

URL parameters, also known as query parameters or query strings, are key-value pairs that are appended to the end of a URL. They serve the purpose of sending or retrieving data from a web server. URL parameters are typically structured as `key=value` pairs, separated by an ampersand (`&`), and they come after the question mark (`?`) in a URL. For instance, in the URL `https://example.com/search?query=apple&page=2`, `query` and `page` are URL parameters, with their values being `apple` and `2`, respectively.

In JavaScript, working with URL parameters can be done using the `URLSearchParams` API or manual parsing of the URL. The `URLSearchParams` object can be created from `window.location.search` to access parameters from the current page's URL. Once obtained, these parameters can be retrieved, modified, or added to using methods such as `get`, `set`, `append`, and `delete`. To update the URL with the modified parameters, the `URLSearchParams.toString()` method can be utilized in conjunction with `history.replaceState`.

Alternatively, manual parsing of URL parameters can be done by creating a custom JavaScript function that extracts the values from `window.location.search`. The choice between these methods depends on the specific requirements and the level of control needed over URL parameter manipulation in your JavaScript code.