Title: Documentation of URL
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Documentation on URL

❖ A URL (Uniform Resource Locator) is the address of a unique resource on the internet. It is one of the key mechanisms used by browsers to retrieve published resources, such as HTML pages, CSS documents, images, and so on.

❖ As the resource represented by the URL and the URL itself are handled by the Web server, it is up to the owner of the web server to carefully manage that resource and its associated URL.

❖ Here are some examples of URLs:

1. https://developer.mozilla.org
2. https://developer.mozilla.org/en-US/docs/Learn/
3. https://developer.mozilla.org/en-US/search?q=URL

❖ A URL is composed of different parts, some mandatory and others optional. Here's an example of a URL using the https protocol with an explanation:

➢ https://www.shopping-site.com/products/electronics/laptop?id=456&type=gaming &sort=price#reviews

❖ Explanation:

● **Scheme/Protocol**:

○ `https`: This specifies **Hypertext Transfer Protocol Secure** (HTTPS), which encrypts the communication between the user and the server to ensure security and privacy.

● **Host/Domain**:

○ `www.shopping-site.com`: This is the domain name where the website or resource is hosted. In this case, it's a shopping website.

● **Path**:

○ `/products/electronics/laptop`: This part of the URL specifies the path to a particular resource (a product page). It indicates that the resource is located within the "products" section of the website, specifically in the "electronics" category, and further narrows it down to "laptop".

● **Query Parameters**:

○ `?id=456&type=gaming&sort=price`: These are the query parameters.

- - ■ `id=456` might indicate the specific product ID for the laptop.

    ■ `type=gaming` specifies that this is a gaming laptop.

    ■ `sort=price` means the results are being sorted by price, potentially showing lower prices first.

- **Fragment Identifier**:
    - ○ `#reviews`: This part of the URL points to a specific section on the page, in this case, the "reviews" section of the product page. When the URL is accessed, it will scroll down to the section where user reviews are displayed.

- This URL directs the user to a product page for a specific laptop on an e-commerce website. It uses HTTPS for secure communication, and query parameters are passed to filter and sort the product. The fragment identifier `#reviews` lets the user jump directly to the reviews section of the page.

❖ **How to use URLs?**
➔ Any URL can be typed right inside the browser's address bar to get to the resource behind it. But this is only the tip of the iceberg!
➔ The HTML language makes extensive use of URLs:
- to create links to other documents with the <a> element;
- to link a document with its related resources through various elements such as <link> or <script>;
- to display media such as images (with the <img> element), videos (with the <video> element), sounds and music (with the <audio> element), etc.;
- to display other HTML documents with the <iframe> element.

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❖ **Types of URLs:**

- **Absolute URL**: Contains all the necessary information to locate the resource (e.g., full domain, path).
- **Relative URL**: Defines a resource in relation to the current page. It does not include the protocol or domain name.
- Eg; Your current working directory is `/home/user/documents/projects`.

  To access a file in a subdirectory:

  ./myproject/file.txt

  This refers to the file `file.txt` inside the `myproject` subdirectory of your current directory.

❖ **Common URL Usage:**

- **Webpage access**: Navigating to a specific page on the internet.
- **File access**: Accessing a file such as a PDF, image, or video hosted online.
- **APIs**: URLs are often used to send requests to web APIs.