*HTML5, CSS3, OOJS,*

Duration : 8 Days

DAY I

HTML5

* New HTML5 Structural Tags
* Semantic Tags
  + The section Tag, The article Tag
  + Outlining, Accessibility
  + aside tag, detail tag, summary tag
  + nav tag, header tag, footer tag
* New Input Types
  + search, tel
  + url and email
  + date/time input types
  + number, range
  + min, max, and step attributes
  + color
* HTML5 New Form Attributes
  + autocomplete
  + novalidate
* HTML5 New Form Field Attributes
  + required
  + placeholder
  + autofocus
  + autocomplete
  + form
  + pattern
  + New Form Elements
  + datalist
  + progress and meter
  + HTMl5 coding conventions (Best practices, style guide
  + and coding conventions)

DAY II

* Working with Forms and Input Devices
* The Document Object Model and the Legacy DOM 0

About HTML Forms

o Attributes of the <form> Tag

o Naming Forms and Input Types (Controls) for Forms

o The Legacy DOM with Forms

o Naming Forms and Buttons

o Submitting Fillout Forms

o The this Keyword

* HTTP Verbs GET & POST with Forms

o The submit() and reset() Methods

o Simple Form Validation

* HTML5 Advance
  + sessionStorage
  + localStorage
  + IndexedDB
  + HTML5 Web Workers
  + HTML5 Messaging APIs/Post Message API
  + HTML 5 History API - popstate, pushstate, replacestate,
  + HTML5 Canvas
  + HTML5 SVG

DAY III

* Service Workers (PWA / Offline)
  + What is a service worker?
  + The service worker life cycle
  + Install a service worker
  + Cache and return requests
  + Update a service worker
  + Non-CORS fail by default
* On-Page Optimization for SEO
  + title & meta tag
  + The h1 tag

CSS3

* Introducing CSS3
* Selectors and Pseudo Classes
  + Attribute Selectors
  + The Target Pseudo-Class
  + UI Element States Pseudo-Classes
  + Negation Pseudo-Class
  + Structural Pseudo-Classes
* BEM — Block Element Modifier Naming Convention
* CSS3 Advance
  + Techniques to optimize CSS
  + CSS compression tool

DAY IV

* Responsive Building Blocks
  + Fluid Grids
  + Fluid Images/Media
  + Media Queries
  + Breakpoints
* Implementing an Adaptive User Interface
  + Adaptive Design
  + Responsive vs Adaptive
* Progressive Enhancement
* Graceful Degradation
* Design Approaches
  + Mobile First
  + Desktop First
* Units
  + Absolute vs relative
  + %,em,rem,vh,vw,vmin,vmax
* Media Queries
  + Targeting Widths and Devices with CSS3 Media Queries
  + Responsive Images and the viewport Metatag
  + Breakpoints
  + Writing media queries for desktop browsers
  + Writing media queries for tablet viewports
  + Writing media queries for mobile devices
* CSS3 Flexbox
  + Flexbox Container
  + display
  + flex-direction
  + flex-wrap
  + justify-content
  + align-items
  + align-content
  + Flexbox children
  + order
  + flex-grow
  + flex-basis
  + flex-shrink

DAY V

* SASS - Syntactically Awesome Stylesheet
* Introduction
  + What is SASS?
* Getting and installing SASS
  + needed software
  + preparing the environment
  + terminal and CLI
* SASS basics
  + SASS formats: .sass vs .scss
  + Comments
  + Variables
  + Nesting selectors
  + Selectors inheritance
* SASS intermediate
  + Modularising SASS with partials
  + Mixins
* Objects
  + What Are Objects?
  + JavaScript Core Objects
* What Are Core Objects?
* Array Objects
* Declaring and Populating Arrays
* Array Object Properties
* Associative Arrays
* Nested Arrays
* Array Methods

DAY VI

* Advance JavaScript
  + Object Oriented Javascript Overview
  + OOP Concepts
  + Inheritance, Encapsulation, Abstraction, Polymorphism
  + Encapsulation
  + The new operator; The typeof operator
  + Create user-defined Objects
  + Object Constructor
  + Dynamic object properties
  + instanceof operator
  + Constructor property
  + Abstraction
  + Polymorphism
  + Inheritance
  + Reusability of code
  + Prototype
  + "Prototypal Inheritance"
  + \_\_proto\_\_
  + Prototype/Constructor Pattern
  + Prototype Chaining
  + Revisiting chain upto Object prototype
  + Customizing the Date Object with the prototype Property
  + Objects
  + JSON and Literal Objects
* Change the Scope
  + The call() method
  + The apply()method
  + The with statement
  + Handling "this"
  + ‘this’ in borrowing method; in callback; in global scope
* Closures
  + Overview
  + Nested Functions as Closures
  + Private properties with closures
  + Closures in timers
  + Closures as callbacks

DAY VII

* Design Patterns
  + Publisher /Subscriber
  + Facade
  + Singleton
* DRY
* SOLID principles
* AMD
  + Common JS / RequireJS
* ES6
  + Let, const, block scoping
  + arrow functions
  + default function params
  + rest and spread operator
  + object literals, template literals
  + destructuring in-depth
  + ES6 Modules
  + Classes
  + New Array Extensions and Collections

DAY VIII

* + Promises
    - Understand Promises
    - Life Cycle
    - Create, Resolve & Reject
    - Chaining Promises
    - Waiting on Multiple Promises
    - Using Fetch API
  + Async Functions
    - Async Await Flow
    - Async Await
    - Async + Await Error Handling
* Iterators & Generators
  + Iterators
  + Generators
  + Introducing Generators
  + Using Generators for Ajax Flow Control
  + Looping Generators with for of
  + Yielding in Generators
* Functional Programming
  + Key Difference Between Functional Programming and OOP
  + Apply functional programming techniques to your JavaScript projects.