

# What's Behind a Cookie?

In this lesson, we'll study how cookies are set, requested, and what directives they can have.

## We'll cover the following ^

- Expires
- Max-Age
- Domain
- Path

A server can send a cookie using the `Set-Cookie` header.

```
HTTP/1.1 200 Ok
Set-Cookie: access_token=1234
...
```

A client will then store this data and send it in subsequent requests through the `Cookie` header.

```
GET / HTTP/1.1
Host: example.com
Cookie: access_token=1234
...
```

Note that servers can send multiple cookies at once,

```
HTTP/1.1 200 Ok
Set-Cookie: access_token=1234
Set-Cookie: user_id=10
...
```

and clients can do the same in their request.

```
GET / HTTP/1.1
Host: example.com
Cookie: access_token=1234; user_id=10
```

...

In addition to the plain *key* and *value*, cookies can carry additional directives that limit their time-to-live and scope.

## Expires #

Specifies when a cookie should expire, so that browsers do not store and transmit it indefinitely. A clear example is a session ID, which usually expires after some time. This directive is expressed as a date in the form of `Date: <day-name>, <day> <month> <year> <hour>:<minute>:<second> GMT`, like `Date: Fri, 24 Aug 2018 04:33:00 GMT`. Here's a full example of a cookie that expires on the first of January, 2018:

```
access_token=1234;Expires=Fri, 24 Aug 2018 04:33:00 GMT
```

## Max-Age #

Similar to the `Expires` directive, `Max-Age` specifies the number of seconds until the cookie should expire. A cookie that should last one hour would look like the following:

```
access_token=1234;Max-Age=3600
```

## Domain #

This directive defines which hosts the cookie should be sent to. Remember, cookies generally contain sensitive data, so it's important for browsers not to leak them to untrusted hosts. A cookie with the directive `Domain=trusted.example.com` will not be sent along with requests to any domain other than `trusted.example.com`, not even the root domain, `example.com`. Here's a valid example of a cookie limited to a particular subdomain:

```
access_token=1234;Domain=trusted.example.com
```

## Path #

Path is similar to the `Domain` directive but applies to the URL path (`/some/path`). This directive prevents a cookie from being shared with untrusted paths, such as in the following example:

```
access_token=1234;Path=/trusted/path
```

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In the next lesson, we'll study session and persistent cookies.

