

# Preventing Event Default



How do you prevent default behavior of an event in the DOM using JavaScript? Explain in simple words.



To prevent the default behavior of an event in the DOM using JavaScript, you can use the `preventDefault()` method. This method is called on the event object and stops the browser from performing its default action associated with that event. Here's a simple explanation and example to illustrate how it works:

## Explanation:

- **Default Behavior:** Many HTML elements have default behaviors associated with certain events. For example, clicking a link (`<a>`) navigates to a new page, submitting a form sends data to a server, etc.
- **Preventing Default Behavior:** By calling `preventDefault()`, you can stop these actions from happening, allowing you to handle the event in a custom way.

## Example:

Imagine you have a form on a webpage, and you want to prevent it from submitting when the user clicks the submit button, so you can handle validation or processing in your script.

Here's how you can do it:

html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Prevent Default Example</title>
  <script>
    // This function will be called when the form is submitted
    function handleSubmit(event) {
      // Prevent the form from submitting
      event.preventDefault();

      // You can add your custom code here
      alert("Form submission prevented! You can handle the data here.");
    }

    // Adding event listener to the form
    window.onload = function() {
      const form = document.getElementById('myForm');
      form.addEventListener('submit', handleSubmit);
    };
  </script>
</head>
<body>
  <form id="myForm">
    <input type="text" name="name" placeholder="Your Name">
    <input type="submit" value="Submit">
  </form>
</body>
</html>
```

## Key Points:

- `event.preventDefault()`: This line stops the form from being submitted in the default way, which would typically refresh the page or navigate away.
- **Custom Code:** After preventing the default behavior, you can execute any custom logic you need, such as validation, data processing, or displaying messages.
- **Event Listener:** The `addEventListener` method is used to attach the event handler function (`handleSubmit`) to the form's submit event.

By using `preventDefault()`, you gain more control over the actions on your web page, allowing you to create a more dynamic and interactive user experience.

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What are the properties of the window.location object? Explain in Detail in simple Words.In Javascript



The `window.location` object in JavaScript is part of the browser's Window interface and represents the location (URL) of the document currently being displayed in that window. It provides properties and methods that can be used to interact with and manipulate the URL of the current page.

## Key Properties of `window.location`

### 1. `href`

- **Description:** The full URL of the current page.
- **Usage:** You can get or set this property to change the page's URL.
- **Example:**

```
javascript
```

```
console.log(window.location.href); // Outputs the full URL, e.g., "https://www.example.com/page?name=John"  
window.location.href = 'https://www.example.com'; // Redirects to the new URL
```

### 2. `protocol`

- **Description:** The protocol part of the URL (e.g., `http:`, `https:`).
- **Usage:** It indicates whether the page is loaded over HTTP or HTTPS.
- **Example:**

```
javascript
```

```
console.log(window.location.protocol); // Outputs "https:"
```

### 3. `host`

- **Description:** The hostname and port number of the URL.
- **Usage:** This combines both the domain name and the port (if specified).
- **Example:**

```
javascript
```

```
console.log(window.location.host); // Outputs "www.example.com:8080"
```

### 4. `hostname`

- **Description:** The domain name of the web host.
- **Usage:** This is just the domain name without the port.
- **Example:**

```
javascript
```

```
console.log(window.location.hostname); // Outputs "www.example.com"
```

## 5. `port`

- **Description:** The port number of the URL (if specified).
- **Usage:** If no port is specified, this is usually an empty string.
- **Example:**

```
javascript
```

```
console.log(window.location.port); // Outputs "8080" or "" if no port is specified
```

## 6. `pathname`

- **Description:** The path of the URL after the domain.
- **Usage:** This is the part of the URL that specifies the specific page or resource.
- **Example:**

```
javascript
```

```
console.log(window.location.pathname); // Outputs "/page"
```

## 7. `search`

- **Description:** The query string part of the URL (including the question mark).
- **Usage:** This contains any parameters passed in the URL.
- **Example:**

```
javascript
```

```
console.log(window.location.search); // Outputs "?name=John"
```

## 8. `hash`

- **Description:** The anchor part of the URL (including the hash symbol `#`).
- **Usage:** This is used to navigate to a specific part of the page.
- **Example:**

```
javascript
```

```
console.log(window.location.hash); // Outputs "#section1"
```

## 9. `origin`

- **Description:** The origin of the URL, which includes the protocol, hostname, and port.
- **Usage:** This is useful for security purposes, like determining the origin of requests.
- **Example:**

```
javascript
```

```
console.log(window.location.origin); // Outputs "https://www.example.com:8080"
```

## Key Methods of `window.location`

### 1. `assign(url)`

- **Description:** Loads a new document at the specified URL.

- **Usage:** Used for navigating to a new page.
- **Example:**

```
javascript
```

```
window.location.assign('https://www.example.com');
```

## 2. `replace(url)`

- **Description:** Replaces the current document with a new one at the specified URL without saving the current page in session history.
- **Usage:** This is used to prevent users from navigating back to the current page.
- **Example:**

```
javascript
```

```
window.location.replace('https://www.example.com');
```

## 3. `reload()`

- **Description:** Reloads the current document.
- **Usage:** Refreshes the current page.
- **Example:**

```
javascript
```

```
window.location.reload(); // Reloads the page
```



#### 4. `toString()`

- **Description:** Returns the string representation of the URL.
- **Usage:** This is equivalent to accessing `window.location.href`.
- **Example:**

```
javascript
```

```
console.log(window.location.toString()); // Outputs the full URL
```

## Example Usage of `window.location`

Here's a simple example demonstrating some properties and methods:

```
javascript
```

```
// Log current URL
console.log('Current URL:', window.location.href);

// Log different parts of the URL
console.log('Protocol:', window.location.protocol);
console.log('Host:', window.location.host);
console.log('Pathname:', window.location.pathname);
console.log('Search:', window.location.search);
console.log('Hash:', window.location.hash);
console.log('Origin:', window.location.origin);

// Navigate to a new URL
window.location.assign('https://www.example.com');

// Replace current page without adding to history
window.location.replace('https://www.example.com');
```

```
// Reload the page  
window.location.reload();
```

## Practical Applications

- **Redirecting Users:** You can redirect users to a different page based on conditions, such as authentication status or feature availability.
- **Updating URL Parameters:** Manipulate query strings to change or add parameters dynamically, useful for applications with complex navigation needs.
- **Single Page Applications (SPA):** In SPAs, URL fragments (hashes) can be used to manage navigation without reloading the page.
- **Tracking Page Views:** By accessing `window.location`, you can track which pages users visit and how they navigate your site.
- **Bookmarking and Sharing Links:** Use URL parameters and hashes to enable users to bookmark specific states of your application or share them with others.

## Summary

The `window.location` object is a powerful tool in JavaScript for managing and interacting with the URL of the current web page. By understanding its properties and methods, you can effectively control navigation and utilize URL components for various web development tasks.

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# Redirecting with JavaScript



How do you redirect to another page using JavaScript's `window.location` object? Explain in Simple Words.



Sure! If you want to send someone to a different page using JavaScript, you can use the `window.location` object. It's like giving the browser an address to go to.

Here's how you do it:

1. **Specify the URL:** You provide the web address (URL) of the page you want to redirect to.
2. **Assign it to `window.location`:** You set `window.location` to that URL.

Here's a simple example:

```
javascript
```

```
window.location.href = 'https://www.example.com';
```

This code tells the browser to go to `https://www.example.com`.

Alternatively, you can use:

```
javascript
```

```
window.location.replace('https://www.example.com');
```

This does the same thing, but it doesn't keep the current page in the browser's history. So if someone clicks the "Back" button, they won't return to the original page.

In short, `window.location.href` changes the current page to the new URL, and `window.location.replace` does the same but replaces the current page in the history.

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# Reload Page with JavaScript



How do you reload the current page using JavaScript's `window.location` object? Explain in Simple Words.



To reload the current page using JavaScript's `window.location` object, you can simply set `window.location.href` to the current URL. Here's how you can do it in a simple way:

```
javascript
```

```
window.location.href = window.location.href;
```

This line of code takes the current URL (`window.location.href`) and sets it back to itself, which effectively reloads the page.

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# Get URL Query Parameters



How do you get the value of a query parameter from the URL using JavaScript's window.location object? Explain in Simple Words.



To get the value of a query parameter from the URL using JavaScript, you can follow these simple steps:

1. **Get the URL's Query String:** Use `window.location.search` to get the part of the URL after the question mark (``?``), which contains the query parameters.
2. **Create a `URLSearchParams` Object:** This object helps you easily work with the query parameters.
3. **Get the Value:** Use the `.get()` method on the `URLSearchParams` object to fetch the value of a specific query parameter.

Here's a simple example:

javascript

```
// Suppose the URL is: https://example.com/page?name=John&age=30

// Step 1: Get the query string from the URL
const queryString = window.location.search;

// Step 2: Create a URLSearchParams object
const params = new URLSearchParams(queryString);

// Step 3: Get the value of a specific parameter
```

```
const name = params.get('name'); // "John"  
const age = params.get('age'); // "30"
```

In this example, ``name`` and ``age`` are the query parameters in the URL, and we use ``params.get('name')`` and ``params.get('age')`` to get their values.

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