

Web App Development with .NET 6 & MERN STACK

Getting Started with Fundamentals of Web Application Design

Day 1

Module 1: A Quick Overview of Web Development

- Client-side Programming
- Server-side Programming
- Web Development Technologies

Module 2: Introduction to HTML & its basic tags

- Exercise: A Simple HTML Document
- HTML Elements, Attributes, and Comments
- The HTML Skeleton
- Viewing the Page Source
- HTML Elements and Special Characters
- Paragraphs, Headings, and Text
- Getting Started with a Simple HTML Document

Module 3: HTML Links, Images & HTML Lists

- The div Tag
- Creating an HTML Page
- Creating an HTML Page
- Inline Semantic Elements
- Links Introduction
- Absolute vs. Relative Paths
- Email Links
- Exercise: Adding Links
- On page linking
- Inserting Images
- Image Links
- Exercise: Adding Images to the Page
- List Tags & Its types
- Unordered Lists • Ordered Lists • Definition Lists

Module 4: Crash Course in CSS

- Benefits of Cascading Style Sheets
- CSS Rules
- Selectors
- Combinators
- Precedence of Selectors
- How Browsers Style Pages
- External Stylesheets, Embedded Stylesheets, and Inline Styles
- Exercise: Creating an External Stylesheet
- Exercise: Creating an Embedded Stylesheet
- Exercise: Styling div and span
- Exercise: Adding Inline Styles

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- font-family
- @font-face • font-size • font-style •
- font-variant • font-weight • line-height
- font shorthand
- About Color and Opacity
- Exercise: Adding Color and Opacity to Text CSS Text properties
- letter-spacing • text-align
- Text-decoration • text-indent
- Text-shadow • text-transform
- white-space • word-break • word-spacing

Day 2

Module 5: Multimedia with CSS

- Pseudo Classes
- Transform
- Transition
- Images in CSS

Module 6: JavaScript Basics & ES6 Concepts

- JavaScript Variables
- A Loosely Typed Language
- Google Chrome DevTools
- Storing User-Entered Data
- Exercise: Using Variables
- Constants • Arrays •
- Exercise: Working with Arrays
- Associative Arrays
- Playing with Array Methods
- JavaScript Operators • The Modulus Operator
- Playing with Operators • The Default Operator
- Exercise: Working with Operators

Module 7: Variables, Arrays, and Operators & control statements

Day 3

Module 9: Built-In JavaScript Objects

- Global Objects and Functions
- Exercise: Working with Global Functions
- User-defined Functions
- Exercise: Writing a JavaScript Function
- Returning Values from Functions
- Strings • Math • Date

Module 10: Event Handlers and Listeners

- On-event Handlers

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- Exercise: Using On-event Handlers
- The addEventListener() Method
- Anonymous Functions
- Exercise: Adding Event Listeners
- Benefits of Event Listeners

Module 11: The HTML Document Object Model

- CSS Selectors
- The innerHTML Property
- Exercise: Accessing Elements
- Dot Notation and Square Bracket Notation
- Accessing Elements Hierarchically
- Exercise: Working with Hierarchical Elements
- Accessing Attributes
- Creating New Nodes
- Focusing on a Field
- Shopping List Application
- Exercise: Logging
- Exercise: Adding EventListeners
- Exercise: Adding Items to the List
- Exercise: Dynamically Adding Remove Buttons to the List Items
- Exercise: Removing List Items
- Exercise: Preventing Duplicates and Zero-length Product Names

Day 4

Module 12: HTML Forms

- How HTML Forms Work
- The form Element
- Buttons • Exercise: Creating a Registration Form
- Checkboxes • Radio Buttons • Exercise: Adding Checkboxes and Radio Buttons
- Fieldsets
- Select Menus
- Textareas
- Exercise: Adding a Select Menu and a Textarea
- HTML Forms and CSS

Module 13: JavaScript Form Validation

- Server-side Form Validation
- HTML Form Validation
- Accessing Form Data
- Form Validation with JavaScript
- Exercise: Checking the Validity of the Email and URL Fields
- Checking Validity on Input and Submit Events
- Adding Error Messages
- Validating Textareas • Validating Checkboxes • Validating Radio Buttons

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- Validating Select Menus
- Exercise: Validating the Ice Cream Order Form
- Giving the User a Chance

Module 14: Regular Expressions

- Getting Started
- Regular Expression Syntax
- Backreferences
- Form Validation with Regular Expressions
- Cleaning Up Form Entries
- Exercise: Cleaning Up Form Entries
- A Slightly More Complex Example

Responsive Web Designing Using Bootstrap

Day 5

Module 1: Introduction to Bootstrap & Bootstrap Components

- Implementing Bootstrap
- Whats New with Bootstrap 5.0
- Bootstrap Colors & Classes

Module 2: Bootstrap Layout Grids

- Bootstrap Grids
- Bootstrap Form
- Bootstrap Tables

Day 6

Module 3: Bootstrap JavaScript

- Model • Dropdown • Scrollspy • Toggleable Tabs • Tooltips • Popover • Alerts

Module 4: Responsive Designs with Bootstrap

- Mobile to Web Design Change
- Customizing Bootstrap

MERN Stack Web App Development

React Js

Day 7

Module 1: JavaScript to ECMA SCRIPT 6

- What's new in ES6

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- Variable Declarations with LET and CONST
- Strings in ES6
- Arrow Functions: Basics
- Arrow Functions: Lexical 'this' Keyword
- DE structuring
- Arrays in ES6

Module 2: Welcome to React

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

Module 2: Pure React & Related Components

- Page Setup
- The Virtual DOM
- React Elements
- React DOM
- Children
- React Components
- DOM rendering

Day 8

Module 3: React with JSX

- React Elements as JSX
- Babel
- Intro to Webpack

Module 4: React Props, State and the Component Tree

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

Day 9

Module 5: Enhancing Components

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

Module 6: React Router

- Incorporating the Route
- Nesting Routes

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- Route Parameter

Day 10

Module 7: Redux with React

Module 8: React CRUD Implementation

- State
- Actions
- Reducers
- The Store
- Action creators & Middleware
- Explicitly Passing the Store
- Passing Store via Context
- Presentation Versus Container Components
- The React Redux Provider
- React Redux Connect
- Incorporating the Router
- Nesting Routes & Route Parameters

Node Js & Express JS

Day 11

Module 8: Introduction Node js & Node Environment

- Extending JavaScript
- V8
- The Process Object

Module 9: Understanding Asynchronous Event Driven Programming

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

Day 12

Module 10: Streaming Data Across Node And clients

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

Module 11: File Access In Node Js

- Directories & iterating overs files and folders

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- Reading from File
- Writing to a File

Day 13

Module 12: Introduction to Express

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

Module 13: Middleware and Rendering

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

Module 14: Request & Response

- Request Object – Forms and Cookies
- Query String
- Data Params
- Headers
- Router
- Express Generator

Day 14

Module 15: Building Rest Services (API)

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

Module 16: Database Integration MySQL& Mongo DB

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

Day 15

Module 17: Final API Integration with React JS

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