

Industrial Training Daily Diary

MERN Stack Training

Company: Sensation Software Solutions

Student Name: Gurvinder Singh

Training Duration: 6 Months

Day: 7

Day 7 – JavaScript DOM Manipulation & Form Validation

Objective of the Day

The objective of Day 7 was to understand **DOM (Document Object Model)** in JavaScript and learn how JavaScript can be used to dynamically manipulate HTML elements. The session also focused on **basic form validation**, which is an important part of real-world web applications.

Introduction to DOM

The trainer explained that the **DOM** represents the structure of an HTML document as a tree of objects. JavaScript can access and manipulate these objects to change the content, style, and structure of a webpage dynamically.

We learned that whenever a webpage loads, the browser creates a DOM, and JavaScript interacts with this DOM to make web pages interactive.

Accessing HTML Elements Using JavaScript

The trainer demonstrated different methods to select HTML elements:

- `getElementById()`
- `getElementsByClassName()`
- `getElementsByTagName()`
- `querySelector()`
- `querySelectorAll()`

We understood the difference between selecting single and multiple elements.

Modifying DOM Elements

We learned how to modify DOM elements using JavaScript:

- Changing text using `innerText` and `innerHTML`
- Changing styles dynamically using `style` property
- Adding and removing CSS classes
- Creating and appending new elements

These techniques help in updating webpage content without reloading the page.

JavaScript Events with DOM

The trainer explained how events are used along with DOM manipulation:

- Handling button clicks
- Responding to user input
- Using `addEventListener()`

We practiced writing event-driven code that changes content based on user actions.

Form Validation Using JavaScript

The trainer introduced **form validation**, which ensures that users enter correct and required information before submitting a form.

Validation Concepts Covered

- Required field validation
- Email format validation
- Password length validation
- Preventing form submission using JavaScript

We learned how validation improves data accuracy and user experience.

Practical Work Done

During the practical session, we:

- Accessed and modified HTML elements using DOM methods

- Changed content dynamically on button clicks
- Created a simple form with validation rules
- Displayed error messages using JavaScript

This hands-on practice helped us understand real-time web behavior.

Importance of DOM Manipulation in MERN Stack

The trainer explained that although React manages the DOM efficiently using the Virtual DOM, understanding basic DOM manipulation is very important. It helps in understanding how React works internally and improves overall JavaScript skills.

Conclusion of Day 7

Day 7 enhanced my understanding of how JavaScript interacts with web pages. I learned how to manipulate HTML elements dynamically and validate user input using JavaScript. These concepts are essential for building interactive and user-friendly applications.

Outcome of the Day:

- Clear understanding of DOM
- Ability to manipulate HTML dynamically
- Knowledge of basic form validation
- Improved JavaScript skills