MERN STACK

Description

MERN is a free and open-source JavaScript software for building dynamic web applications. The things that we can do on the web nowadays with JavaScript running on the server, as well as in the web browser are vast. MERN is an acronym for MongoDB, Express, React, and Node.js. Mongo DB is a database system; Express is a back-end web framework; React.js is a front-end framework; and Node.js is a back-end runtime environment.

Expectations and Goals

Learn about the Express.js basic, its Architecture.

The various components of Reactjs and Application Life cycle Resources.

This course gives you in-depth knowledge of key concepts such as Express.js, Node Packet Manager (npm), multi-processing in Node.js, REST, CRUD operations, Express.js with MongoDB.

This course will help you master concepts to develop dynamic User Interfaces using ReactJS and also understand all the basic concepts of ReactJS.

Prerequisites

- Basics of HTML, CSS and Java-script.

Course Schedule

Module	Topic	Hours
Module 1	**Introduction to NODEJS Application** Introduction to NODE.JS Asynchronous JavaScript Concept The importance of being asynchronous Introduction to setting up a Node.js Environment Run your first NODE.JS Application The Node.js process Working in REPL Node JS Console	3 hrs.
Module 2	**File System& File Streaming** Working with built-in module Concept of File System Module Reading Directories Reading Files Working with Streams Readable stream & Writable stream	2 hrs.

Module 3	**Building servers** Creating servers with HTTP Receiving data Handling GET, POST, PUT and DELETE requests Sending requests HTTP streaming Working with TCP Working with Pipes Deals with JSON Data.	4 hrs.
Module 4	**Building APIs using modules, events and packages** What is NPM Installing Packages Locally Adding dependency in package.json Installing packages globally Updating packages The EventEmitter API CommonJS Modules npm Packages (nodemon command,npm install command etc)	4 hrs.
Module 5	**Introduction to ExpressJS** Introduction to using the Express framework to set up a web server Routes,rendering, layouts, url building, express servers Configuration Views Middlewares	4 hrs.
Module 6	**Installation of Mongo Database** Store data with Mongoose and Mongodb. Mongo Db connection with ExpressJs framework.	4 hrs.
Module 7	**Mongo DB** Querying with Mongoose	8 hrs.
Module 8	**Mongodb CRUD operation using Express** Introduction to setting up a MongoDB database and connecting it to a Node.js server Sample CRUD(Create,Read,Update,Delete) operation in NODE.JS	6 hrs.
Module 9	**Authentication With Passport and JWT** Stateful vs. Stateless Authentication OAuth2 Passport JWT – JSON Web Tokens	6 hrs.
Module 10	**Advanced Topics** Node.js API design Error Handling	4 hrs.

	Debugging Testing	
Module 11	**Introduction to ReactJS** Introduction Downloading and Installing ReactJS Understanding virtual DOM	3 hrs.
Module 12	**Componentsin ReactJS** Rendering data in ReactJS Applying css class and html content in ReactJS Component lifecycle and state Understanding state in React Creating multiple components in ReactJs Creating reusable components.	3hrs.
Module 13	**Properties and Events** Working with properties Accessing Child properties Understanding events in ReactJS Exploring static methods	6 hrs.
Module 14	**Forms Components** Working with Forms in ReactJS	4 hrs.
Module 15	**Accessing DOM** Referring DOM nodes	3 hrs.
Module 16	**Tooling Support** Converting JSX to JS Using Gulp To compile and concatenate JSX files - I Using Gulp To compile and concatenate JSX files (Using Browserify) – II Component Communication Working with jQuery – Ajax DOM Event Listeners Inline Styles in ReactJS Using dangerouslySetInnerHTML	6 hrs.
Module 17	**Major AddOns in Rea** Two Way Data Binding Clone Elements - [cloneWithProps Deprecated - Use React.cloneElement instea Using React.cloneElement Making use of classSet to apply Conditional Styles Making use of classnames to apply conditional styling Animation using CSSTransition Group	6 hrs.
Module 18	**Introduction to React Router** Working with React Router Working with Links & Creating Nested Routes Refactoring Routes and Components	8 hrs.

Module 19	**React and Remote Data** Introducing Fetch Rendering Remote Data in Components	6 hrs.
Module 20	**Project Work**	30 hrs