

Master Node.js, Express & MongoDB

- Node module system
- Node Package Manager NPM
- Asynchronous JavaScript
- Building RESTful APIs with Express.js
- Implementing CRUD operations
- Storing complex data in MongoDB
- Data validation
- Authentication and authorization
- Handling and logging errors
- Unit and integration testing
- Testdriven development TDD
- Deployment

Getting Started

- Welcome
- What is Node
- Node Architecture
- How Node Works
- Installing Node
- Your First Node Program
- Course Structure

Node Module System

- Global Object
- Modules
- Creating a Module
- Loading a Module
- Module Wrapper Function
- Path Module
- OS Module
- File System Module
- Events Module
- Event Arguments
- Extending EventEmitter
- HTTP Module

Node Package Manager NPM

- Introduction
- Package.json
- Installing a Node Package
- Using a Package
- Package Dependencies
- NPM Packages and Source Control
- Semantic Versioning
- Listing the Installed Packages
- Viewing Registry Info for a Package
- Installing a Specific Version of a Package

- Updating Local Packages
- DevDependencies
- Uninstalling a Package
- Working with Global Packages
- Publishing a Package
- Updating a Published Package

Building RESTful API's Using Express

- Introduction
- RESTful Services
- Introducing Express
- Building Your First Web Server
- Nodemon
- Environment Variables
- Route Parameters
- Handling HTTP GET Requests
- Handling HTTP POST Requests
- Calling Endpoints Using Postman
- Input Validation
- Handling HTTP PUT Requests
- Handling HTTP Delete Requests
- Project Build the Genres API
- Building RESTful APIs with Express Recap

Express Advanced Topics

- Introduction
- Middleware
- Creating Custom Middleware
- Builtin Middleware
- Thirdparty Middleware
- Environments
- Configuration
- Debugging
- Templating Engines
- Database Integration
- Authentication
- Structuring Express Applications
- Project Restructure the App

Asynchronous JavaScript

- Synchronous vs Asynchronous Code
- Patterns for Dealing with Asynchronous Code
- Callbacks
- Callback Hell
- Named Functions to Rescue
- Promises
- Replacing Callbacks with Promises
- Consuming Promises
- Creating Settled Promises
- Running Promises in Parallel
- Async and Await

CRUD Operations Using Mongoose

- Introducing MongoDB
- Installing MongoDB on Mac
- Installing MongoDB on Windows
- Connecting to MongoDB
- Schemas
- Models
- Saving a Document
- Querying Documents
- Comparison Query Operators
- Logical Query Operators
- Regular Expressions
- Counting
- Pagination
- Updating a Document Query First
- Updating a Document Update First
- Removing Documents

Mongo Data Validation

- Validation
- Builtin Validators
- Custom Validators
- Async Validators
- Validation Errors
- SchemaType Options
- Project Add Persistence to Genres API
- Project Build the Customers API
- Restructuring the Project
- Mongoose Validation Recap

Mongoose Modeling Relationships between Connected Data

- Modelling Relationships
- Population
- Embedding Documents
- Using an Array of Subdocuments
- Project Build the Movies API
- Project Build the Rentals API Transactions
- ObjectID
- Validating ObjectIDs
- A Better Implementation

Authentication and Authorization

- Introduction
- Creating the User Model
- Registering Users
- Using Lodash
- Hashing Password
- Authenticating Users
- Testing the Authentication
- JSON Web Tokens
- Generating Authentication Tokens

- Storing Secrets in Environment Variables
- Setting Response Headers
- Encapsulating Logic in Mongoose Models
- Authorization Middleware
- Protecting Routes
- Getting the Current User
- Logging Out Users
- Rolebased Authorization
- Testing the Authorization

Handling and Logging Errors

- Introduction
- Handling Rejected Promises
- Express Error Middleware
- Removing Try Catch Blocks
- Express Async Errors
- Logging Errors
- Logging to MongoDB
- Uncaught Exceptions
- Unhandled Promise Rejections
- Error Handling Recap
- Extracting Routes
- Extracting the Db Logic
- Extracting the Logging Logic
- Extracting the Config Logic
- Extracting the Validation Logic
- Showing Unhandled Exceptions on the Console
- Handling and Logging Errors Recap

Introduction to Unit Testing

Introduction to Integration Testing

Introduction to TestDriven Development

Deployment

- Introduction
- Preparing the App for Production
- Getting Started with Heroku
- Preparing the App for Heroku
- Adding the Code to a Git Repository
- Deploying to Heroku
- Viewing Logs
- Setting Environment Variables
- MongoDB in the Cloud