

## Training Report - Web Development Training

### Day 17: DOM Manipulation

**Date:** 2/7/24

**Summary of the Day:** On the seventeenth day of our web development training, we learned about the Document Object Model (DOM) and how to manipulate it using JavaScript. DOM manipulation is crucial for creating dynamic and interactive web applications, allowing developers to change the content, structure, and style of web pages on the fly.

#### Detailed Notes:

##### 1. Introduction to the DOM:

- The DOM is a programming interface for HTML and XML documents.
- It represents the document as a tree structure where each node is an object representing a part of the document.

##### 2. Accessing DOM Elements:

- **Selecting Elements:**

- `getElementById()`

```
let element = document.getElementById('elementId');
```

- `getElementsByClassName()`

```
let elements = document.getElementsByClassName('className');
```

- `getElementsByTagName()`

```
let elements = document.getElementsByTagName('tagName');
```

- `querySelector()`

```
let element = document.querySelector('.className');
```

- `querySelectorAll()`

```
let elements = document.querySelectorAll('.className');
```

##### 3. Modifying DOM Elements:

- **Changing Content:**

- `innerHTML`

```
element.innerHTML = 'New Content';
```

```
textContent
```

```
element.textContent = 'New Text';
```

- **Changing Attributes:**

- `setAttribute()`

```
element.setAttribute('attributeName', 'attributeValue');
```

```
let value = element.getAttribute('attributeName');
```

- `removeAttribute()`

```
element.removeAttribute('attributeName');
```

- **Changing Styles:**

- `style`

```
element.style.color = 'blue';
```

#### 4. Creating and Removing Elements:

- **Creating Elements:**

```
let newElement = document.createElement('div');  
newElement.textContent = 'Hello, World!';  
document.body.appendChild(newElement);
```

- **Removing Elements:**

```
element.remove();
```

**Reflection:** Today's session on DOM manipulation was highly informative and practical. Learning how to access, modify, create, and remove elements dynamically using JavaScript is a powerful skill that enhances the interactivity and functionality of web applications. The hands-on examples provided a clear understanding of how to apply these concepts, and I am excited to continue exploring the possibilities of DOM manipulation in my projects.