

Node.js Application Development

Duration: 4 Days

Description

This hands on Node.js course will teach front end designers and server side developers how to rapidly create, maintain, and deploy Node.js applications. This course includes thorough coverage of the Node.js architecture, the V8 engine and the Node Ecosystem. The course takes a practical approach to creating and organizing Node.js applications using functions and modules as part of the Node.js organizational structure. This course will provide attendees with a comprehensive understanding of Node.js core modules and how to procure and install packages using npm. Attendees will learn to identify and correct problems through unit testing and exception handling.

Attendees will learn how to use Node.js to create Command Line Interface applications for system administration and process management, use Node.js networking modules to communicate with TCP/IP clients and servers such as HTTP servers, and create / consume REST (Representational State Transfer) data services. Attendees will learn how to leverage frameworks such as Express to rapidly build Web Applications. Attendees will learn how to use Node.js to connect to NoSQL databases such as MongoDB to store, retrieve, and manipulate data (i.e., achieve data persistence).

Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

Delegates will learn

- Installation and configuration of Node.js
- Using npm to install and manage modules
- Working with the V8 Engine
- Building HTTP servers and HTTP clients
- Synchronous and asynchronous design patterns
- Building Node.js applications
- Storing application data in NoSQL databases
- Working with Web application frameworks such as Express
- Testing and Debugging Node.js applications
- Using Node.js core modules
- Using the Node.js event system and event emitters

- Interacting with the file system using buffers and streams
- Using Node.js networking API's to build internetworked applications
- Creating and consuming RESTful Web services

Prerequisites:

Knowledge of JavaScript equivalent to attending the JavaScript Programming course. Attendees should also have familiarity with a Windows, Linux, or OS X command line interface as well as a basic understanding of network protocols such as HTTP.

Outline

Intro

- Hello Node
- Defining Variables
- Functions
- Callback Functions
- ES6
- Promises
- Modules

NPM

Module System

Tools

- Babel & Sucrase
- Nodemon

Http & Express

- Installation
- Routing

Params

Post Body

Express Router

Custom Error Pages

- Middlewares
- Pug View Engine

Configuration

Render File

Pass Data to View `view.render`

Defining Variable

Conditions

Block System

- Express Generator

Streams

NoSQL & MongoDB

REST API with MongoDB

JWT Authentication

WebSocket Basics & Socket.IO

Unit Testing

Deploying

- Heroku
- AWS

Dockerizing

- Docker Compose
- Caprover

Continuous Integration

- Travis CI
- Circle CI

Load Balancing with Nginx

Caching

Rate Limiting

Message Queue

- Bull MQ

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