

Node-JS

1) Introduction

- a) Overview of NodeJS
- b) Installing NodeJS on windows
- c) Exploring language additions to the V8 JavaScript engine
- d) Role of Node Package Manager (NPM)
- e) Global vs. Local NPM installation

2) Understanding NodeJS

- a) Understanding require() and modules
- b) Understanding callback execution in the event loop
- c) Creating a project
- d) The package.json configuration file

3) HTTP and File System

- a) The HTTP protocol
- b) Building an HTTP server
- c) Rendering a response
- d) Synchronous vs. asynchronous I/O
- e) Path and directory operations
- f) __dirname and __filename
- g) Asynchronous file reads and writes
- h) Watch Update

4) Buffers, Streams, and Events

- a) Using buffers for binary data
- b) Flowing vs. non-flowing streams
- c) Streaming I/O from files and other sources
- d) Processing streams asynchronously
- e) Configuring event handlers

5) Using Express Framework

- a) What is Express.js?
- b) Installing Express.js
- c) Building a Hello Express application

6) Working with Models, Views, and Routes

- a) Creating routes
- b) Creating view with ejs & jade engine
- c) Using templates
- d) Adding partials
- e) Using locals and conditional templates
- f) Modularizing our routes
- g) Working with Data

7) Database

- a) RDBMS databases and NoSQL databases
- b) Connecting to RDBMS and NoSQL databases

8) Working with MongoDB

- a) Setting Up MongoDB
- b) Installing MongoDB
- c) Using Mongo DB in Node.js
- d) Structuring Your Data for MongoDB
- e) Data Types
- f) Understanding the Basic Operations
- g) Connecting and Creating a Database
- h) Creating Collections
- i) Inserting Documents into Collections
- j) Updating Document Values
- k) Deleting Documents from Collections
- l) Querying Collections

9) Working with MySQL

- a) Installing MySQL
- b) Adding the mysql Module from npm
- c) Creating a Schema for the Database
- d) Basic Database Operations
- e) Connecting
- f) Adding Queries

10) Working with RESTfull web services

- a) Getting Data
- b) Posting Data
- c) Updating Data