



# Node JS, Express JS, Angular Syllabus

## 1. Getting Started

- Introduction
- What is NodeJS?
- What is Angular 9?
- How Angular 9 and NodeJS Work Together
- About the Course Structure
- Setting up the Course Project
- Understanding the Project Structure

## 2. NodeJS, Express JS Basics

- Introduction
- Understanding the Flow of a Request
- Working with Requests and Responses
- Creating Routes and Passing Data
- Knowledge Injection: Http Methods
- Knowledge Injection: Data Formats
- More on NodeJS
- ExpressJS
- Error Handling
- Controllers
- Database connection (mongo db)
- Authentication
- Authorization

## 3. Creating the Frontend with Angular 2

- Introduction
- Rendering an Angular 2 App with NodeJS / Express
- Knowledge Injection - Components
- Starting an Angular 2 App
- Understanding Decorators
- Outputting Data with String Interpolation
- Working with Templates and Styles
- Two-Way-Binding
- Adding Custom Models
- Improving the Folder Structure
- Multiple Components
- Knowledge Injection - Property and Event Binding
- Using Property Binding
- Using Event Binding
- Knowledge Injection - Directives
- Understanding Attribute Directives
- Using NgFor to Output a List



- Adding Input and List Components
- Knowledge Injection - Services & Dependency Injection
- Creating a Service
- Adding Messages with a Service
- Getting Messages via a Service
- One Instance to Rule them All
- Enabling Default HTML Validation in Angular 4
- Adding Messages with a Template-Driven Form
- Creating a Header & Re-Structuring the Project
- Setting Up Routing
- Routing & Navigation
- Routing and the Server
- Creating User-related Components
- Adding Child Routes
- User Signup with Reactive (Data-Driven) Forms

#### 4. Connecting the Angular 2 Frontend with the NodeJS Backend

- Introduction
- Backend - Saving Messages
- Knowledge Injection - Angular 2 & Http
- Saving Messages - Wiring Up Frontend and Backend
- Backend - Getting Messages
- Getting Messages - Wiring Up Frontend and Backend
- Editing Messages - Preparing the Frontend
- Backend - Updating Messages
- Editing Messages - Wiring Up Frontend and Backend
- Deleting Messages

# Cassandra Syllabus

## 1. NoSQL DBMS Overview

## 2. Cassandra Features

## 3. Cassandra Architecture

## 4. Data Model

## 5. Installation

## 6. Cassandra Basics

- **Cassandra nodes, clusters, etc**
- **Keyspaces, tables, rows and columns**
- **Partitioning, replication, tokens**



- Quorum and consistency levels

## 7. Cassandra Operations

- Create keyspace
- Read Data
- Update Data
- Delete Data

## 8. Cassandra Shell Commands

## 9. Integration with NodeJS