

# Industrial Training Daily Diary

## MERN Stack Training

**Company:** Sensation Software Solutions

**Student Name:** Tajinder Kaur

**Training Duration:** 6 Months

**Day:** 5

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## Day 5 – JavaScript Introduction & Basics of Programming

### Objective of the Day

The objective of Day 5 was to get an introduction to **JavaScript**, understand why it is important for web development, and learn the basic programming concepts used to add logic and interactivity to web pages. This session marked the transition from static web design to dynamic and interactive web applications.

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## Introduction to JavaScript

On Day 5, the trainer introduced **JavaScript**, which is a scripting language used to make web pages interactive. We learned that HTML provides structure, CSS provides styling, and JavaScript adds **behavior and logic** to the webpage.

The trainer explained that JavaScript runs inside the browser and is supported by all modern browsers. Later, with the help of Node.js, JavaScript can also be used on the server side, which makes it a core language of the MERN Stack.

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## Role of JavaScript in Web Development

The trainer explained various real-life uses of JavaScript:

- Form validation
- Dynamic content updates
- Button click events
- Image sliders and animations
- API communication

We understood that without JavaScript, websites would remain static and non-interactive.

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## Including JavaScript in HTML

We learned different ways to include JavaScript in HTML:

- Inline JavaScript
- Internal JavaScript using `<script>` tag
- External JavaScript file linked to HTML

The trainer emphasized that using **external JavaScript files** is the best practice in professional development.

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## JavaScript Basics

### Variables in JavaScript

The trainer explained how variables are used to store data. We learned about:

- `var`
- `let`
- `const`

The difference between these keywords was discussed, along with scope-related concepts.

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## Data Types in JavaScript

We learned about different data types:

- Number
- String
- Boolean
- Undefined
- Null
- Object
- Array

Examples were shown to explain how each data type is used in programming.

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## Operators in JavaScript

The trainer explained different operators:

- Arithmetic operators
- Comparison operators
- Logical operators
- Assignment operators

These operators help in performing calculations and decision-making.

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## Conditional Statements

We were introduced to conditional statements:

- `if`
- `else if`
- `else`

Conditional logic allows programs to make decisions based on conditions.

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## Practical Work Done

During the practical session, we:

- Wrote basic JavaScript programs
- Used variables and operators
- Applied conditional statements
- Created simple interactive examples like button click alerts

This practice helped in understanding how JavaScript works with HTML.

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## Importance of JavaScript in MERN Stack

The trainer explained that JavaScript is the backbone of the MERN Stack. React, Node.js, and even MongoDB interactions depend heavily on JavaScript. A strong foundation in JavaScript is essential to become a successful MERN Stack developer.

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## Conclusion of Day 5

Day 5 was very important as it introduced programming concepts and logical thinking. I learned how JavaScript brings life to web pages and how it plays a critical role in full-stack development.

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**Outcome of the Day:**

- Understanding of JavaScript basics
- Knowledge of variables and data types
- Introduction to programming logic
- Hands-on experience with simple scripts