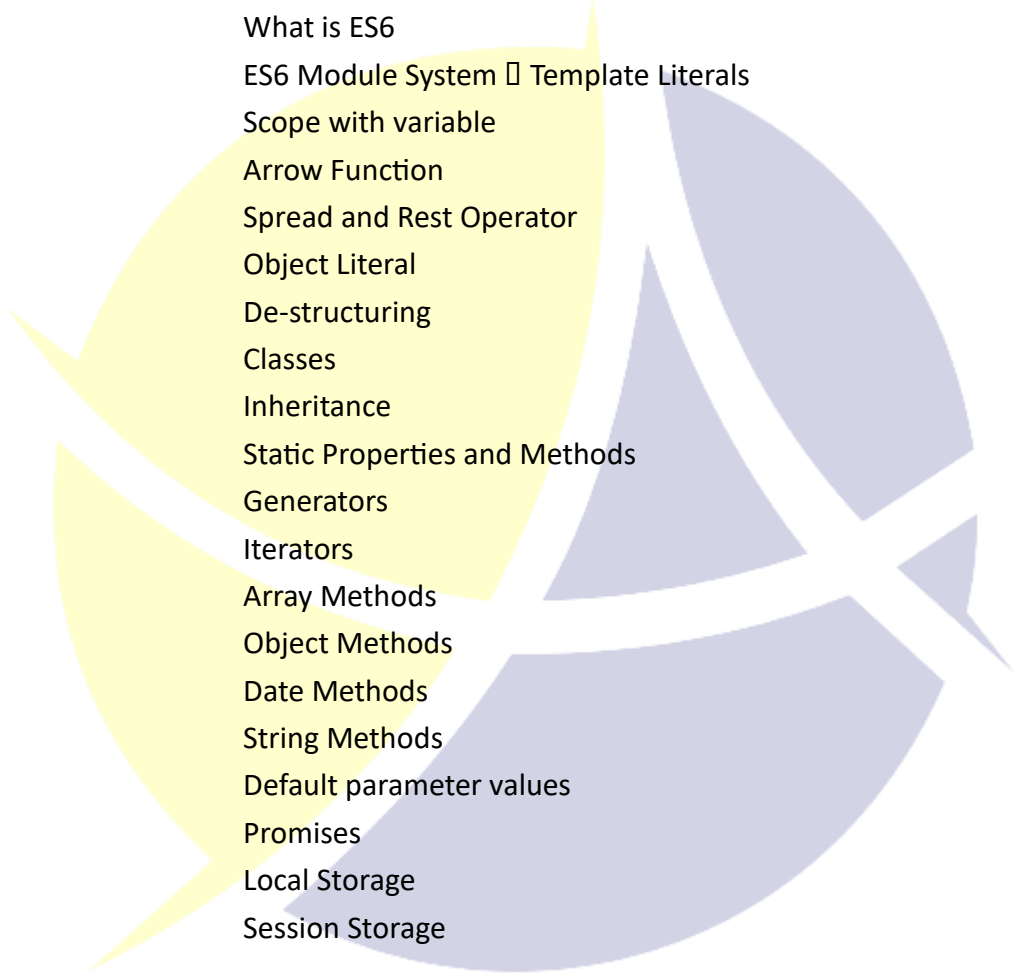


Mern Stack development Course Content

JavaScript ES6 Concept

- **Introduction to JavaScript**



- History of JavaScript
- What is ES6
- ES6 Module System □ Template Literals
- Scope with variable
- Arrow Function
- Spread and Rest Operator
- Object Literal
- De-structuring
- Classes
- Inheritance
- Static Properties and Methods
- Generators
- Iterators
- Array Methods
- Object Methods
- Date Methods
- String Methods
- Default parameter values
- Promises
- Local Storage
- Session Storage

Node.JS

- **Introduction To Node JS**

- Pre-requisites
- About Node JS
- Feature

- **Environment Setup**

- Text Editor
- NodeJS Run Time
- Download NodeJS

Installation

Executing

- **Hello world Using Node JS**

Create A node Js File

Make a request to Node Js Server

- **REPL (Read-Eval-Print Loop)**

About REPL

Understand the REPL Concept

REPL Commands

- **Package Manger (Node package Manager [NPM])**

Installing Modules using NPM

NPM vs NPX

Using package.json file

Uninstalling Modules

Updating Modules

Create a Module

- **Event Loop**

- **Buffers**

Lifecycle Methods

- **Streams**

- **File System**

- **Global Objects**

- **Call backs Concept**

- **Utility Modules**

- **Express Framework**

What is Flux

Flux Elements

Flux Props

- **Restful API**

Install Redux

Create File and Folder

Action

Reducers

Store

Root Component

Other Component

- **MongoDB**

- **Creating Application**

Express JS – NodeJS's Framework

- **Express.JS Basics**

Introduction
Advantages
Environment Setup
Basic Application

- **Advanced Concepts of Express.JS**

Request
Response
GET
POST
ROUTING
HTTP Methods
URL Building
Middleware
Templates
Static Files □ Form Data
Database
Cookies
Sessions
File Upload
Authentication
REST FULL API's
Debugging

MongoDB – No SQL Database

- **MongoDB Basics**

Introduction
Advantages
History
Features
No SQL Databases
Advantage

- **Environment Setup**

Install MongoDB
MongoDB Shell

MongoDB Datatypes

- **Database**
 - Create Database
 - Drop Database
- **Collection**
- **CRUD Structure**
- **Methods**
- **Introduction MongoDB Compass**
- **Introduction MongoDB Atlas**
-

React.JS Course Content

- **Introduction of React js**
 - Pre-requisites
 - About React
 - Features
 - Advantage
- **Environment Setup**
 - Create of Root Folder
 - Install Global Packages
 - Add Dependencies and Plugins
 - Create the Files
 - HTML
 - Set Compiler, Server and Loaders
 - JSX and Main.js
 - Running the Server
- **JSX**
 - What is JSX?
 - Using JSX
 - Nested Elements
 - Attributes
 - JavaScript Expressions
 - Components
 - Naming Convention
- **Components**
 - Stateless
 - Statefull

- State
- Props • What is State?
- Props Overview
- Default Props
- Component Life cycle Methods
- Working with Forms
- Handle Events
- Refs
- Keys
- Router
- Flux and Redux
- Higher-Order Component
- Pure Component

Tailwind.css & bootstrap

Firebase Authentication

Google Authentication

Payment Gateway Integration

Many more...

Next.JS

- Installation
- Project installation
- Layouts & Pages
- CSS
- Fetching Data
- Updating Data
- Error Handling
- Building Application
- Routing
- Rendering
- Authentication
- Deployment

Typescript

- Introduction
- Control flow analysis
- Expressions
- Assignments
- Interface
- Generics
- Overload
- Get & Set
- Class Conformance
- Type
- Object Literals
- Type vs Interface
- Class
- Decorator and Attributes

GenAI

GenAI (Generative AI)

- How Generative AI works
- LLMs as a thought partner
- AI is a general-purpose technology
- Writing • Reading • Chatting • Tips for prompting
- What LLMs can and cannot do
- Image generation (optional)

AI ML Integration in NodeJS Using Pre-trained AI APIs

- **OpenAI, Hugging Face, or Cohere.**
- Hybrid Approach with LangChain + Vector DB (RAG)
- Tensorflow.js

Real world Deployment with AWS,RENDOR & Netlify

Note: Project are based on Clients Requirements & Student Requirement with Live Projects