

Anchor Tags

What is the Anchor Tag in HTML?

The primary purpose of an `anchor` tag is to link one page to another page or to a section of the same page. The anchor tag is also known as a `HyperLink`.

```
<a href="https://tapasadhikary.com">My Website</a>
```

The value of the `href` attribute is usually a URL pointing to a web page (like the one above). You can also link another HTML element or a protocol (for example, sending email), and you can execute JavaScript using the href attribute.

Anchor Tag Uses with Examples

Along with `href`, there are other vital attributes that make the anchor tag useful. Let's learn about them with examples.

How to link to a section of the page

We have seen how to link to an external web page (website). But you can also link to a section of the same page by linking to an element using its id. Assume our page has a `div` section with the id `news`.

```
<div id="news">
  <h2>News</h2>
  <p>
    Lorem ipsum dolor sit amet, consectetur adipiscing elit.
    Sed non risus. Suspendisse lectus tortor, dignissim sit amet,
    adipiscing nec, ultricies sed, dolor. Lorem ipsum dolor sit amet,
```

```
consectetur adipiscing elit.  
</p>  
</div>
```

You can now link to this section (div) using the anchor tag. To do that, just use the id of the section with a `#` as the prefix for the `href` value.

```
<a href="#news">Go</a>
```

How to link to an email client

You may need to open the default email client with the email address when users click on a link. You can do this by using the `mailto` protocol as the `href` attribute's value. The syntax of the value should be in the form of `mailto:<email address>`.

```
<a href="mailto:me@example.com">Send email</a>
```

Now clicking on the `Send email` link will open up the default email client on your operating system with the email address (me@example.com) specified in the `TO` field.

Similarly, you can use the `tel:<Phone Number>` construct to open up the default phone app with the phone number when someone clicks on the link.

```
<a href="tel:+914123456765">Call +914123456765</a>
```

How to link to a script and execute it

You can link to JavaScript code and execute it when someone clicks on the link. You shouldn't do this often, as it is always a better practice to rely on event handlers to execute actions rather than linking them. But let's learn this method too.

```
<a href="javascript:alert('Hello World!')">Click me</a>
```

Now if you click on the `Click me` link, you will see a browser alert with the text, `Hello World!` in it.

How to download a file

The anchor tag has the `download` attribute that turns a regular link into a download link. You can download a file by clicking the link. It opens up the download popup to save the file on the device.

```
<a href="./images/rajni.jpg" download="Thalaiva">Download</a>
```

How to open a page in a new window/tab

You may not want your users to get distracted too much from what they are doing when clicking on a link. You may want to open the page in a new browser window/tab when the user clicks on the link on a current page. We can use the `target` attribute for this purpose.

```
<a href="https://example.com" target="_blank">Click Me</a>
```

The target attribute can have the following values,

- `_blank`: this is the most used option. You can open the linked page on a new window/tab by setting the target attribute value as `_blank`.
- `_self`: this is the default value. It helps open the linked page in the same window frame.
- `_top`: this opens the linked page in the top window.
- `_parent`: this opens the linked page in the parent frame.

Anchor Link and Tabnabbing

Tabnabbing is a type of Cybersecurity attack where the attacker takes advantage of the user moving away from the current page and introduces a **Phishing** attack.

Assume you are browsing a website and click on a link to open the page in a new tab/window (remember `target=_blank`?). Now the attacker gets ahold of the `window` object of the browser and manipulates (redirects) the source page to a look-alike website with a few changes to trap you.

Those few changes could be a `login` form where you accidentally provide your credentials, and the attacker wins. This is called **Tabnabbing**.

To protect users from an attack like **Tabnabbing**, you need to pass a couple of values to an anchor tag's `rel` attribute:

- `noopener`: makes the opening browser context unknown by setting the `window.opener` object as `null`. This means that the attacker doesn't have any way to redirect the source page.
- `noreferrer`: this makes sure that `referrer` header will not be included when the link is clicked. You must set this value for older browsers.

So, the more secure way to use the `target=_blank` value is with the `rel` attribute, like this:

```
<a href="https://example.com" target="_blank" rel="noopener noreferrer">
```

How to ping in the background

You may want to `track` how many clicks a particular link is getting on your website. To do that, you can use the `ping` attribute of the anchor tag.

A `ping` attribute accepts one or more `URLs` as values. When someone clicks on the link, it makes a tiny `POST request` on those URLs. If there are multiple URLs, they must be comma-separated.

```
<a href="https://example.com" ping="https://example.com/tracking">With a Ping</a>
```

Don't Confuse the Anchor Tag with the Link Tag

You may sometimes confuse the `anchor` tag with the `link` (`<link>`) tag. We use the `link` tag to link to external resources like stylesheets, favicon, fonts, and so on.

```
<link rel="preconnect" href="https://fonts.googleapis.com"><link rel="preconnect" href="https://fonts.gstatic.com" crossorigin><link href="https://fonts.googleapis.com/css2?family=Quicksand:wght@300;400;500&display=swap" rel="stylesheet"><link rel="stylesheet" href="main.css"><link rel="icon" href="./images/fav.ico">
```

The primary purpose of the anchor (`<a>`) tag is to link one HTML page to another. Moreover, it is a `hyperlink` that you can click on to get to the target document.