IT EDUCATION CENTRE

FullStack

Web Development + MEAN
&
Web Development + MERN

HTML & HTML 5

- **Introduction to HTML and HTML 5**
- **Difference between HTML and HTML 5**
- **What is HTML 5?**
- **HTML Tags**
- **HTML Attributes**
- **HTML Heading, Paragraph, Anchor, Image, Table, Lists**
- **HTML Form**
- **HTML Classes**
- **HTML File Path**
- **HTML Layouts & Its Techniques**
- **HTML Responsive**
- **HTML Symbols**
- **HTML 5 Tags list -** article, aside, audio, bdi, canvas, data, datalist, details, dialog, figcaption, figure, footer, header, main, mark, menuitem, nav, progress, section, summary, time, video.
- **HTML API**

CSS 3

- Introduction to CSS
- What is CSS?
- CSS Syntax
- CSS Selector
- How to add CSS?
- CSS Properties
- CSS Advance
- CSS Animation
- CSS radient-gradients
- CSS translate
- CSS z-index
- CSS Loader
- CSS Transition
- CSS Tooltip
- CSS Flexbox
- CSS Flex Properties
- CSS User Interface
- CSS Pagination
- CSS Design - Grid, Layout, Table, Box Model

JavaScript

- Introduction to HTML and HTML 5
- What is JavaScript?
- JavaScript Techniques
- JavaScript Basics - Comment, Variable, Data types, Operator, Conditional Statement, Looping statement, Function
- JavaScript Object - Object, Math, Date, Array, String, Number, Boolean
- JavaScript DOM & BOM
- JavaScript OOP
- JavaScript Validation
- JavaScript Cookies
- Exception Handling

Advance JavaScript

- JavaScript Advance - Typed Array, Set, Map, Redirect, Scroll, cope, Sleep, Form.
- JavaScript JSON
- JavaScript RegEx
- JavaScript Symbol
- JavaScript Web API
- JavaScript Ajax
- JavaScript Graphics
- Bootstrap version difference
- Promises - Async , Await

Bootstrap

- Introduction to Bootstrap
- Bootstrap version difference
- What is Bootstrap?
- Bootstrap container
- Bootstrap Examples on Button, Grid, Jumbotron, Table, Form, Alert, Wells, Label, Panels, Pagination, Pager, Image, Glyphicon, Progress Bar, List Group, Dropdown, Collapse
- Bootstrap Advance
- Tabs/Pills
- Navbar
- Input type
- Modals
- Popover
- Scrollply
- Bootstrap Utilities with examples

AJAX

- Introduction to Ajax
- XML Http Request Methods and Properties
- JavaScript code for Ajax
- Using Ajax for tabbed based interfaces, pagination, RSS display boxes, external page inclusion and interstitial content boxes
- Implementing Ajax techniques with a server scripting language
- Introduction to Ajax toolkits for rapid development
- Final project coding

Jquery

- Introduction to JQuery
- What is JQuery?
- History
- Selectors
- JQuery Effects -
- JQuery with HTML/CSS
- JQuery Form
- JQuery Events
- JQuery AJAX method
- JQuery Examples

Angular JS (Overview)

- Introduction to Angular
- Desktop applications
- Native applications
- Progressive web applications
- Extension of HTML with new attributes.

MERN Stack

- Mongo DB
- Express JS
- React JS
- Node JS

Node.js

- NodeJS Introduction
- Installation
- Node.js - Console, REPL, NPM, CL options, Globals, OS, Timer,
- Errors, DNS, Net, Crypto, TLS/SSL, Debugger, Process, Child Process, Buffers, Streams, File System, Callback, Events, Web Modules.
- Node.js to execute script
- Package Manager
- HTTP Protocol
- Building HTTP Server
- Rendering response
- Connecting to MongoDB Database
- Performing CRUD operation

Express.js

Express Framework - Installation, Request, Response, Get, Post, Routing, Cookies, File Upload, Middleware, Scaffolding, Template, Handling Form Data, Error Handling, Creating and Consuming RESTful Services, Using Template, MVC pattern, Building Front end controller, Defining Routes, Creating Action, Project Activity.

ReactJS

- ReactJS Introduction
- React Version
- Difference between ReactJS & React Native
- Difference between ReactJS & AngularJS
- React Installation
- How to create React first application?
- Features
- React JSX
- React Component, Life cycle & Component API, State, Props
- React Props validation
- React Constructor
- React Form - Controlled & Uncontrolled
- ReactJS - Events, Lists, Keys, Refs, Fragments, Router, CSS, Animation, Bootstrap, Map, Table, Context, Order Component.
- React Hooks - Use, Rules, Installation, useState, useEffect,
- useContext, useRef, useReducer, useCallback, useMemo
- Custom Hooks, Built-in Hooks,
- React Flux - Concept, Structure and Data Flow, Flux Vs MVC
- React Redux - Introduction, Redux Vs React Context, Architecture, Installation, Redux Store in React, Redux with Class Based Component, Redux State, Adding state slices.
- Demo project Development

Github

- Introduction to Git
- Installation and setup
- Working with remote repositories
- Branching and Merging in Git
- Git workflows
- Git plugins with IDE

Introduction and Environment Set Up.

What is Typescript and ECMAScript?, with Features, AOT, JIT, TSC (Transpilation) Work and Cong, code difference in JS and TS

- What is Angular?
- What is the framework?
- The need for MVC, MVVM, MVW and MV* Architecture in Web Application
- What is Components-Based Web Development? And the benefits.
- AngularJs (vs) Angular
- Setup for the local development environment
- Angular files and folder structure with JSON configuration
- Role of Node JS and NPM in Angular
- What is CLI? Angular CLI
- (Command Line Interface) Commands
- Introduction Of Example Project

MongoDB

- Introduction to No SQL DataBAse
- Advantages over RDBMS
- MongoDB Data Types
- Installation
- MongoDB Data Modeling
- MongoDB Operators
- MongoDB Commands - Aggregation, Geospecial, Query & Write Operation, Query Catch Command, Authentication, User Management, Role Management, Replication, Session
- Collection
- Document
- CRUD Operation
- Schema Modelling
- MongoDB Shell
- MongoDB Tools - MongoDB Compass, MongoDB BI Connector

Node.js

- NodeJS Introduction
- Installation
- Node.js - Console, REPL, NPM, CL options, Globals, OS, Timer, Errors, DNS, Net, Crypto, TLS/SSL, Debugger, Process, Child Process, Buffers, Streams, File System, Callback, Events, Web Modules.
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Angular JS

- **Introduction of Angular Js**
  - What is Angular Js
  - Use of Angular JS
- **MVC Architecture**
  - Model
  - View
  - Controller
- **Conceptual Overview**
  - ng-app
  - ng-init
  - ng-bind
  - ng-model
  - ng-controller
  - ng-cloak
  - G. ng-disabled
- **Setting up the Environment**
- **First Application**
- **Understanding module, controller, $scope**
- **Data Binding in Angular Js**
- **Types of Data Binding**
  - One Way Data Binding
  - Two Way Data Binding
  - One time Data Binding

- **Digest Cycle and Dirty Checking Process**
- **Use of $watch() and $apply()**
- **Bootstrapping Process**
  - Auto Bootstrap Process
  - Manual Bootstrap Process
- **Controllers**
  - Nested Controllers
  - Multiple Controllers and their Scopes
- **Programming controllers & $scope object**
- **Scope Hierarchies - $rootScope & $scope**
- **Adding behavior to a scope object(Method,Array,Object,Property)**
- **ng-repeat,nested ng-repeat**
- **ng-if,ng-show,ng-hide**
- **Filters**
  - Types of inbuilt filter
  - Custom Filter
- **Validation**
  - ng-valid
  - ng-invalid
  - ng-dirty
  - ng-pristine
  - ng-touched
  - ng-untouched
- **Services**
  - Factory
  - Services
  - Provider

- **Inbuilt Services**
  - $http
  - $location
  - $log
  - $timeout
  - $interval
- **Ajax and Communication From Server via http service**
- **Fetch data from JSON file**
- **Scope Event Propagation or Communication between Controllers via**
  - $on
  - $Emit
  - $Broadcast
- **Custom Directive**
  - Template
  - TemplateUrl,
  - Restrict Keyword in custom directive
  - Link Function
- **Scope of Directive**
  - Shared
  - Inherited
  - Isolated
- **Routing and view**
- **CRUD Operation**

GitHub

- Creating a Git Account
- Cloning the repository
- Adding the file
- Committing the file
- Git push
- Removing the file