



# MERN Stack Course Details

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# MERN Stack Training Syllabus

1. Download node.js
2. Download IDE (VS code or sublime )
3. Download code runner extension to run js code. By **Jun Han**

<https://drive.google.com/drive/folders/1kmDDN0DXO1b8hdneWo4FjTGXjqBO79eA>

## Introduction:

- Introduction to JavaScript programming language
  - Introduction to javascript
  - Variables
    - var
    - Const
    - Let
  - Naming
  - Data Types
  - Operands and operators
  - Conditionals
  - Functions
  - Loops
  - Array
    - **push**
    - unshift
    - **pop**
    - shift
    - splice
    - slice
    - **filter**

- **map**
  - **find**
  - **indexOf**
  - `findIndex`
  - **includes**
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## String

- String functions
  - **replace()**
  - `replaceAll()`
  - **substring()**
  - `slice()`
  - **split()**
  - `trim()`
  - `charAt()`
  - `toUpperCase()`
  - `toLowerCase()`
- String properties
  - `length`
- Escape characters

## Template Literals

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- Technologies around JavaScript.

### Environment Setup:

- Introduction to development tools
- Text Editor, IDE
- Git
- Git workflow(branching,push,pull)

- NPM, Yarn
- Postman

## **HTML & CSS**

### **Node JS:**

- Introduction to nodejs
- Node package manager (npm)
- Node modules
- Node CLI
- Global Object
- Creating http server with nodejs
- Working on core NODE API
- Asynchronous and event loop in node js

### **Express JS:**

- Introduction to framework and Express • The model-view-controller pattern in ExpressJS • Middlewares
- Templating engine (pug,handlebars)
- Routing
- HTTP Protocol
- Http Request Object
- Http Response Object
- User authentication using jwt (json web token) • Garbage collection and error handling

### **Mongo DB:**

- Installation
- Introduction SQL Vs NoSQL
- NoSQL (Schema Less Database)
- MongoDB (Collection & Documents)
- Data Modelling
- Create Database Shell Command
- Datatypes
- Update, insert delete and query documents
- Using MongoDB Native driver with Node
- Database modeling using MongoDB

- Aggregation in mongodb

## **React JS:**

- Introduction Frontend tools (webpack , babel, more...) and React •
- Single Page Application scope and objectives
- Dev Tool and Environment
- JSX, Babel, Webpack
- ES6 features practices
- Class, Inheritance, Encapsulation and more
- Create-react-app and project setup
- Components patterns in React
- State
- Props
- Life Cycle of React Components
- Functional Component
- Introduction to hooks
- React Router
- SPA using React Router
- Introduction to Redux and Flux Architecture
- State Management
- Reducers
- Action Creators
- Middlewares (thunk,saga)
- Services
- Error Handling