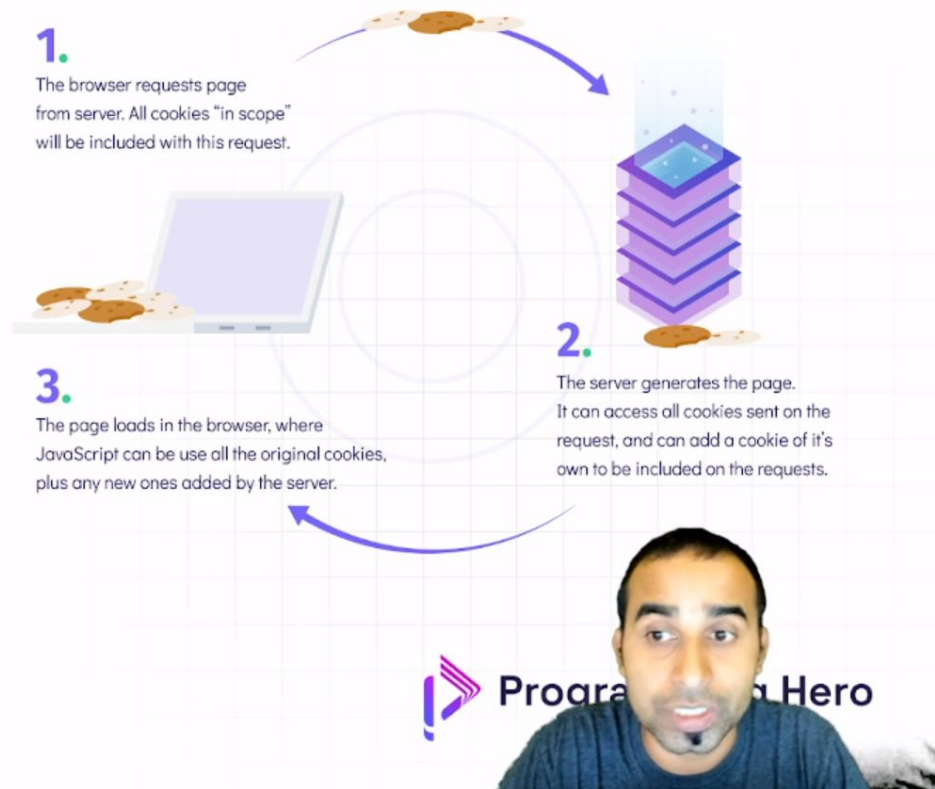# What is Cookie?
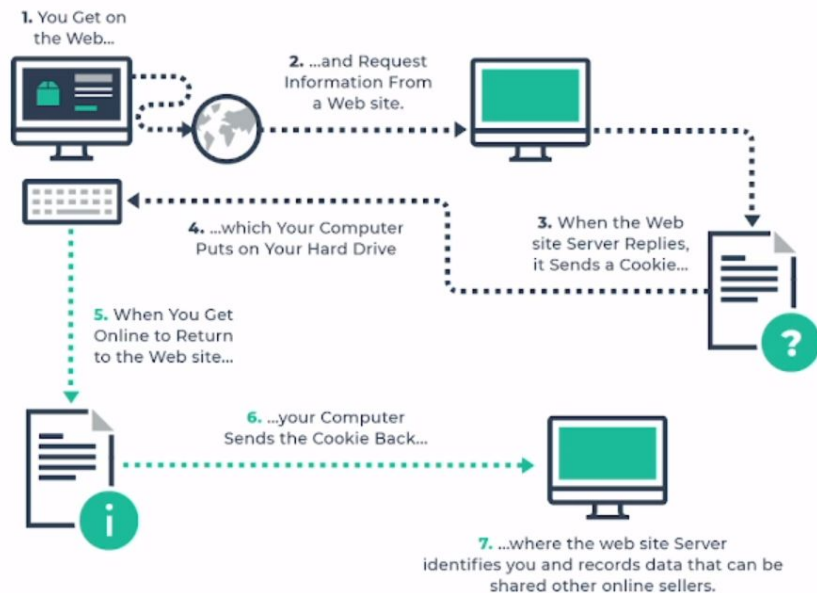
1) Data stored in small text file.

2) Naturally sent by visited websites.

3) Sent to users computer through browser.

4) Is not a program, doesn't perform any function.

5) Stored in key-value pair.

1.
The browser requests page from server. All cookies "in scope" will be included with this request.

2.
The server generates the page. It can access all cookies sent on the request, and can add a cookie of it's own to be included on the requests.

3.
The page loads in the browser, where JavaScript can be use all the original cookies, plus any new ones added by the server.

Progra Hero

How does a Cookie work?

1. You Get on the Web...

2. ...and Request Information From a Web site.

3. When the Web site Server Replies, it Sends a Cookie...

4. ...which Your Computer Puts on Your Hard Drive

5. When You Get Online to Return to the Web site...

6. ...your Computer Sends the Cookie Back...

7. ...where the web site Server identifies you and records data that can be shared other online sellers.

Purposes of Cookie

- **Session management** – cookies allow you to manage any information that the server should remember. For example, logins, shopping carts, etc.

- **Personalization** – cookies allow you to store user preferences, themes, and setting specific to a user.

- **Tracking** – cookies help record and analyze user behaviors in advertising.

Example of Cookie

```
HTTP/1.1 200 OK
Content-type: text/html
Set-Cookie:user=programming-hero
; expire=Tue, 12-December-2030 12:10:00 GMT; domain=example.com; path=/dom; secure
...
```

Parts of Cookie

Name – a unique name that identifies the cookie. The cookie names are case-insensitive. It means that Username and username are the same cookies.

Secure flag – if specified, the web browser only sends the cookie to the server only via an SSL connection (https, not http)

Path – path without the domain for which the cookie should be sent to the server. For example, you can specify that the cookie is accessible only from the https://www.example.com/dom/ so pages at https://www.example.com/ won't send the cookie information.

Expiration – timestamp that indicates when the web browser should delete the cookie (or when the browser should stop sending the cookie to the server).

Value – string value of the cookie. It must be URL-encoded.

Domain – a domain for which the cookie is valid.

Types of Cookie

1) First Party Cookie:

- Created by the website you are currently visiting.

- Purpose is to save your preferences for that website.

- Saving your last shopping cart for an website can be an example of it.
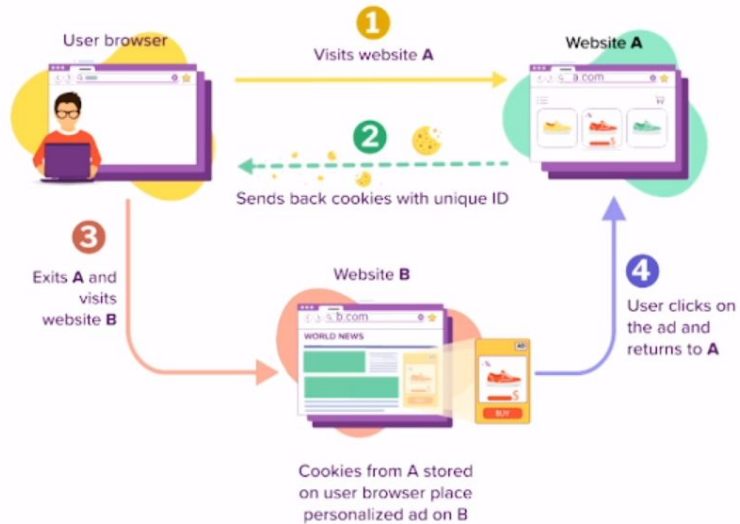
2) Third Party Cookie:

- Created by a different website than the website you are currently visiting.

- Creating ads and sending cookie can be an example of it.

3ʳᵈ Party Cookie vs 1ˢᵗ Party Cookie

3rd Party Data

User browser

① Visits website **A**

Website **A**

② Sends back cookies with unique ID

③ Exits **A** and visits website **B**

Website **B**

④ User clicks on the ad and returns to **A**

Cookies from A stored on user browser place personalized ad on B

1st Party Data

User browes to website A

www.A.com

Website plants a 1ˢᵗ party cookie cookie to identify them when they return.

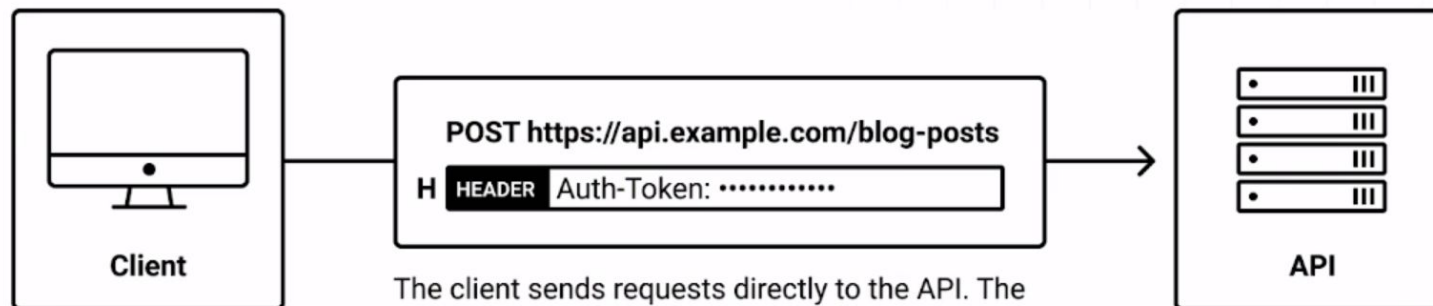Program... Hero

What is Http only cookie?

- A tag added to a browser cookie.

- Prevents client-side scripts from accessing data.

- Provides a gate that prevents the specialized cookie from being accessed by anything other than the server.

Http only cookie for securing authentication

POST https://api.example.com/blog-posts

H **HEADER** Auth-Token: ••••••••••••

The client sends requests directly to the API. The auth token is stored in localStorage.

Client

API

Get Cookie value

```
//get cookie value from browser
document.cookie

//get cookie value as array
document.cookie.split('; ')

//get cookie value in key-value pair
document.cookie.split('; ').map(c => console.log(c))
```

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