

A SEMINAR ON WEB COOKIE



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What is a cookie?

A cookie is a small piece of data sent from a website and stored in the user's web browser while the user is browsing it.

Every time the user loads the website , the browser sends the cookie back to the server to notify user's previous activity.

Cookies are designed to be a reliable mechanism for websites to remember state ful information or to record the user's browsing activity.

Cookies are limited in size but the possibilities of data storage in them are endless.

Who is the inventor of cookie?

The term cookie is derived from the word " magic cookie" and is invented by the web browser programmer " LOU MONTULLI".

We can call a cookie as web cookie, internet cookie , browser cookie, or HTTP cookie.

A definitive specification for cookies as used in the real world was published as RFC 6265 in April 2011.

Why are cookies used?

Cookies are a convenient way to carry information from one session on a website to another, or between sessions on related websites, without having to burden a server machine with massive amounts of data storage.

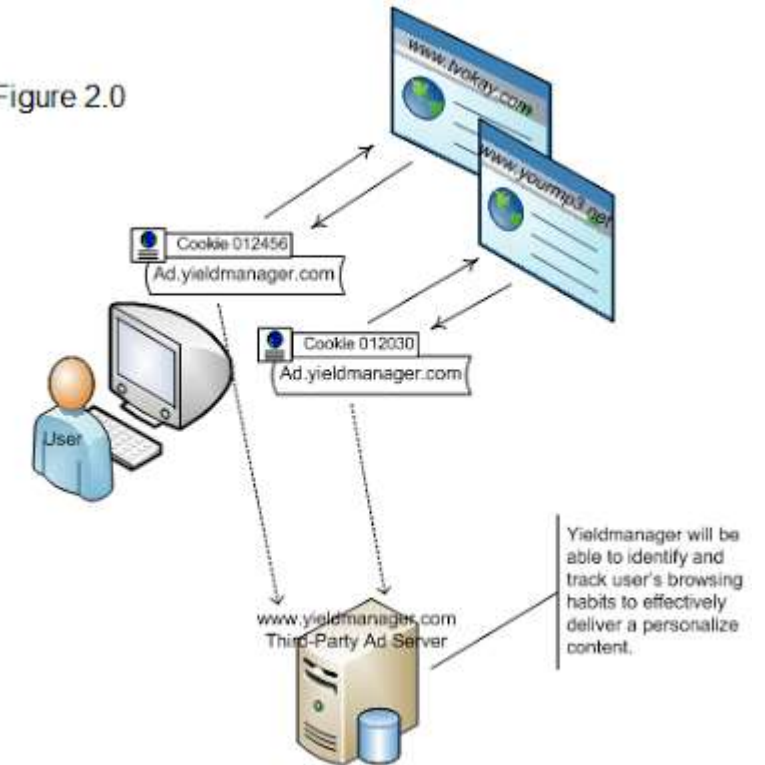
Storing the data on the server without using cookies would also be problematic because it would be difficult to retrieve a particular user's information without requiring a login on each visit to the website.

If there is a large amount of information to store, then a cookie can simply be used as a means to identify a given user so that further related information can be looked up on a server-side database.

How does a cookie work?

- Whenever we are visiting a website for the 1st time it stores our personal preferences in our web browser on a cookie.
- On the 2nd time when we visit the same website there is no need to provide the details again as the website can remember our preferences through the cookies.
- The web browser on the 2nd visiting sends the stored cookies back to the only related server to notify user's previous activity.

Figure 2.0



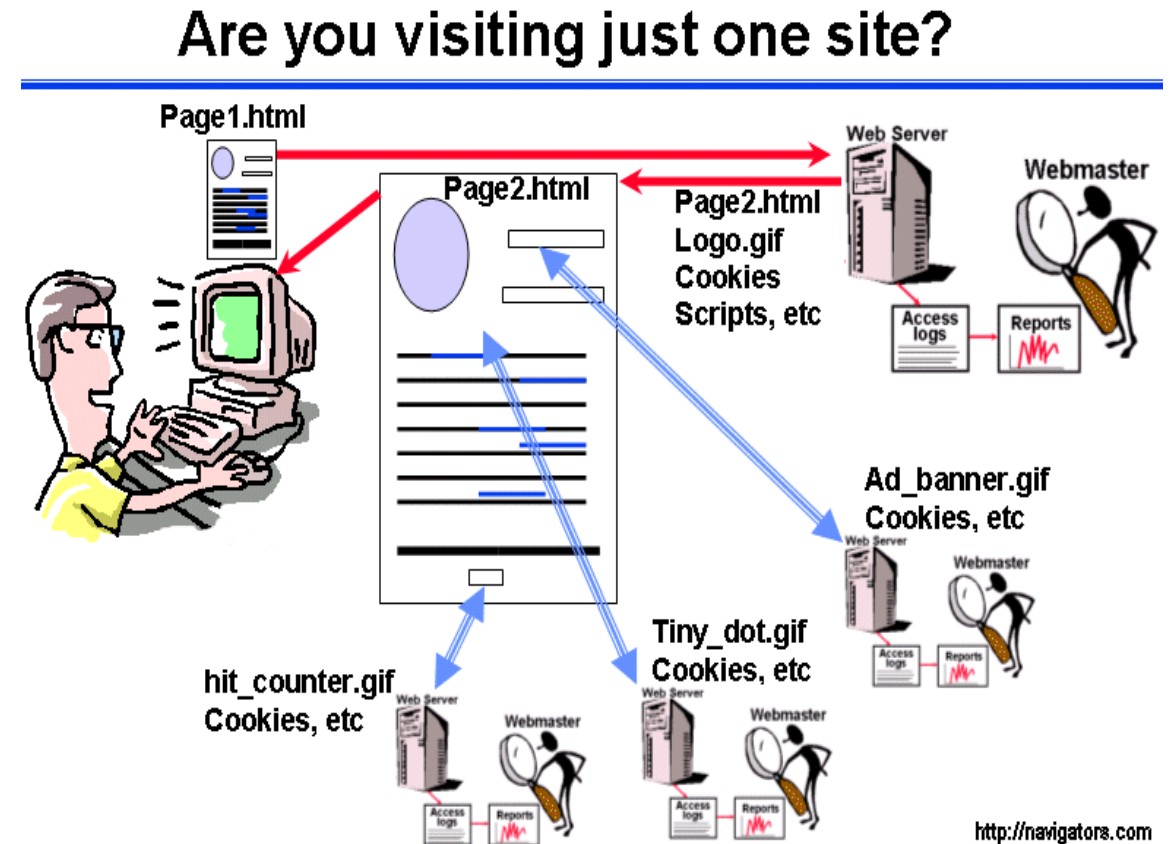
How long does a cookie last?

1.The time of expiry of a cookie can be set when the cookie is created.

2.By default the cookie is destroyed when the current browser window is closed, but it can be made to persist for an arbitrary length of time after that.

Are cookies harmful?

There is a lot of concern about privacy and security on the internet. Cookies do not in themselves present a threat to privacy, since they can only be used to store information that the user has volunteered or that the web server already has. Whilst it is possible that this information could be made available to specific third party websites, this is no worse than storing it in a central database. If you are concerned that the information you provide to a webserver will not be treated as confidential then you should question whether you actually need to provide that information at all.



Who can read the cookie's content?

Security of the cookies depend upon

1. Security of the website
2. Security of the web browser
3. Where the data is encrypted

A hacker can read cookie's data with a security vulnerability.

This ability is used to access user's data with the user's credentials.

When a cookie is created it is possible to control its visibility by setting its 'root domain'. It will then be accessible to any URL belonging to that root. For example the root could be set to "whatarecookies.com" and the cookie would then be available to sites in "www.whatarecookies.com" or "xyz.whatarecookies.com" or "whatarecookies.com". This might be used to allow related pages to 'communicate' with each other. It is not possible to set the root domain to 'top level' domains such as '.com' or '.co.uk' since this would allow widespread access to the cookie.

By default cookies are visible to all paths in their domains, but at the time of creation they can be restricted to a given sub path - for example "www.whatarecookies.com/images".

What are the types of cookies?

Session cookie/Transient cookies/In-memory cookie

Persistent cookie/Tracking cookie

Secure cookie

Http Only cookie

Third-party cookie

Super cookie

Zombie cookie

In modern web two most important cookies are

- Authentication cookie

- Tracking cookie

What is the structure of a cookie?

A cookie consists of the following components

1. Name
2. Value
3. Zero or more attributes

How cookies are used?

Session management

Personalisation

Tracking

Identification during e-commerce

Customising sites

Focusing advertising

A solid orange horizontal bar at the bottom of the slide.

How cookies are implemented?

Setting a cookie

Cookie attributes

Domain and path

Expires and max age

Secure and http only

BROWSER SETTING

To enable or disable cookies completely, so that they are always accepted or always blocked.

To view and selectively delete cookies using a cookie manager.

To fully wipe all private data , including cookies

Privacy and third-party cookies

The tracking cookies , and especially third-party tracking cookies , are commonly used as ways to compile long term records of individuals' browsing histories—a potential privacy concern that prompted European and U.S. law makers to take action in 2011. European law requires all websites targeting European Union member states gain “informed consent ” from users before storing non-essential cookies on their device.



Cookie theft and session hijacking

Network eavesdropping

Publishing false sub-domain(DNS cache poisoning)

Cross-site scripting (cookie theft)

Cross-site scripting (proxy request)

Cross-site request forgery

What are the drawbacks of cookies?

Inaccurate identification

Inconsistent state on client and server

Inconsistent support by devices

What are the alternatives to cookies?

IP address

Hidden from fields

URL(query string)

HTTP authentication

Identifier for advertisers

Web storage

Cache

Browser fingerprint

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THANK YOU