# MEAN STACK

**M E A N** STACK

ZENWAYS.iO

## COURSE CURRICULUM
Duration: 3 months (96 hrs)

## JavaScript

Learning objective:

JavaScript is most popular and most used programming language in the world. JS is built in every browser. JS helps in making the web pages interactive and animate web pages according to one's need.

Areas:

- Introduction
- Tokens
- Expressions and Operators
- Control Flow
- Functions
- Arrays
- Objects
- Strings
- Arrays
- Regular Expressions

## HTML

Learning objective:

It consists of basic view constructs that are required to design a web page. All the websites or web apps or web applications use HTML to display different components on a web page.

Areas:

- Basic HTML Elements
- Tables
- Content tags (div, p, h1…)
- Form
- Input types
- HTML 5 elements
- HTML Validations and patterns

## CSS

Learning objective:

Once we have included HTML components on a web page, we need to give them design, color, background and other aesthetics, so that the web page is attractive. This can be achieved with types and properties provided by CSS.

Areas:

- Introduction - Types
- Table styles - Form styles
- Layout- Lists
- Selectors - Text styles
- Color - Content
- Box Model - Bootstrap - MDL

## GIT

Learning objective:

Git is a version management tool which use to collaborate source code of different developers working on the same project.

Areas:

- Introduction
- Version management
- GIT commands

## TypeScript

Learning objective:

TypeScript is another programming language which is used in developing webapps these days. Although TypeScript is not accessible on web browser we convert TypeScript code to JavaScript code before we publish it to webapp. TypeScript provide most of the object oriented programming features, which are restricted in JavaScript

Areas:

- Variables - Tuples
- Unions - Interfaces
- Classes - Objects
- Namespaces - Modules
- Ambients

## RxJS

Learning objective:

Reactive Extensions Library is a JavaScript library which is used to handle asynchronous events. Angular uses this library for all data and event bindings.

Areas:

- IIntroduction & Platform setup
- Observables and Observers

## JSON

Learning objective:

JavaScript Object Notation is a serializable way of representing large data objects which can be transferred using network channels on a varied number of platforms. JSON data is used to transfer data from front-end to backend and vice-versa in REST API's

Areas:

- Introduction
- Basic operations
- Manipulating JSON
- REST APIs

## Angular - Framework

Angular is based on TypeScript (TS) to provide reusable codes to build interactive & responsive web apps. Angular also provides 2 way data binding allowing user to dynamically interact between data & the view.

Areas:

- Introduction - Overview
- Components - Routing
- Form handling - Directives
- Pipes - Services

## NodeJs

Learning objective:

Introduction to NodeJs, explanation to NodeJs underlying architecture. Understanding NodeJs's event driven and non-blocking I/O model. Introduction to npm and using npm to manage a package. Using the underlying packages provided by NodeJs.

Areas:

- NodeJs Introduction
- NodeJs Configuration
- NodeJs V8 introduction
- NodeJs Built in Modules Intro
- NodeJs first step
- Blocking vs Non blocking code
- NPM Introduction
- NPM module installations
- In-built modules
- Globals - Console
- Process - Fs - http/s
- Os - Streams
- Buffers - Events
- Path - Code Modularization

## MongoDB

Learning objective:

Introduction to Document oriented databases, & comparison with Relational Database management systems(RDMS). Provisioning MongoDB, performing MongoDB CRUD operation, indexing, & data modelling

Areas:
- Introduction to NoSQL
- Difference between NoSQL & SQL
- Data modelling & CRUD operation
- Data types and Array handling - Indexing
- Replication & Backup and restoring
- MongoDB Compass

## RESTful web services and MVC pattern

Learning objective:

Learning about RESTful web service will help us to understand the architectural pattern that is required to make a stateless web service based on HTTP. And studying MVC architecture will help us to understand the application structure and the way the APIs interact with the world.

Areas:

- Introduction HTTP & HTTP methods
- MVC structure and architecture
- RESTful architecture
- RESTful and MVC use cases

## ExpressJs

Learning objective:

ExpressJs is minimal web application framework based on NodeJs. We would learn about implementing RESTful webservice using ExpressJs. After completing this section you will be able to understand the basic middleware routing and application routing.

Areas:

- ExpressJs Introduction
- RESTful architecture style
- Basic Routing - Debugging
- Serving static files
- Database connectivity
- Using MongoDB and Express Js for APIs
- Body-Parser - Morgan
- Introduction to Mongoose
- Authentication APIs - Multer
- JWT(JSON Web Token)

## Writing web services

Learning objective:

In this section we will be designing a web service and then implementing the same. We would use some task automation frameworks such Grunt. Introduction to POSTMAN to test the APIs and introduction to API documentation tools.

Areas:

- Designing Web Service
- POSTMAN installation and usage
- Documentation of the APIs
- Task automation using Grunt
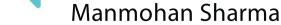- Testing the API endpoints

## Deployment

Learning objective:

In this section we would learn about deploying your web application on Cloud services such as Heroku

Areas:

- Account setup on Heroku
- Configuration of Node Js on Heroku
- Command line deployment of Web service on Heroku

## LEARNERS SPEAK

### Manmohan Sharma
Great learning experiance, learnd about angularJS , NodeJS , ExpressJS and MongoDB -Mean stack. they helped me to learn about the deployment on cloud like AWS. MOST Recommended. best in NCR

### Suraj Saluja
Faculty and staff at zenways is awsome. And will surely recomend other students thinking of learning MEANto go for ZENWAYS . .

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