What are mocks and stubs?
- + Writing and running tests in Express
- + Hands-on Exercise:
 - + Write and run some unit tests to test a module

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REST API USING EXPRESS & MONGOOSE

- + What is a REST API?
- + Why REST API?
- + Data exchange formats
- + JSON vs XML
- + Hands-on Exercise:
 - + Build a small application using the REST API

MICROSERVICE

- + What is Monolith architecture
- + What is Microservice architecture
- + Hands-on Exercise:
 - + Build a small microservice application

Project Work

- + Create NodeJS authenticated API(s) connecting to MongoDB backend for an ecommerce application