

Base Full Stack Program using MERN stack

Pre-requisites: Knowledge of HTML5,CSS3,Bootstrap

Duration: 6 Weeks

Scope	Weeks	Coverage
Modern JavaScript and Server-side JS (NodeJS)	1	<ul style="list-style-type: none">• Git Basics• Modern JavaScript (ES6); DOM Manipulation; JavaScript (Language basics, functions, objects, arrays) & Introduction to modern JavaScript (Closure, Async, Callback)• Unit Testing using Mocha and Chai• Features of Node.js, Node.js architecture - callback concepts, blocking code and non-blocking code, inbuilt core modules, export statement, creating and including custom modules, NPM & Packages, Downloading package, using a package.json, node_modules
Building Single Page Applications Using React	2	<ul style="list-style-type: none">• Building ReactJS App using JSX• Introduction to Typescript and Webpack• Thinking in React; Component Lifecycle; React Router & React Context; ReactJS Performance & Optimization• Working with functional hooks• Working with built-in Forms• Consuming Restful APIs using fetch() and axios()• Working with JWT• Introduction to Redux in React, Cross Browser Compatibility, Responsiveness (RWA)• Progressive web Application (PWA)• Accessibility• Server-side rendering in React applications• Basic Overview of Testing with JEST / Enzyme
Building RESTful APIs with NodeJs+Express.js	2	<ul style="list-style-type: none">• Advanced NodeJS: HTTP module, Node.js web server, Read & Split query string, working with file system, creating Buffers and Streams• working with global objects• working with utility modules• Authentication & Authorization• Validation & Verification• Error/Exception Handling• Debugging• Express.js, installing Express, app.method, Routers, Pattern matched routes, GET, POST, PUT, DELETE, Serving static files, Multiple static directories, Virtual path prefix, forms• Data Persistence and MongoDB & Mongoose• Create RESTful microservices, Integrate & refactor - Consume the APIs in front end code• Working with JWT• UT (Unit Testing)• DevOps (Implementing CI using Gitlab Runner (Intro to Open Source CI Tools))• Introduction to basics of Containerization, working with Docker

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Project	1	Apply & Demonstrate skills learnt during the program by building a Base Full stack app
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After completing this program, each learner will be able to:

- Develop Full Stack Apps using MERN Stack