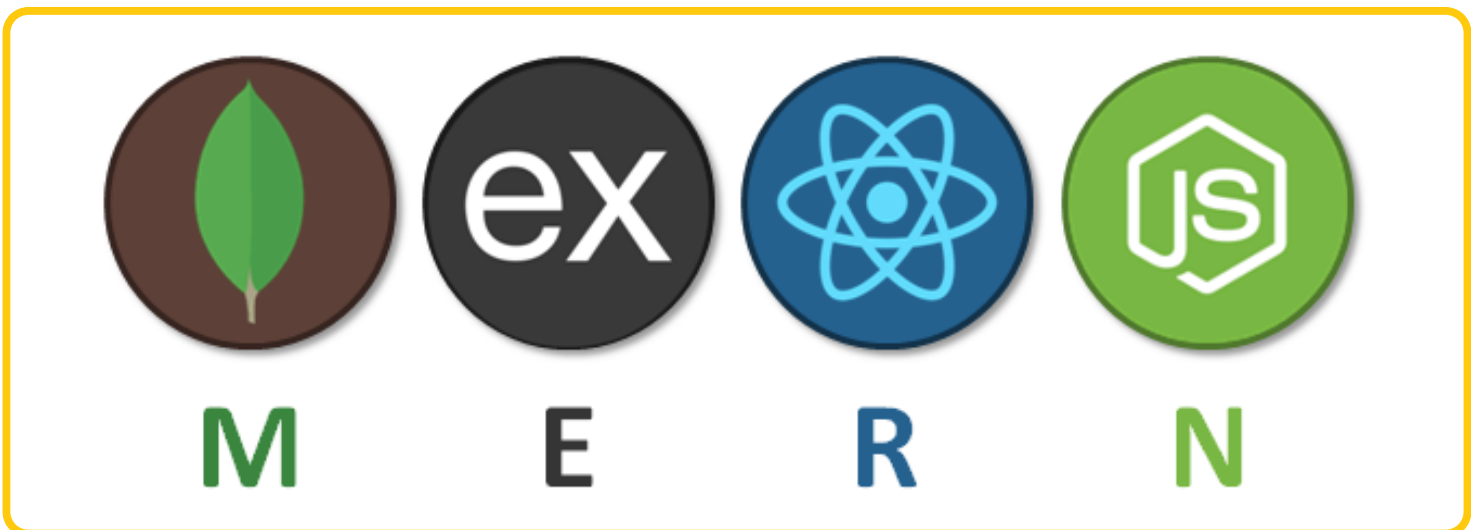




MERN STACK

SYLLABUS



Frontend Development:

HTML

- Introduction to HTML, Versions/History, Features, how to write, etc.
- Text tags, formatting tags, Quotations and citation tags.
- Div and Span, Inline and Block elements, Anchor tags, Email tag,
- Image tag, Multimedia embedding, Tables, Lists
- Entities, Input tags, Form tag, Features of HTML 5



CSS

- Introduction of CSS, Types of CSS, Concept of selectors, Box Model
- Box sizing, Colors, Backgrounds, Typography (Text and Font styling)
- Float and Clear, Layers, Positions, Units
- Display properties (Inline, Block, Inline-block, Flex, None), Transformation and transitions
- Media Queries, Pseudo Classes and Elements, Introduction to Grid, Smooth scrolling, etc.



Tailwind CSS

- Introduction to TailwindCSS, what is Frontend Styling Framework, Features of TailwindCSS, ways to use tailwindCSS, introduction to tailwindcss documentation
- Applying text colors and background colors, working with box model in tailwindcss, typography classes
- Display properties in tailwindcss, breakpoint classes, advantages of tailwindcss, introduction to Bootstrap, Difference between

tailwindcss & bootstrap



Modern JavaScript (ES6)

JavaScript

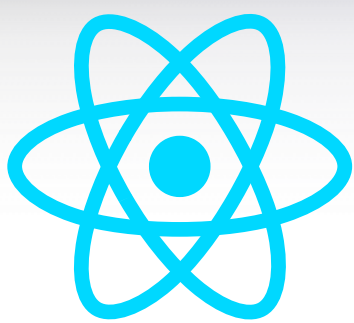
- Introduction of CSS, Types of CSS, Concept of selectors, Box Model
- Box sizing, Colors, Backgrounds, Typography (Text and Font styling)
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- Display properties (Inline, Block, Inline-block, Flex, None), Transformation and transitions
- Media Queries, Pseudo Classes and Elements, Introduction to Grid, Smooth scrolling, etc.

Modern JavaScript (ES6)

- Introduction to Javascript, History of JS, Features, Applications, Advantages and disadvantages, where to write JS, Types of JS .
- Ways to display output in JS, Input using prompt, Concept of identifiers and declarators (var, let and const).
- Hoisting, use strict, Datatypes in JS.
- Operators in JS (Basic and ModernJS operators), Typecasting, Template
- Control Statements (Conditional statements and iterative loops).
- Introduction to Functions, Components of functions, declaration and calling, Rest parameters.
- Ways to write functions, Nested functions, Callback functions, Concept of Sync and Async.
- Introduction to Objects, Ways to create object, Reading and Updating the object, Object methods, user defined and in-built methods
- Introduction to Array, Ways to create array, Reading and updating the array, array methods.
- Introduction to String, ways to create String, String methods.
- Concept of events, importance of events, ways to work with events, types of events (mouse, keyboard, window, and form events).
- Introduction to DOM, Importance of DOM in ModernJS, Methods to target elements, In-built DOM methods.
- Introduction to BOM, dialogue boxes in BOM, BOM methods, Math and Date Object.
- Async concepts: setInterval, setTimeout, Promises, Async and Await, Role of Callback functions in async behavior, use of addEventListener.

React

- Introduction to ReactJS, why to use ReactJS, ReactJS vs AngularJS, AJAX and JQuery, Tools and libraries in ReactJS
- React Versions, Concurrent mode, ReactJS Environment setup (CDN, Vite tool), What is NodeJS and npm, NodeJS installation
- React project folder structure, Semantic versioning, Framework vs Library
- Introduction to Virtual DOM, Reconciliation, Introduction to JSX, Rules to write JSX, CSS and JS integration in ReactJS, Media embedding
- Concept of components, Functional and Class components, Ways to export the component
- Class Components, what is State, modifying the state, render method, constructor, functions in Class components, Event handling, Props in ReactJS
- React Router DOM, setting up React Router DOM, Fallback routing
- Introduction to hooks, React router hooks, URL structuring
- React Hooks- useState and useEffect
- Prop Drilling issue, ContextAPI (useContext hook)
- useRef hook, Controlled vs uncontrolled components
- Advanced React Hooks-useReducer, useMemo, and useCallback, creating custom hooks
- React Component Lifecycle, mounting, updating, unmounting phases and their methods, implementing the same in Functional components.
- Introduction to JSON, HTTP, API, creating JSON server
- Async and Await, Promises, API calling and Form handling in ReactJS
- CRUD operations project using JSON server



React



Backend Development:

Backend _____

- Introduction to Backend Development, Frontend vs Backend, Client Server Architecture, Request Response cycle, HTTP methods and uses.
- Revisiting NodeJS- Introduction, Use in the backend development, NodeJS architecture, npm and package.json
- Server creation in NodeJS, Server side scripting vs client side scripting
- NodeJS URL parsing, Introduction to ExpressJS, concept of middleware
- ExpressJS Server setup, request parameters (params, body), built-in middleware(json)
- ExpressJS Template Engine (EJS), Server-side rendering, data parsing

MongoDB _____

- Introduction to NOSQL Database
- SQ vs NOSQL
- MongoDB architecture
- Database, Collection and Document
- MongoDB Atlas, Shell and Compass
- CRUD operations (Insert, Find, Update and Delete)
- Query operators
- Logical operators
- Sorting
- Limiting



Mongoos _____

- Introduction to Mongoose
- MongoDB and NodeJS connection
- Datatypes
- Schemas and Models
- Schema Validation
- Find (), findOne (), findById ()
- findByIdAndUpdate (), findByIdAndDelete ()
- create () and save ()



REST API Development

REST API _____

- REST API development: REST architecture, API endpoints, Request/Response headers, Postman testing, MVC architecture
- File Upload using Multer: Multipart form data, File upload concepts, Single and Multiple file uploading, Static file serving, validations.
- ReactJS and ExpressJS integration: Connecting ReactJS with REST APIs, fetch (), request methods, CORS configuration
- Authentication and Authorization: User registration and Login, JWT access tokens, RBA, Logout concepts
- Final Fullstack MERN CRUD project



{REST:API}



From Hello World to Full Applications, My Coding Growth



Why Coding Feels Impossible?
Kunal Sir Has the Answer!



Partnering for Your Growth



PUNE: KARVE NAGAR | AKURDI

1st Floor, Above Rupam Sweets, Near Karvenagar Bus Stop,
Karve Nagar, Pune, 411052.

3rd Floor, Above Bhavani Sweet Building, Grudwara
Chowk, Near Railway Station, **Akurdi**, Pune, 411035.

 **88880 22204**