MEAN STACK STANDARD COURSE CONTENTS

(DURATION 19 DAYS)

Prerequisite - Participants must have a good understanding of Database, HTML, JS, Jquery & Bootstrap.

Course Objectives -This course will offer a deep dive into Web Application Development & Mobile-Based Application Development. Also, the participants will have full exposure of RESTFUL Services or REST API. Will understand the complete CRUD operation using the MEAN Stack.

Lab Setup Details :
Hardware requirement:

CPU :   I4/I5 , Hard Disk : 50GB , RAM :8 GB

Software Requirement:

  - XAMPP https://www.apachefriends.org/download.html (DOWNLOAD VERSION 5.6.31)
  - MSOFFICE 2010
  - NOTEPAD++ https://notepad-plus-plus.org/download/v7.5.1.html (DOWNLOAD VER 7.5.1)
  - SUBLIME TEXT3 https://www.sublimetext.com/3
  - Visual Studio Code https://code.visualstudio.com/download
  - PDF READER https://adobe-reader.en.softonic.com/download
  - Browser Google Chrome OS Window 10

MongoDB (5 days)

Overview - SQL/NoSQL

- Datastore design considerations
- Relational v/s NoSQL stores
- Entities, Relationships and Database modelling
- When to use Relational/NoSQL
- Relational Storage Structures
- Categories of NoSQL stores
- Examples of NoSQL stores
- NoSQL Storage Structures

Data Formats

- What are Data Formats
- Difference between Data Formats and Data Structures
- Serializing and de-serializing data
- JavaScript Fundamentals
- The JSON Data Format
- BSON Data Format
- Advantages of BSON

Introduction to MongoDB

- Key Features of MongoDB
- Installing MongoDB
- Starting and Stopping the server
- Important file system locations
- Using the shell
- Integrating with other languages

MongoDB Concepts

- Servers
- Connections
- Databases
- Collections
- Documents
- Fields
- Indexes

MongoDB CRUD

- A look at a few use cases
- Insert (C)
- Simple Query Examples (R)
- Update (U)
- Remove (D)

Indexing

- Capped Collections
- Setting up Profiling
- Indexing concepts
- Types of Indexes
- Indexes covering queries

Querying MongoDB

- Query Expression Objects
- Query Options
- Cursors
- Mongo Query Language
- Dot Notation
- Full Text Search
- Cursors
- Adding Custom JavaScript

Advanced querying

- Joins
- Server-side v/s Client-side querying
- Retrieving a subset of fields
- Conditional operators
- Aggregation
- Grouping
- Projections

Replication

- Why Replication?
- Difference between replication and backup
- Replication Setups
- Master/Slave Replication
- Replica sets
- Setting up an Arbiter
- Failover
- Using data for replication analysis
- Oplogs
- Heartbeats
- Removing replica set members

- Overriding the default sync target
- Develop concerns Dummy Project

Angular (5 days)

<u>Angular 8</u>

- Introduction to Angular

  - Introduction to Single Page Applications
  - New features in Angular recent versions
  - Angular architecture and benefits
  - Angular support for MVC
  - Getting started with Angular
  - Building Simple Components

- Understanding Modules
  - Grammar conventions
  - @NgModule decorator
  - Import and export modules
  - Declarations in module o Registering Components o Registering Pipes
  - Registering providers in module

- Bootstrapping component
  - Components and Directives
  - Built-in Components
  - NgIf
  - NgSwitch
  - NgStyle
  - NgClass
  - NgFor
  - Getting an index
  - NgNonBindable
  - NgPluralCase
  - Custom Components
  - Component Decorator
  - Exporting components

- Templates and TemplateUrl
  - Styles and styleUrls
  - [Inputs] and [outputs]
  - @Input and @Output
  - Accessing elements using Reference (#ref)
  - Defining events
  - Event target properties
- Angular Forms
  - Template Driven Forms
  - NgForm and NgModel
  - FormsModule
  - Reactive Forms
  - FormControl and FormGroup
  - ReactiveFormsModule
  - Using Validators
  - Custom validators

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  - Live Project Exposure Using WordPMEAN Stack