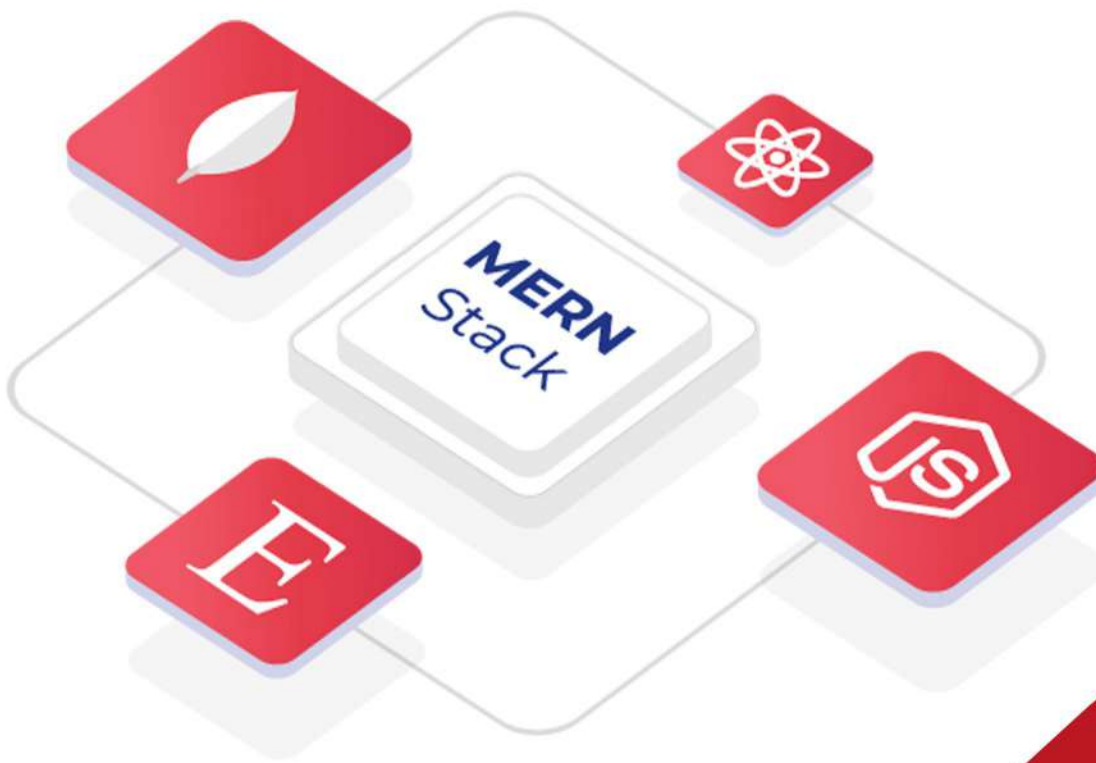


MAY 2024



TUTOR JOE'S
COMPUTER EDUCATION
An ISO 9001:2015 Certified Institution

MERN STACK WEB DEVELOPMENT CURRICULAM



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HTML

- Overview of HTML's role in web development.
- Introduction to various HTML editors for coding efficiency.
- Understanding the foundational syntax of HTML.
- Utilizing comments for code documentation and organization.
- Exploring different HTML elements and their functions.
- Understanding and implementing HTML attributes.
- Using heading tags to organize content hierarchically.
- Constructing and styling paragraphs in HTML.
- Applying formatting techniques to text using HTML tags.
- Adding quotations within HTML documents.
- Working with color properties for styling in HTML.
- Generating hyperlinks to connect web pages.
- Incorporating and editing images in HTML.
- Enhancing website branding with a favicon.
- Displaying data in structured tables.
- Utilizing lists for presenting information.
- Differentiating between block and inline elements.
- Incorporating external content using iframes.



HTML

- Understanding file path conventions for resource linking.
- Creating layouts using HTML elements.
- Highlighting and incorporating code within HTML.
- Structuring documents using HTML5 semantics.
- Using HTML entities to display symbols.
- Adding symbols directly into HTML content.
- Incorporating emojis for user engagement.
- Setting character encoding for text display.
- Ensuring proper data transmission through URL encoding.
- Building forms for user input and submission.
- Designing layouts that adapt to different devices.
- Incorporating videos into HTML documents for multimedia.
- Sample HTML Projects



CSS

- Introduction to CSS
- Understanding CSS Syntax
- Effective Use of CSS Comments
- CSS Syntax
- CSS Selectors
- Inline Style Method
- Internal Style Method
- External Style Method
- Exploring CSS Colors
- Font Properties
- Background Properties
- Text Properties
- List Properties
- Controlling Element Height and Width with CSS
- Implementing max-width Property in CSS
- Working with the Box Model in CSS
- Margin Properties
- Padding Properties
- Creating Stylish CSS Borders
- Border Radius in CSS

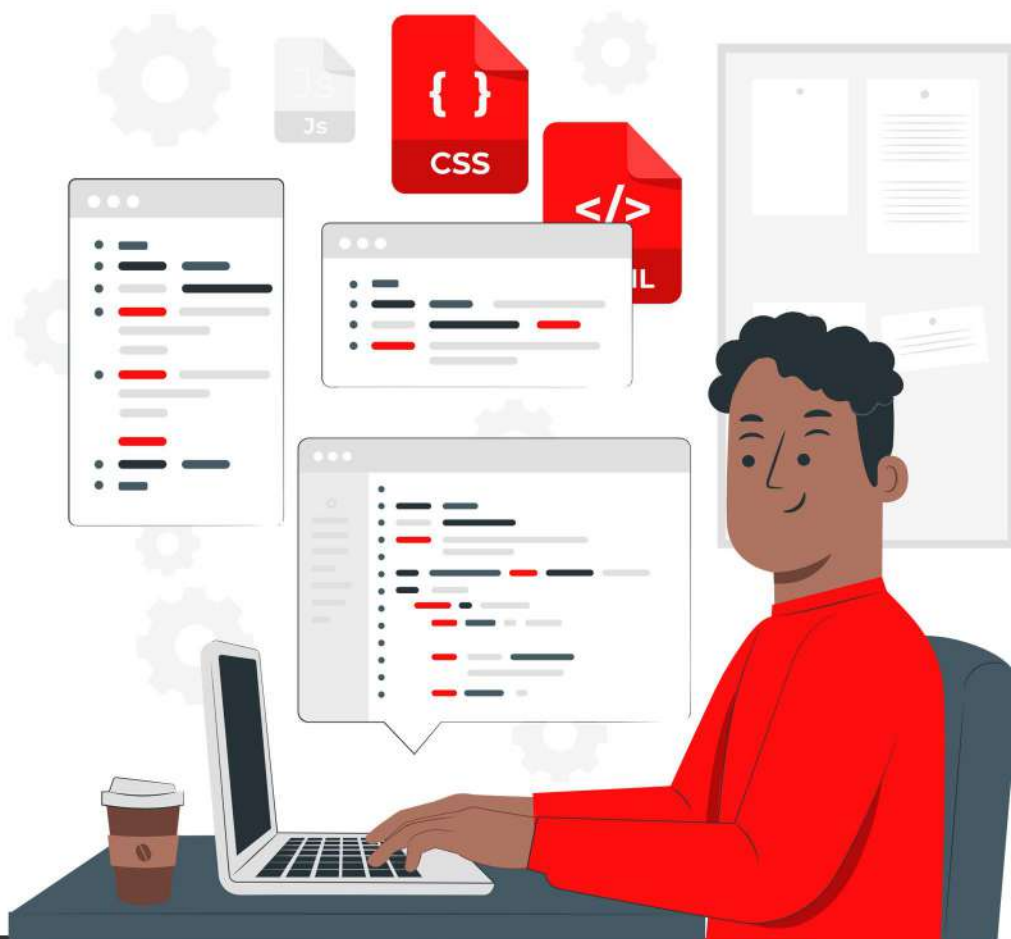


CSS

- Styling Outlines with CSS
- Understanding the Display Property in CSS
- Display Table Properties in CSS
- Parent & Child Element in CSS
- Exploring CSS Combinators
- Understanding CSS Pseudo-classes
- Utilizing CSS Pseudo Elements
- CSS Gradient
- Box Shadow in CSS
- Incorporating CSS Icons
- Styling Links with CSS
- Using Float for Element Alignment
- Positioning Elements with CSS
- Difference between relative, absolute, fixed and Sticky position in CSS
- Utilizing the z-index Property in CSS
- Managing Overflow with CSS
- Managing Opacity and Transparency in CSS
- Optimizing Performance with CSS Image Sprites
- Selecting Elements with CSS Attribute Selectors

CSS

- Implementing Counters in CSS
- Designing Website Layouts with CSS
- Understanding CSS Units
- Mastering Specificity in CSS
- Applying !important in CSS
- Exploring Flexbox Layout in CSS
- Creating Responsive Grid Layouts with CSS Grid
- Implementing Smooth Transitions with CSS
- Designing Dynamic Animations with CSS
- Building Responsive Web Designs using Media Queries



CSS PROJECT IDEAS

- Portfolio Website
- Responsive Blog Website
- CSS Flexbox Image Gallery
- Custom CSS Dropdown Menu
- CSS Card UI
- CSS3 Parallax Scrolling
- CSS3 Image Hover Effects
- CSS Animated Loading Spinners
- CSS3 Responsive Pricing Tables
- CSS3 Modal Windows
- CSS3 Navigation Menu
- CSS3 Flip Cards
- CSS3 Progress Bars
- CSS3 Animated Buttons
- CSS3 Carousel Slider
- CSS3 Dropdown Menus
- CSS3 Timeline
- CSS3 Form Styling



BOOTSTRAP 5.3

■ Introduction to Bootstrap

- o Understanding the basics and purpose of Bootstrap framework.

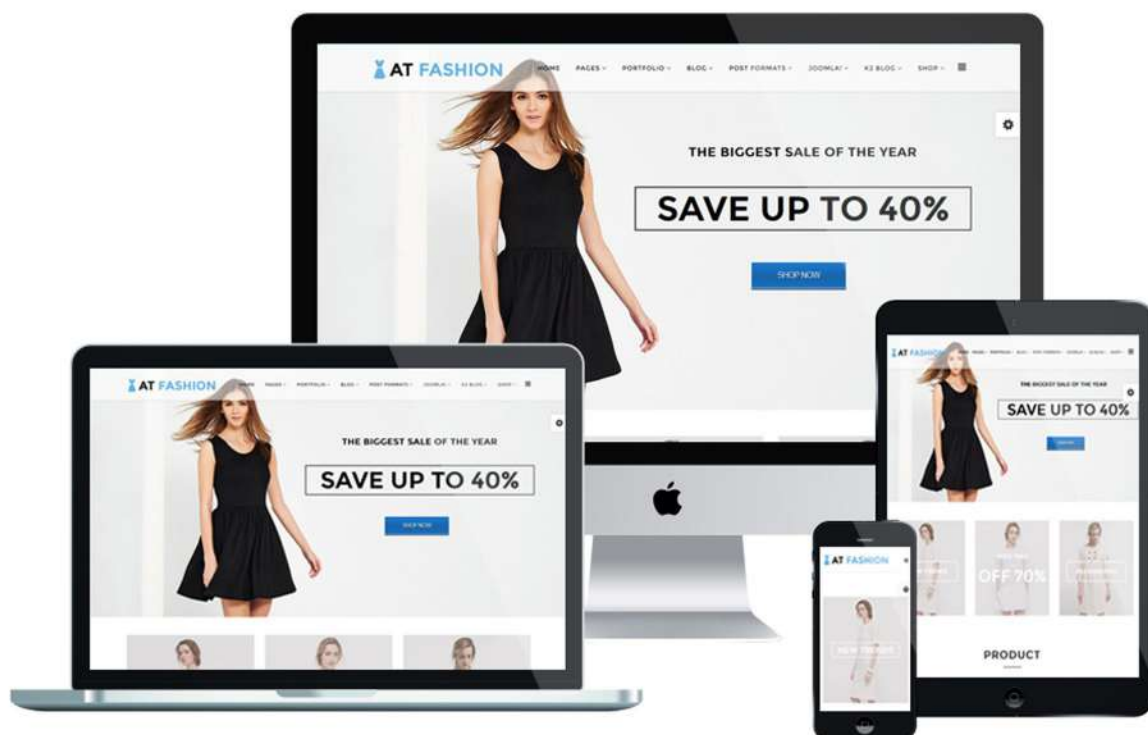
■ Layout

- o Utilizing breakpoints for responsive design.
- o Working with containers for layout structuring.
- o Implementing grids for flexible and responsive layouts.
- o Organizing content using columns.
- o Managing gutters for spacing.
- o Leveraging utility classes for quick styling adjustments.



■ Content

- o Styling typography for clear presentation.
- o Handling images within Bootstrap framework.
- o Formatting data with tables.
- o Incorporating figures for media content.



BOOTSTRAP 5.3

▪ Forms

- o Creating form controls for user input.
- o Implementing select dropdowns.
- o Utilizing checkboxes and radio buttons.
- o Adding range sliders for input.
- o Structuring input groups.
- o Utilizing floating labels.
- o Customizing form layout.
- o Implementing validation for user input.

▪ Components

- o Implementing accordions for collapsible content.
- o Displaying alerts for important messages.
- o Using badges for notifications.
- o Navigating with breadcrumbs.
- o Styling buttons for actions.
- o Grouping buttons together.
- o Presenting content in cards.
- o Creating interactive carousels.
- o Adding close buttons for dismissible content.

BOOTSTRAP 5.3

- o Collapsing content sections.
- o Creating dropdown menus.
- o Displaying lists of content.
- o Utilizing modals for dialogs.
- o Navigating with navbars.
- o Implementing tabs for navigation.
- o Creating offcanvas sidebars.
- o Managing pagination for large content sets.
- o Utilizing placeholders for content filling.
- o Displaying popovers for additional information.
- o Representing progress with progress bars.
- o Navigating with scrollspy.
- o Displaying spinners for loading indication.
- o Presenting toast notifications.
- o Adding tooltips for additional information.

BOOTSTRAP 5.3

▪ Helpers

- o Clearing floats for proper layout.
- o Styling colors and backgrounds.
- o Customizing links with colors.
- o Managing focus rings for accessibility.
- o Adding icons to links.
- o Positioning elements.
- o Maintaining aspect ratios.
- o Stacking elements.
- o Creating stretched links.
- o Truncating text for space management.
- o Adding vertical rules for separation.
- o Hiding elements visually.

▪ Utilities

- o Utilizing Bootstrap's API for advanced customization.
- o Styling backgrounds.
- o Adding borders to elements.
- o Managing colors with utility classes.
- o Controlling display properties.
- o Using Flexbox utilities.

BOOTSTRAP 5.3

- o Floating elements.
- o Handling interactions with utility classes.
- o Styling links.
- o Fitting objects within containers.
- o Adjusting opacity of elements.
- o Handling overflow content.
- o Positioning elements on the page.
- o Adding shadows for depth.
- o Controlling sizes of elements.
- o Managing spacing between elements.
- o Styling text with utility classes.
- o Aligning elements vertically.
- o Controlling element visibility.
- o Managing z-index for layering elements.

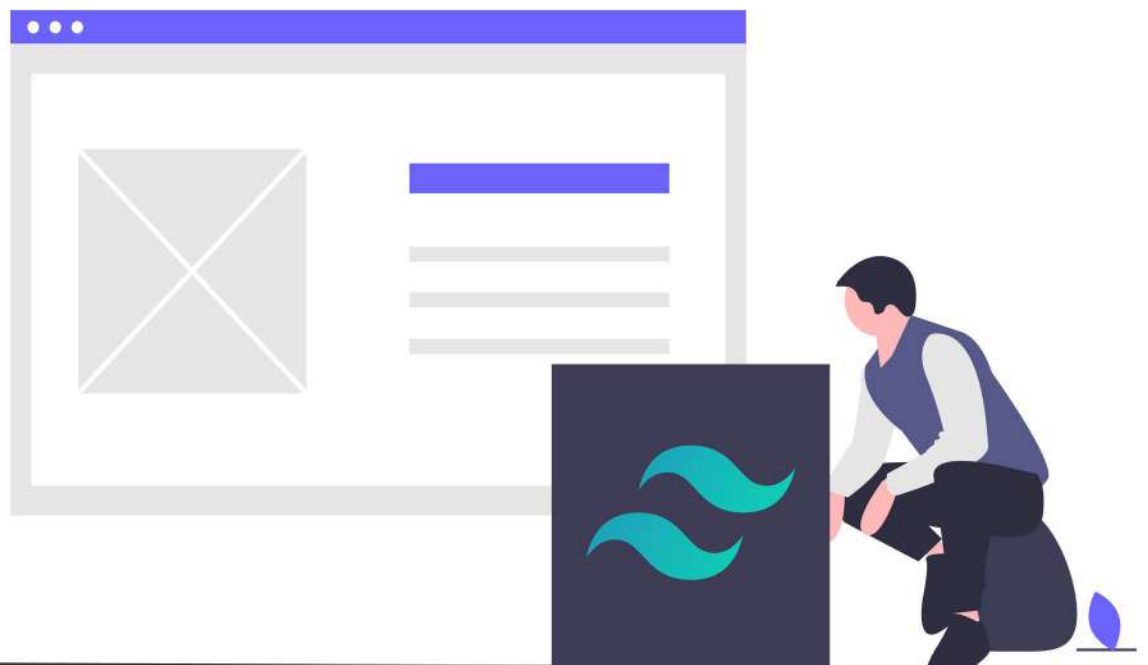
TAILWIND CSS

- Overview and introduction to Tailwind CSS.
- Layout : Utilizing Tailwind CSS for layout structuring.
- Flexbox : Implementing Flexbox layout with Tailwind CSS.
- Grid : Utilizing Grid system in Tailwind CSS for flexible layouts.
- Alignment : Aligning elements using Tailwind CSS utilities.
- Spacing : Managing spacing between elements with Tailwind CSS utilities.
- Sizing : Controlling element sizes with Tailwind CSS utilities.
- Typography : Styling text using Tailwind CSS typography utilities.
- Backgrounds : Adding background styles with Tailwind CSS utilities.
- Borders : Styling borders with Tailwind CSS utilities.
- Effects : Applying visual effects to elements using Tailwind CSS utilities.
- Filters : Utilizing filter effects in Tailwind CSS for visual enhancements.
- Tables : Styling tables with Tailwind CSS utilities.
- Transitions and Animation : Implementing transitions and animations .
- Transforms : Applying transformations to elements with Tailwind CSS utilities.
- Interactivity : Adding interactive behavior to elements using Tailwind CSS utilities.
- SVG : Handling SVG elements with Tailwind CSS utilities.
- Screen Readers : Ensuring accessibility for screen readers with Tailwind CSS utilities.



Tailwind CSS Project Ideas

- Portfolio Website
- Blog Platform
- Online Resume/CV
- E-commerce Product Catalog
- Recipe Collection Website
- Dashboard Interface
- Weather App
- Music Player Interface
- Real Estate Listings Website
- Recipe App



JavaScript

- JavaScript Introduction
- Basic Program in JavaScript
- Console in JavaScript
- var, let, const in JavaScript
- DataTypes in JavaScript
- Type Conversion in JavaScript
- Type Coercion in JavaScript
- Arithmetic Operation in JavaScript
- Assignment Operators in JavaScript
- Comparison Operators in JavaScript
- Relational Operators in JavaScript
- Logical Operators in JavaScript
- Strict Equality or Identity Operators in JavaScript
- Ternary Operators in JavaScript
- Bitwise Operators in JavaScript
- Nullish Coalescing Operators in JavaScript
- Increment or Decrement Operators in JavaScript
- If Statement in JavaScript



JavaScript

- If Else Statement in JavaScript
- Else If Statement in JavaScript
- Nested If Statement in JavaScript
- Switch Statement in JavaScript
- Combining Cases Statement in JavaScript
- While Loop in JavaScript
- Do While Loop in JavaScript
- For Loop in JavaScript
- For of Loop in JavaScript
- For in Loop in JavaScript
- Looping over objects by converting to an array in JavaScript
- Break in JavaScript
- Continue in JavaScript
- Labeled Blocks in JavaScript
- Math Functions in JavaScript
- String Function in JavaScript
- Template Literals in JavaScript
- Array Function in JavaScript
- Primitive and Reference Data Types

JavaScript

- Multiple ways to clone an array
- Use of const for Creating Arrays
- Array and Object De-structuring
- Arrays & Object
- Creating Objects
- Dot Notation and Bracket Notation
- Iterating Through JavaScript Objects
- Computed Property Names
- Spread Operator
- Objects inside Arrays
- Function in JavaScript
- Block Scope and Function Scope
- Rest Parameter vs Spread
- Parameter Destructuring in JavaScript
- Callback Functions in JavaScript
- Closure Functions
- forEach in JavaScript
- Filter Practical Samples
- Map Practical Samples
- Reduce Practical Samples

JavaScript

- Optional Chaining in JavaScript
- Function Inside Object
- Call Apply and Bind in JavaScript
- Arrow Function vs this Keyword
- Creating Objects in JavaScript
- Prototype and Prototypal Inheritance in JavaScript
- Class and Inheritance in JavaScript
- Getter and Setter in JavaScript
- Static Methods and Properties
- Sets in JavaScript
- Exploring Map in JavaScript
- Destructuring Assignment
- Document Object Model
- DOM Family Structure
- DOM Family Tree Method
- DOM Traversing Method
- DOM Create Method
- DOM Output Possibilities
- DOM ClassList and Attributes
- DOM Mouse Events

JavaScript

- DOM Keyboard Events
- DOM Form Events
- DOM Touch Events
- Example of Touch Events
- Promise in JavaScript
- Async and await in JavaScript
- Fetch API in JavaScript
- Event Loop in JavaScript
- Event Bubbling in JavaScript
- Event Delegation in JavaScript
- Debounce function in JavaScript
- Array Local Storage in JavaScript
- Object Local Storage in JavaScript
- Template Theme Change in JavaScript
- Session Storage in JavaScript

JavaScript Project Ideas

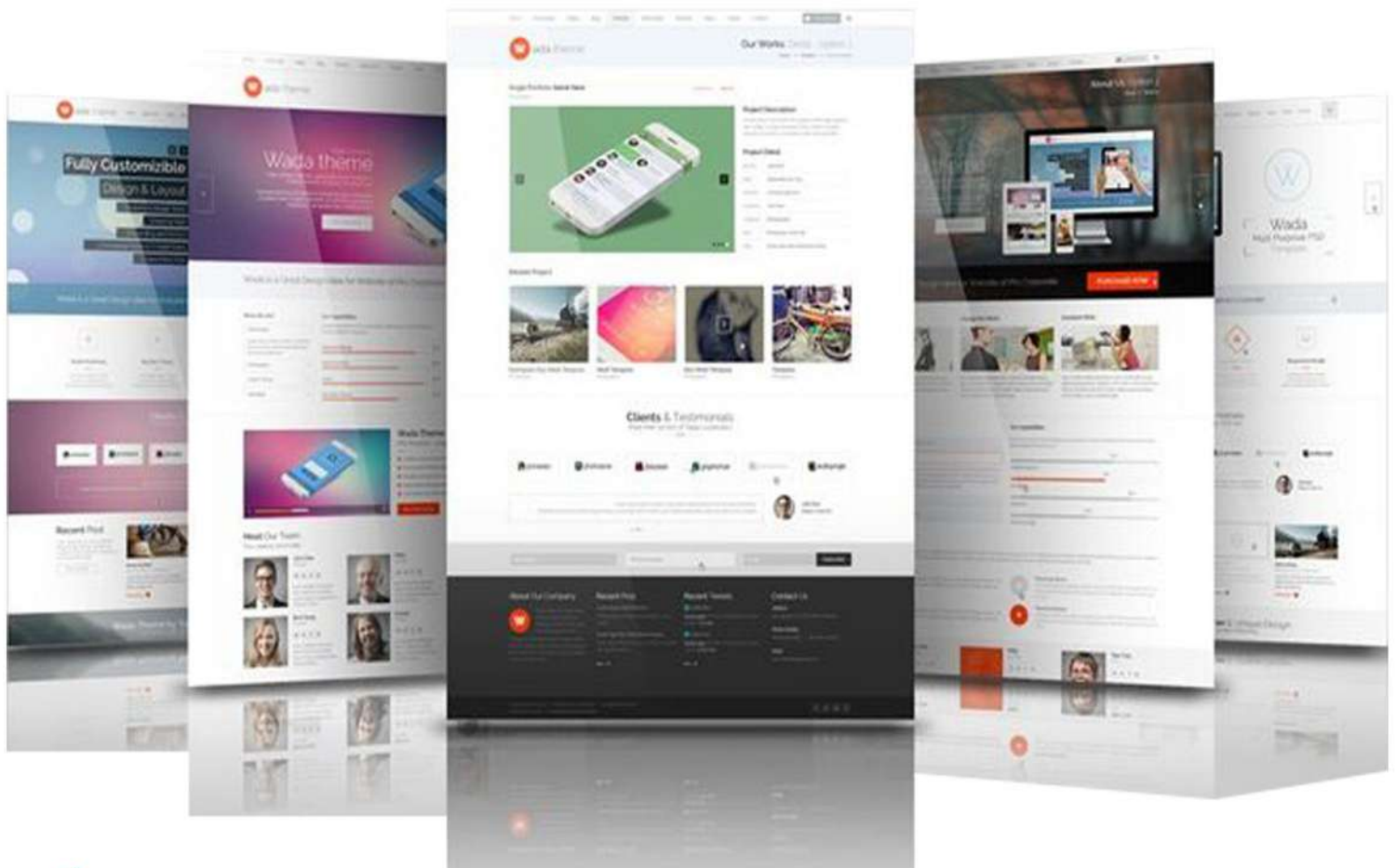
- Automatic Countdown Timer
- Digital Clock in JS
- Analog Clock
- Stylish Stop Clock
- CSS Code Tools
- Sticky Note
- Photo Gallery
- Password Generator
- Product Filter
- Product Cart Slider
- Product Rating
- Shopping Cart
- QR Code Generator
- Tic Tac Toe Game
- Image Carousel
- Tab Control
- Income Expense Tracker

JavaScript Project Ideas

- Auto Complete Text Box
- Custom Password Text box
- Creating Tag Input
- Custom Form Validation
- Dependent Select Box
- Custom Context Menu
- HTML Table to CSV File
- Custom event Calendar
- E-Commerce Product Filter
- Custom Testimonial
- Dynamic Circular Progress Bar
- Interactive Image Gallery
- Customer Review Slider
- To-Do List App
- Weather App
- Calculator
- Quiz App

JavaScript Project Ideas

- Currency Converter
- BMI Calculator
- Tic-Tac-Toe Game
- Music Player
- Random Quote Generator
- Password Generator
- Word Counter



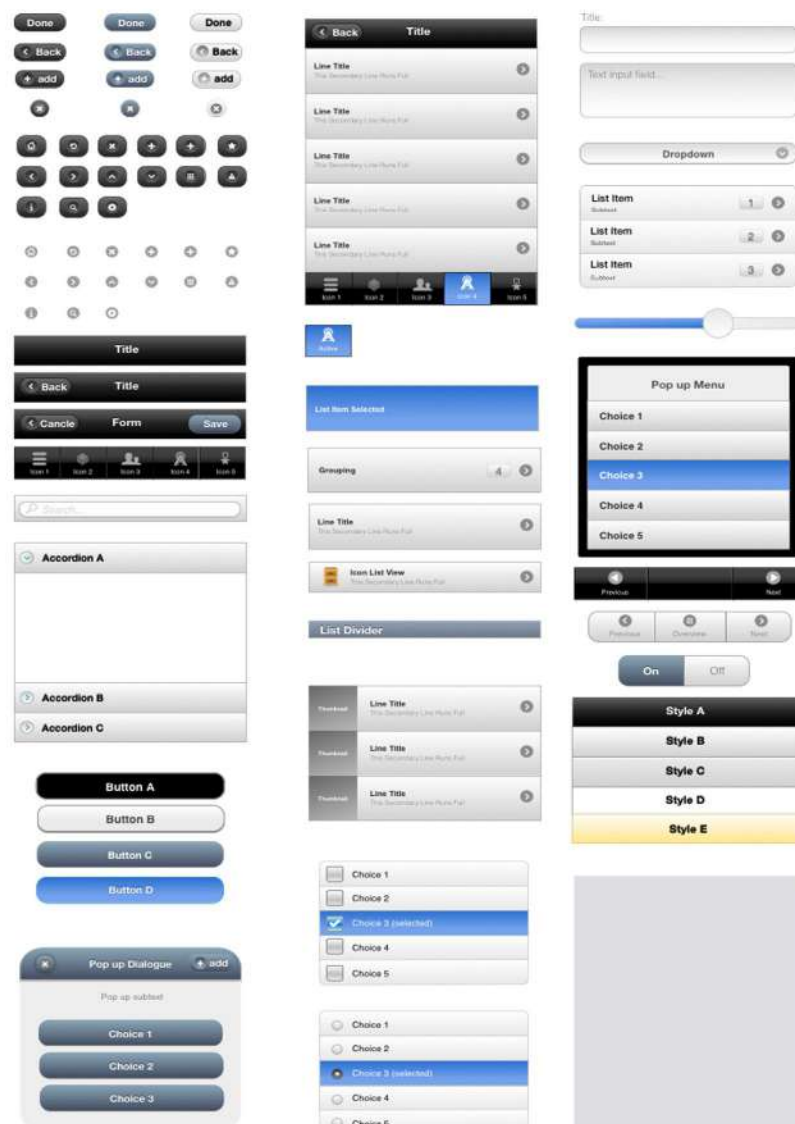
JQuery

- Introduction jQuery
- Setup jQuery Dev Environment
- Start using jQuery
- jQuery Selectors
- jQuery Methods
- DOM Manipulation in jQuery
- Attributes Manipulation in jQuery
- Dimensions Manipulation in jQuery
- Traversing Elements in jQuery
- CSS Manipulation in jQuery
- Animation in jQuery
- jQuery Event
- jQuery Ajax
- Ajax in jQuery
- jQuery ajax() method
- jQuery get() method
- jQuery post() method



JQuery

- jQuery load() method
- jQuery Built-in Methods
- jQuery Selector Methods
- jQuery Manipulation Methods
- jQuery Traversing Methods
- jQuery Effects Methods
- jQuery Event Methods



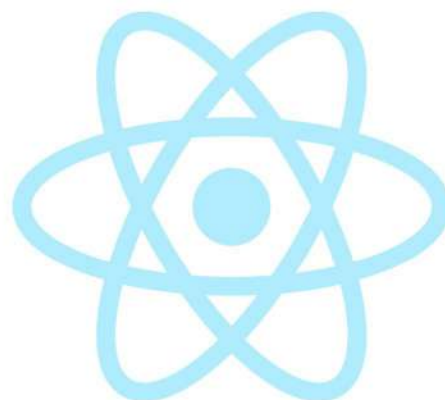
JQuery Project Ideas

- Interactive Image Gallery
- To-Do List Application
- Slider or Carousel
- Accordion Menu
- Form Validation
- Ajax-based Content Loading
- Drag-and-Drop Interface
- Infinite Scroll
- Weather Widget
- Chat Application
- Interactive Data Visualization
- Product Showcase
- Recipe Finder



React Js

- What and why is React?
- How to run React Application from VS Code
- App & JSX
- Functional Components
- Applying CSS Styles
- Click Events
- useState Hook
- Lists & Keys
- Props & Prop Drilling
- Controlled Component Inputs
- Project Challenge
- useEffect Hook
- JSON Server
- Fetch API Data
- CRUD Operations
- Fetch Data Challenge
- React Router



React Js

- Router Hooks & Links
- Axios API Requests
- Custom Hooks
- Context API & useContext Hook
- Build & Deploy Your React Apps
- React Router
- React Bootstrap
- Tailwind UI
- React Hook Form
- Redux
- React Context
- Todo List App
- Movie Browser
- Recipe Finder

React Js Project Ideas

- Chat Application
- E-commerce Store
- Blog Platform
- Portfolio Website
- Fitness Tracker
- Music Player
- Task Management Tool
- Quiz App
- Job Board
- Real Estate Listings
- Recipe Sharing Community
- Pet Adoption Portal
- Stock Portfolio Tracker
- Event Management System



Node.Js & Express.js

- Introduction of Node.js
- Installing and Exploring Node.js
- Node.js Module System
- File System and Command Line Args
- Event Emitter
- Debugging Node.js
- Asynchronous Node.js
- Build a Web Server
- Intro to Express JS framework
- Middleware
- Routing
- MVC REST API
- Authentication
- JWT Auth
- User Roles | Authorization
- Intro to MongoDB & Mongoose
- Mongoose Data Models



express

Node.Js & Express.js

- Async CRUD Operations
- Accessing API from Browser
- Application Deployment
- MongoDB and Promises
- REST APIs and Mongoose
- API Authentication and Security
- Sorting, Pagination, and Filtering
- File Uploads
- Sending Emails
- Socket.io
- Working with firebase

Project Ideas

- CRUD with React & MongoDB
- Real-Time Web Applications with Socket.io
- Task Manager or To-Do List
- E-commerce Website
- Social Media Website
- Job Board Platform:
- Online Learning Platform
- Recipe Sharing Website



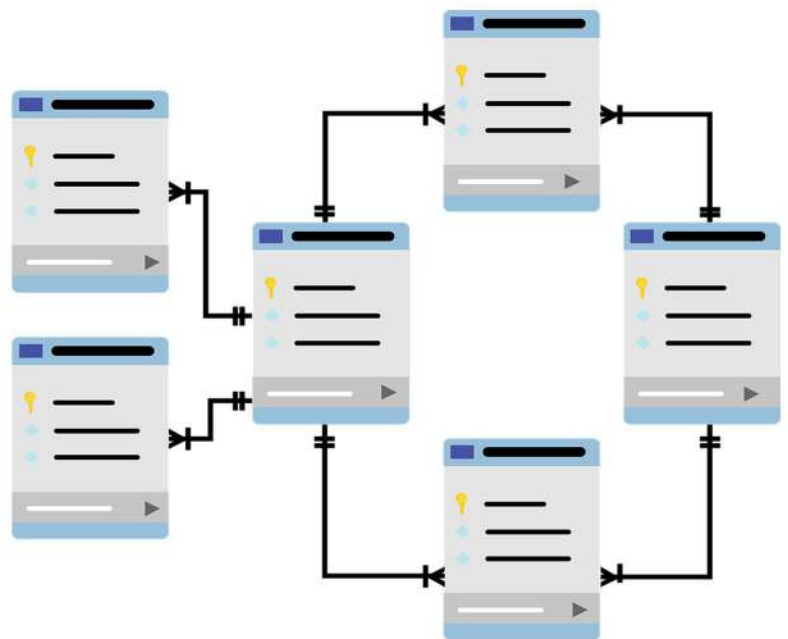
MySQL

- Understanding MySQL
- Installing MySQL Server
- Connecting to MySQL
- MySQL Essentials
- Database Selection
- Database Creation
- Database Deletion
- Table Creation
- Table Renaming
- Column Addition
- Column Removal
- Table Deletion
- Temporary Tables
- Generated Columns
- Data Insertion
- Data Updating
- Data Deletion
- Data Selection
- Primary Key Usage
- Foreign Key Implementation



MySQL

- Foreign Key Checks Disabling
- UNIQUE Constraint Application
- NOT NULL Constraint Application
- DEFAULT Constraint Application
- CHECK Constraint Application
- Stored Procedure Utilization
- Trigger Implementation
- View Creation
- Index Utilization
- Aggregate Function Usage
- Comparison Function Usage
- Control Flow Function and Expression Usage
- Date Function Usage
- String Function Usage
- Regular Expression Usage
- Math Function Usage
- MySQL Data Import & Export



MongoDB

- Introduction to MongoDB
- Understanding the Basics & CRUD Operations
- MongoDB Query API
- Creating Databases in MongoDB
- Working with Collections
- Inserting Data into MongoDB
- Querying Data with MongoDB
- Updating Documents in MongoDB
- Deleting Documents in MongoDB
- Utilizing MongoDB Query Operators
- Leveraging MongoDB Update Operators
- Schemas & Relations: Structuring Documents
- Exploring MongoDB Shell & Server
- Visual Data Exploration with MongoDB Compass
- Deep Dive into Create Operations
- In-depth Look at Read Operations



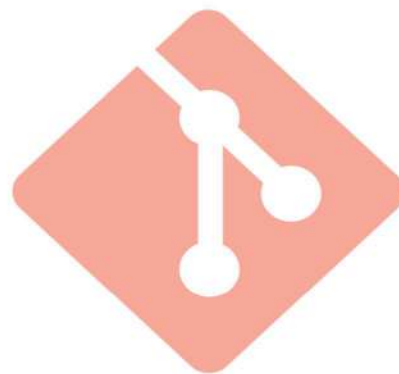
MongoDB

- Advanced Update Operations
- Understanding Delete Operations
- Optimizing Performance with Indexes
- Working with Geospatial Data in MongoDB
- Harnessing the Power of Aggregation Framework
- Manipulating Numeric Data in MongoDB
- Ensuring Security in MongoDB



Git / GitHub

- Introduction to Git
- Understanding Git: Its Purpose and Functionality
- Getting Started with Git: Installation and Configuration
- Seeking Assistance: Utilizing Git's Help Resources
- Initializing a Git Repository
- Checking Repository Status with Git Status
- Tracking and Untracking Files
- Utilizing .gitignore to Ignore Files
- Adding Files to Staging Area
- Committing Changes with Git
- Modifying Files and Viewing Differences
- Committing Directly without Staging
- Deleting and Removing Files
- Restoring Files in Git
- Renaming Files in Git
- Viewing Commit History with Git Log
- Amending Commits in Git
- Viewing Changes Across Commits
- Resetting to Previous Commits
- Performing Repository Rebase



Git / GitHub

- Understanding Branches in Git
- Merging Branches
- Deleting Git Branches
- Handling Merge Conflicts
- Exploring the Typical Git Workflow
- Setting Up a GitHub Account
- Creating Cloud Repositories on GitHub
- Pushing Local Repositories to GitHub
- Managing Files in Git
- Editing Repository Details
- Utilizing Issues in GitHub
- Working with Pull Requests
- Exploring GitHub Features: Actions, Projects, Wiki, Security, Insights, Settings
- Managing Releases in Git
- Fetching and Pulling Changes from Remote Repositories



Final Projects

- Amazon Like E-Commerce Website
- Twitter Like Social Media Website
- Swiggy Like Food Ordering Website



Frequently Asked Questions (FAQs)

How will the weekday classes be structured for continuous learning?

On weekdays, you'll have 1-hour live classes featuring real-time projects, supplemented by exclusive recorded videos for learning.

You'll also benefit from 24/7 support and have a dedicated mentor assigned to you.

Does the program guarantee job placement?

While we don't guarantee job placements, our course equips you with valuable skills that greatly improve your chances of securing employment. Many of our students have successfully landed good positions.

What happens if I can't attend the live classes?

If you're unable to attend live sessions, you'll still be able to access recordings of those classes for review and catch-up.

Is it possible to choose EMI payments?

Unfortunately, we require full payment to ensure a smooth learning experience for both you and us.



Why Choose Us?

With over 15 years of industrial experience and a strong following of more than 480K subscribers in youtube , we are committed to delivering top-notch corporate training at a reasonable price, ensuring accessibility for all learners. Our mission revolves around providing high-quality education that empowers individuals to excel in their professional endeavors. Additionally, we offer classes in Tamil, our regional language, catering to a diverse audience. Through our extensive experience and dedication to quality, we aim to foster a learning environment that equips individuals with the skills and knowledge needed to succeed in today's competitive landscape, regardless of their background or expertise level.



For more details, please feel free to reach out to us at **+91 9043017689** or via email at **stanley@tutorjoes.in**.