

# MEARN STACK

Syllabus

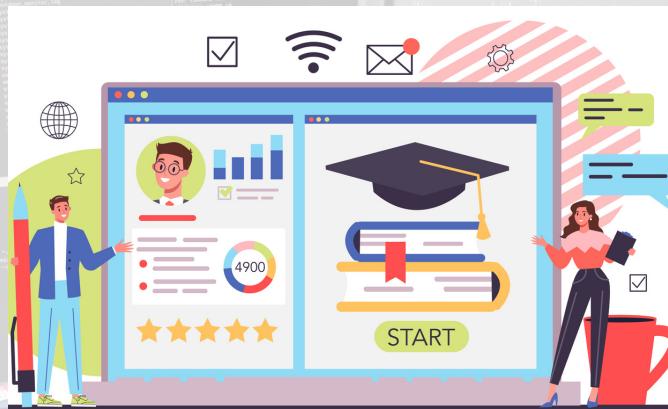
## OVERVIEW

Website development means managing, controlling, and developing cloud-based platforms and applications that can be accessed and used by all. To develop such applications and software, it is essential to keep the main focus on engaging a standardized stack software. MEARN is the sequence of the renowned technologies - MongoDB, Express.js, AngularJS, ReactJS & Node.js, and is popularly the latest trending in full-stack JavaScript development.

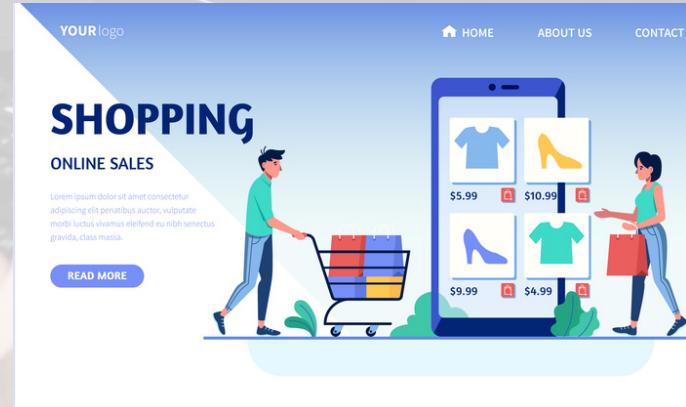
MEARN Stack is a whole of JavaScript developers that grants the entire client to server code written in JavaScript language. Its flexibility and is an open-source language with enormous benefits as it is equitably easy to learn and customize applications to suit the mean stack developers' requirements. Mearn Stack Full stack development Course will get you to the next level and advance your career as a MEARN stack developer. You will have a hands-on with all the necessary skills to build and deploy interactive applications and services.

# PROJECTS IN THIS PROGRAM

- PROGRAD WEBSITE



- ONLINE PURCHASING WEBSITE



- A LANDING PAGE



- PORTFOLIO WITH BOOTSTRAP



- TRAVEL AND TOUR WEBSITE



- NETFLIX
- E\_PHARMACY WEBAPPLICATION
- STUDENT JS-CODE APP USING DOM
- GROCERY LIST
- CALCULATOR WITH CALLBACK
- CONTACT SYSTEM
- LIBRARY MANAGEMENT SYSTEM API
- TWITTER WEBAPPLICATION
- TWITTER REST API

# DETAILED SYLLABUS

## HTML5,CSS & BOOTSTRAP APPLICATION 1: A PROGRAD WEBSITE

- HTML&Css Basics
- HTML Images
- HTML Block &Inline
- Css Links
- Css Icons
- Css Float
- Css Boxmodel
- CSS website Layout

## APPLICATION 2: A LANDING PAGE

- Navigation menu
- Font size
- Font style
- Footer and header
- Columns
- Align-items

## APPLICATION 3: ONLINE PURCHASING WEBSITE

- Footer with contacts details
- Link to html files
- Link to pics
- Margin
- Padding
- Color
- Selection
- Picture
- Size
- Button
- Styling

## APPLICATION 4: PORTFOLIO WITH BOOTSTRAP

- BS5 basics
- BS5 grid system
- BS5 classes & elements
- BS5 Navbar
- BS5 Cards
- BS5 Carousel
- BS5 Glyphicons

## APPLICATION 5 : TRAVEL AND TOUR WEBSITE

Refer kerala tourism website then create a website for kerala tourism using HTML5, CSS and bootstrap. Requirements will be given as pdf.

## JAVASCRIPT

## APPLICATION 6: STUDENT ASSIGNMENTS JS CODE

- JS basics
- JS functions-definition-calling
- JS Event handlers
- JS Form validations
- JS Html DOM

## APPLICATION 7: GROCERY LIST WITH JSON

### JS ADVANCED

- JS Objects
- JS Object literals
- JS objects with new keyword
- JS object constructor
- Let,Const,Default parameter
- JS Class and inheritance
- JS arrow functions
- JSON

## APPLICATION 8: BASIC CALCULATOR APPLICATION USING CALLBACK

- JS Callback functions

- JS Asynchronous

- JS Promises

- JS Async/Await

**NODE JS**

## INTRODUCTION TO NODE JS

- Introduction & Foundation
- Introduction to the Node JS framework
- Installing NodeJS
- Using NodeJS to execute scripts
- The Node Package Manager
- The package.json configuration file
- Global vs local package installation
- HTTP Protocol
- Rendering a response
- Using Representational State Transfer
- Express Framework
- Connecting to Mongo databases
- Performing CRUD operations

## NODE JS PROJECTS

- The Node Package Manager(npm)
- NodeJS Creating a project
- The package.json configuration file
- Global vs local package installation
- Usage of packages Nodemon
- Async / Await
- Authentication / Authorization - JWT

## HTTP

- The HTTP protocol
- Building an HTTP server
- Rendering a response
- Processing query strings
- NodeJS using Representational State Transfer
- REST API
- Global error handling

## EXPRESS JS

- An Introduction to Express JS
- Routing
- Setting Up Router
- Route Parameter and queries
- HTTP Interaction
- Handling Form Data
- Handling Query Parameters
- Error Handling
- Creating and Consuming RESTful Services
- Using Templates

- The model-view-controller pattern
- Defining Jade and Handlebars templates
- Building a front-end controller
- Defining routes
- Creating actions
- Configuring Express to use Handlebars
- Reading POST data Using REST API
- Building Handlebars helpers
- Adding middleware
- Data Sources
- How Node.JS connects to databases
- RDBMS databases and NoSQL databases
- Connecting to NoSQL databases

## MONGO DB

### DESIGN GOALS, ARCHITECTURE, AND INSTALLATION

- Need of Non-RDBMS
- Benefits of using Document-based databases

### CRUD OPERATIONS

- Understanding of CRUD Operations
- Functional usage of CRUD
- Read / Write Operations with CRUD

## SCHEMA DESIGN AND DATA MODELLING

- Schema Design and Data Modelling in MongoDB®
- Mongodb integration

## MONGOATLAS INTRODUCTION

- Tools to Manage Data Model in MongoDB
- Jwt webtokens

## ANGULAR

## GETTING STARTED

- Introduction
- What is Angular 2?
- How Angular Works?
- Difference between Angular and Other Framework
- Advantages of Angular

## TYPESCRIPT

- What is typescript?
- Compare typescript with Javascript
- Data Types & Variables
- Variable & Operators
- Control Structure and Decision making & loops
- Typescript Functions & Strings
- Typescript Object
- Class, Abstract Class
- Constructor Method
- Type of Assertion
- Interfaces

## APPLICATION SETUP

- Installing Angular
- Configuration of Angular
- Creating an Angular 2 project
- Creating an Angular 2 project using CLI

## ARCHITECTURE

- Module
- Component
- Template
- Metadata
- Data binding
- Directive
  1. Attribute Directive
  2. Structural Directive,
    - Routing
    - MVVM Architecture
    - Dependency Injection
    - Singleton instance
    - Services

## REACT JS

## OVERVIEW

- Features of React JS
- Advantages
- Limitations

## ENVIRONMENT SETUP

- Install global packages
- Add dependencies and plugin
- Run the server

## REACTJS ES6

- Class and inheritance
- Arrow functions
- This operator
- Variables-var,let,const

## REACTJS — RENDER HTML

- The Render function
- The root node
- Virtual DOM

## REACTJS JSX

- Coding JSX
- Expression in JSX

## REACTJS COMPONENTS

- Class component
- Function component
- Component constructor
- Props
- Components in components
- Components in file
- Modularization
- Reusable Components

## REACTJS HOOKS

- useState
- useEffect
- useContext
- useReducer
- useRef

## REACT JS FORMS

- Adding forms
- Handling forms
- Conditional rendering
- Submitting forms
- Form validation

## REDUX

- Overview
- Installation
- Core concepts
- Data flow

## STORE

- Get state
- Dispatch
- Subscribe

## ACTIONS

- Action creator

## REDUCERS

## MIDDLEWARE

## INTEGRATE REACT

## PROJECTS

### Rest API development

## MODULES

- Installation
- Creating Express App
- Connecting MongoDB
- Middleware and First Request
- Creating User Router
- Creating User Model
- Login and Register System
- Node.js Express CRUD
- Creating Post Model
- Node.js MongoDB Post CRUD
- Like and Dislike Post
- Nested Asynchronous Fetch

### PROJECT 1 : TWITTER REST API

To create Node.js Express social media Rest API using MongoDB. Build a real world social media app REST API with login, register, and all CRUD operations and learn how to use MongoDB models with Node.js routers with postman method.

## PROJECT 2: BOOK MANAGEMENT API

To create Node.js Express BookManagement Rest API using MongoDB with ejs pages. Creating book management system will give u a complete NodeJs project having both client and server part with a single programming language, Javascript.

## PROJECT 3: CONTACT MANAGEMENT APPLICATION

Creating angular application for day to day tasks management . The data will be stored in local storage.

## PROJECT 4: TWITTER WEB APPLICATION IN REACT

Creating a frontend social media application with reactJs. The application will be named as memories.

## PROJECT 5: NETFLIX

create full stack web development project like netflix. So this is an end to end full stack web development to get hands on knowledge on netflix system design and building netflix api using full stack web development with MongoDB, ExpressJs, ReactJs and NodeJs