



## MEAN Stack

### Course Guide

MEAN stack, using Node.js, AngularJS, Express and MongoDB. This course enables you to confidently build all different types of application using the MEAN stack.



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## MEAN Course Contents

MEAN is MongoDB, Express, AngularJS and Node.js training will help you to learn: Building full stack applications in JavaScript using the MEAN technologies, Architect MEAN stack applications from scratch, Design and build RESTful APIs using Node.js Express and MongoDB, Create and use MongoDB databases, Develop modular and maintainable Single Page Applications using AngularJS.

### Creating web servers with Node.js and Express

- First steps
- Require and module.exports
- Asynchronous non-blocking code
- Using npm for dependency management

#### Express

- Setting up Express to listen for requests
- Routing: defining URL routes and sending response
- Serving static files
- Exploring Middleware
- Using the Express router
- Using controllers to define functionality
- Defining dynamic routes with URL parameters
- Working with querystrings and posted form data
- BONUS: Improving MEAN development workflow with Nodemon

### Working with MongoDB and NoSQL

- Introduction to NoSQL databases
- The basics
- Getting started with the Mongo shell
- Interacting with data from the command line (Mongo shell)
- Importing and exporting data
- Connecting to a Node.js application
- Querying the database from Node.js
- Creating documents from Node.js

### Build robust REST APIs using Node.js, Express and MongoDB

- Introduction to REST APIs
- Using Mongoose to manage MongoDB database connections in Node
- Defining data structure with Mongoose schemas and models
- Defining complex data structures with Mongoose schemas

- Creating GET routes using Mongoose queries
- Creating GET routes for subdocuments using Mongoose
- Finding documents based on geo-coordinates
- Error trapping and hardening a REST API
- Creating new documents in MongoDB using Mongoose and POST methods
- Updating existing documents in MongoDB
- Using Mongoose to delete data from MongoDB

### Single Page Applications with AngularJS, the right way

- Expressions and Data-Binding
- Built-in Directives
- Built-in Filters
- Controllers, \$scope
- Controller As Modules
- Single Page Apps, Routes, Templates
- Built-in Services, Application Architecture
- Custom Services, Service vs Factory
- Custom Filters
- Building the SPA - part 1
- Building the SPA - part 2
- Building the SPA - part 3
- Building the SPA - part 4
- Building the SPA - The final part

### Adding authentication to the MEAN stack

- Securing the backend
- Adding JWT to the application
- Adding authentication to AngularJS
- AngularJS and JWT
- Tying all the pieces together

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