

## **MERN Stack – Full Stack Developer with React JS**

### **1. JavaScript: Intro to ES6**

- What's new in ES6
- Variable Declarations with LET and CONST
- Strings in ES6
- Arrow Functions: Basics
- Arrow Functions: Lexical 'this' Keyword
- DE structuring
- Arrays in ES6
- The Spread Operator
- Rest Parameters
- Default Parameters
- Classes

### **2. TypeScript**

- What is typescript?
- Typescript installation
- TypeScript vs. JavaScript o OOPs in TypeScript
- Creating Classes and class properties
- Methods
- Access Modifiers
- Constructor
- Getters and Setters
- Static properties and methods
- Inheritance
- Interfaces
- Modules and Namespaces

### **3. Welcome to React**

- Obstacles and Roadblocks
- React's Future
- Working with Files
  - React Developer Tools
  - Installation Node JS

### **4. Pure React**

- Page Setup
- The Virtual DOM
- React Elements
- React DOM

- Children
- Constructing Elements with Data
- React Components
- DOM rendering

## **5. React with JSX**

- React Elements as JSX
- Babel
- Intro to Webpack

## **6. Props, State and the Component Tree**

- Property Validation
- Refs
- React State Management
- State within component Tree

## **7. Enhancing Components**

- Component Lifecycle
- JavaScript Library Integration
- Higher-Order Components
- Flux

## **8. Redux**

- State
- Actions
- Reducers
- The Store
- Action creators
- Middleware

## **9. React Redux**

- Explicitly Passing the Store
- Passing Store via Context
- Presentation Versus Container Components
- The React Redux Provider
- React Redux Connect

## **10. React Router**

- Incorporating the Router
- Nesting Routes
- Route Parameters

## **11. Understanding Node environment**

- Extending JavaScript
- V8
- The Process Object

## **12. Understanding Asynchronous Event Driven Programming**

- Broadcasting Events
- Listening for Events
- Timers
- Understanding the Event Loop
- Callbacks and errors

## **13. Streaming Data Across Node And clients**

- Exporting Streams
- Creating and HTTP Server
- The Request objects
- Working with Headers
- Handling Post Data

## **14. Access the File System**

- Directories & iterating over files and folders
- Reading from File
- Writing to a File

## **15. Introduction to Express**

- What is use of Express Framework?
- Install Node and necessary dependencies

## **16. Getting Started with Express**

- Express: The Basics
- Basic Routing
- Serving Static Files

## **17. Middleware and Rendering**

- Express Middleware
- Responding with JSON
- Express with View Engine
- API/ Server-Side rendering

## **18. Request & Response**

- Request Object – Forms and Cookies
- Query String

- Data Params
- Headers
- Router
- Express Generator
  - Rendering in Express (EJS)
  - HandleBars
  - Pub/Jade

## **19. Project: Building API**

- Project Overview and Setup
- Routes and Middleware
- Movie Routes and Headers

## **20. Databases**

- Relational Database and SQL
- Node & MYSQL
- NoSQL and Documents
- MongoDB and Mongoose
- CRUD operation using MongoDB
- Working with MySQL
- CRUD Operation using MYSQL

## **21. API Integration with JS Frameworks**

- Connecting React with API
- A CRUD project with REACT and Node