




PHP *State*



HTTP is a **stateless protocol**,
which means that once a web
server completes a request,
the connection **goes away**

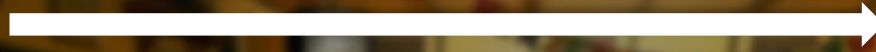


Client



Server

1

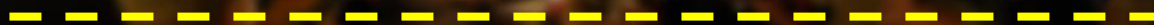


"Hello, server!"

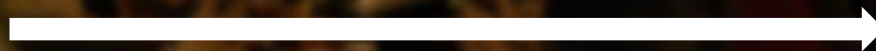
2



"Hello, client!"

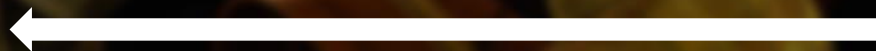


3



"Hello again!"

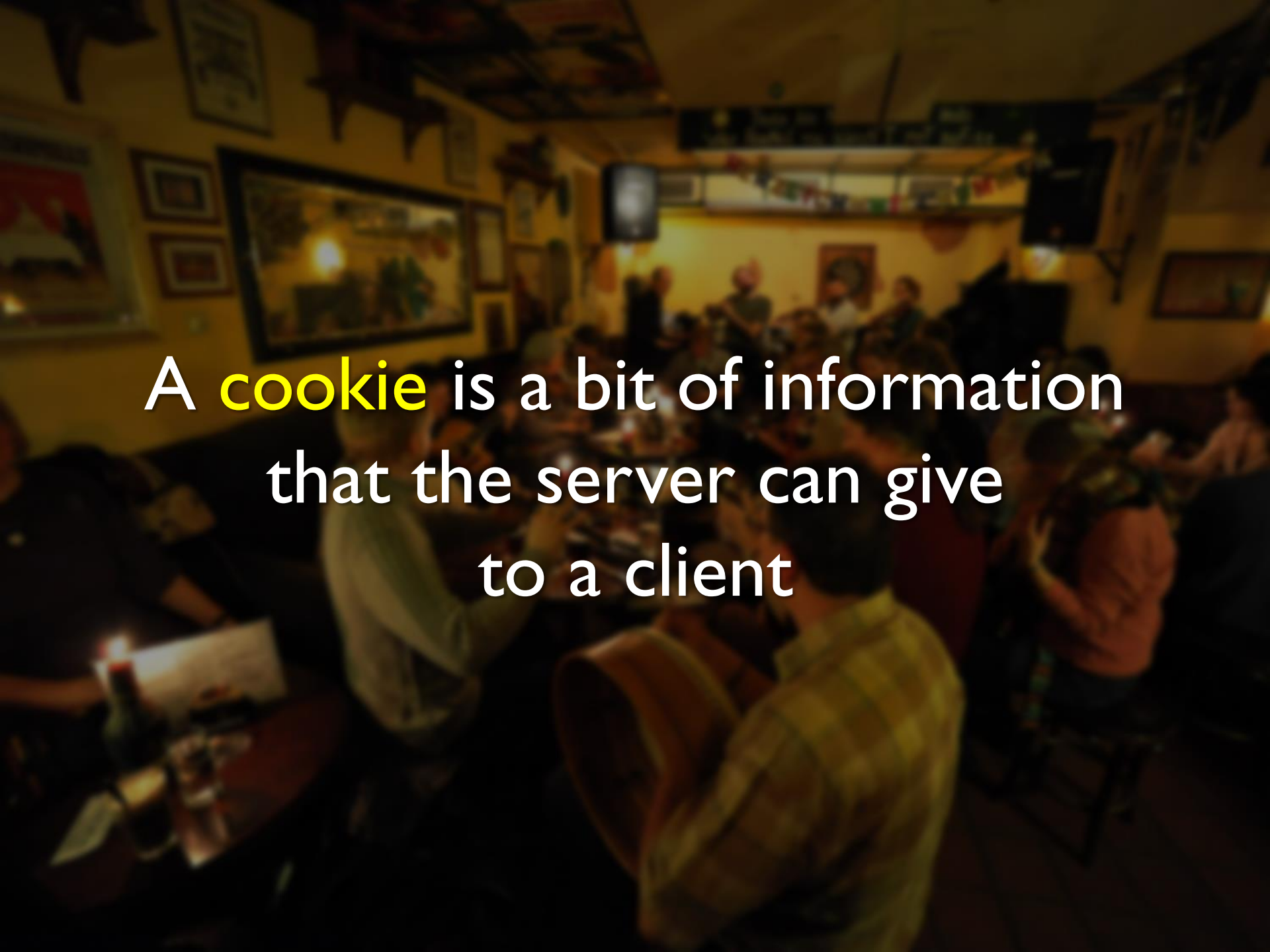
4




"Sorry, but I don't
know you"



One technique for
maintaining state is to use
cookies



A **cookie** is a bit of information
that the server can give
to a client



On every subsequent request,
the client will give that
cookie back to the server



Client



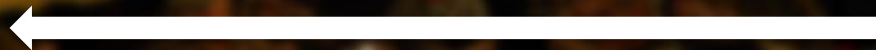
Server

1



Request

2



Response + **Cookie**

3



Request + **Cookie**

4



Response



Client



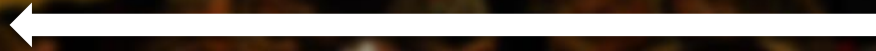
Server

5



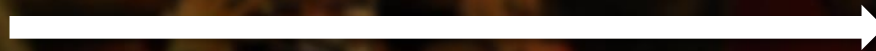
Request + Cookie

6



Response

7

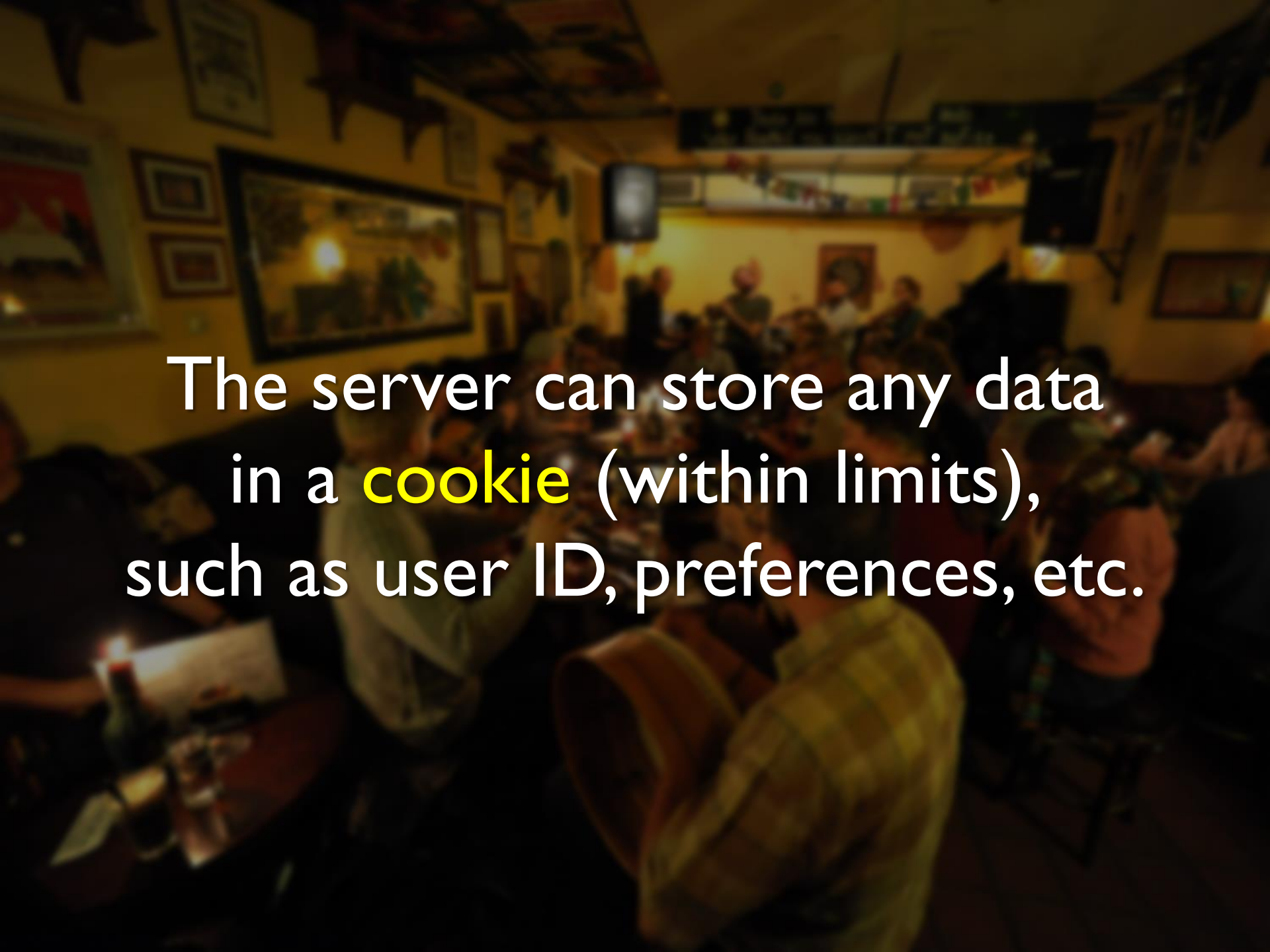


Request + Cookie

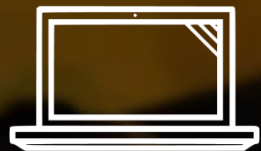
8



Response



The server can store any data
in a **cookie** (within limits),
such as user ID, preferences, etc.



Client



Server

1

"Hello, server!"

2

"Hello, client!
Your ID is 4646"

3

"Hello again!
I'm user 4646"

4

"Hi, user 4646!"

Settings

Language:

English

v

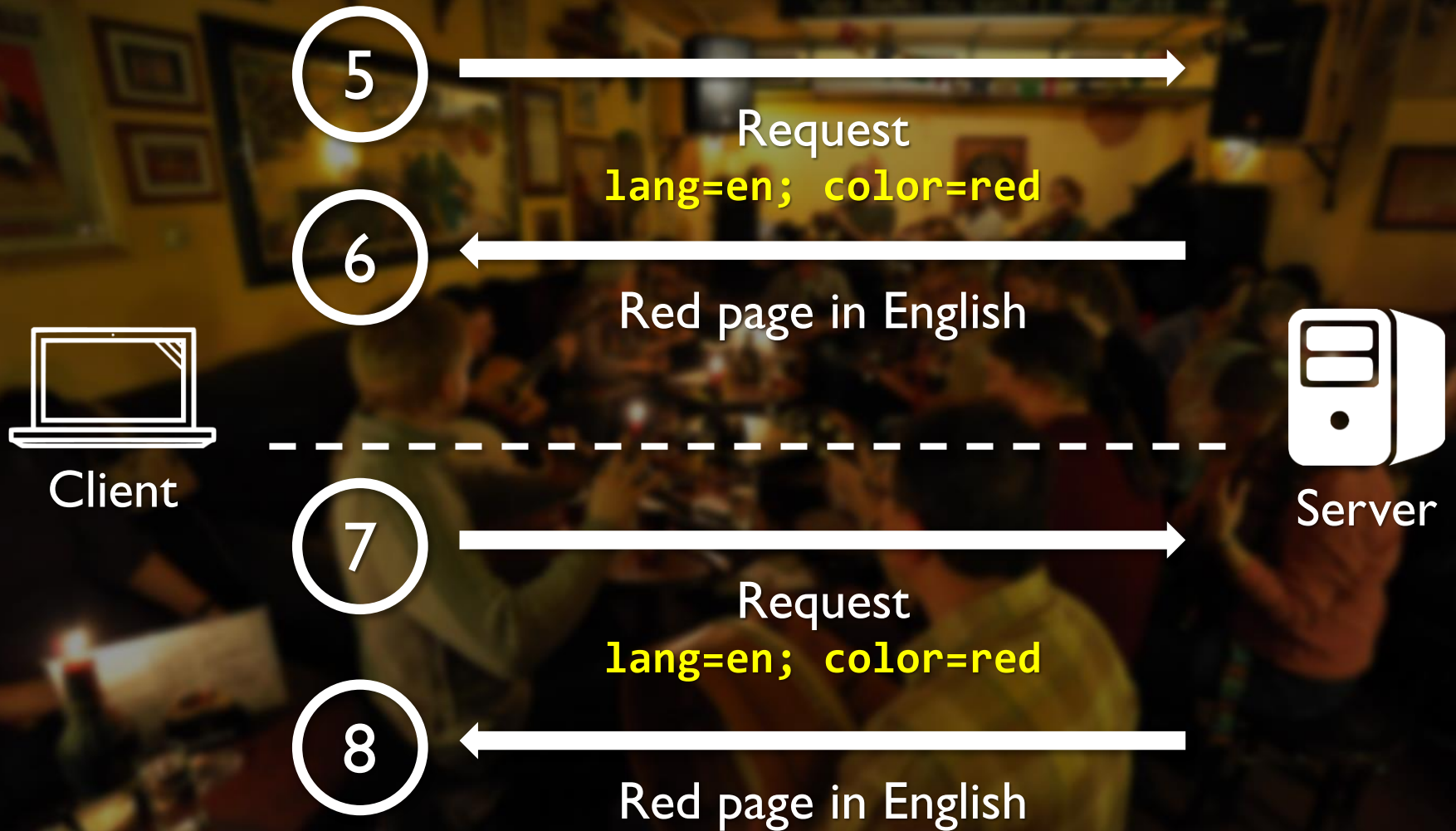
Color:


Red

v

Save







GET /tentang/profil-universitas HTTP/1.1
Host: ub.ac.id
Connection: keep-alive
Accept: text/html
User-Agent: Chrome/40.0.2214.115
Accept-Encoding: gzip, deflate
Accept-Language: id,en-US
Referer: http://ub.ac.id
Cookie: lang=en; color=red




So, **cookies** are like **variables** that
can be recognized by different pages



Use the **setcookie()** function
to send a **cookie** to the browser

A dimly lit pub or bar with patrons seated at tables, some holding glasses, and a large framed picture on the wall.

```
setcookie(name[,value[,expire[,path[,domain[,secure]]]]]);
```



```
setcookie('userid', '4646');  
setcookie('lang', 'en');  
setcookie('color', 'red');
```




name is a unique name
for a particular cookie



The name must not contain
whitespace or semicolons



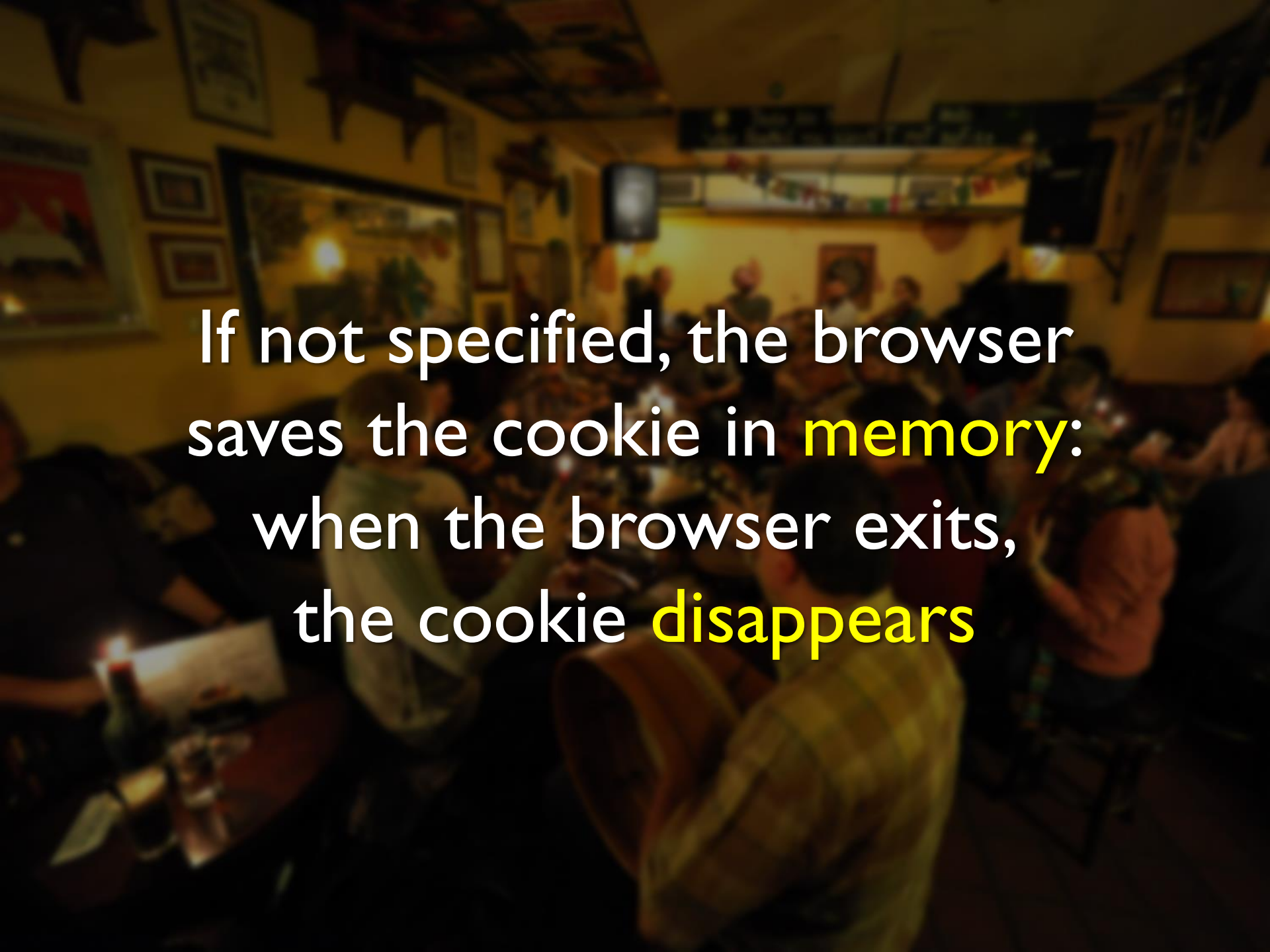
value is the string value
attached to this cookie



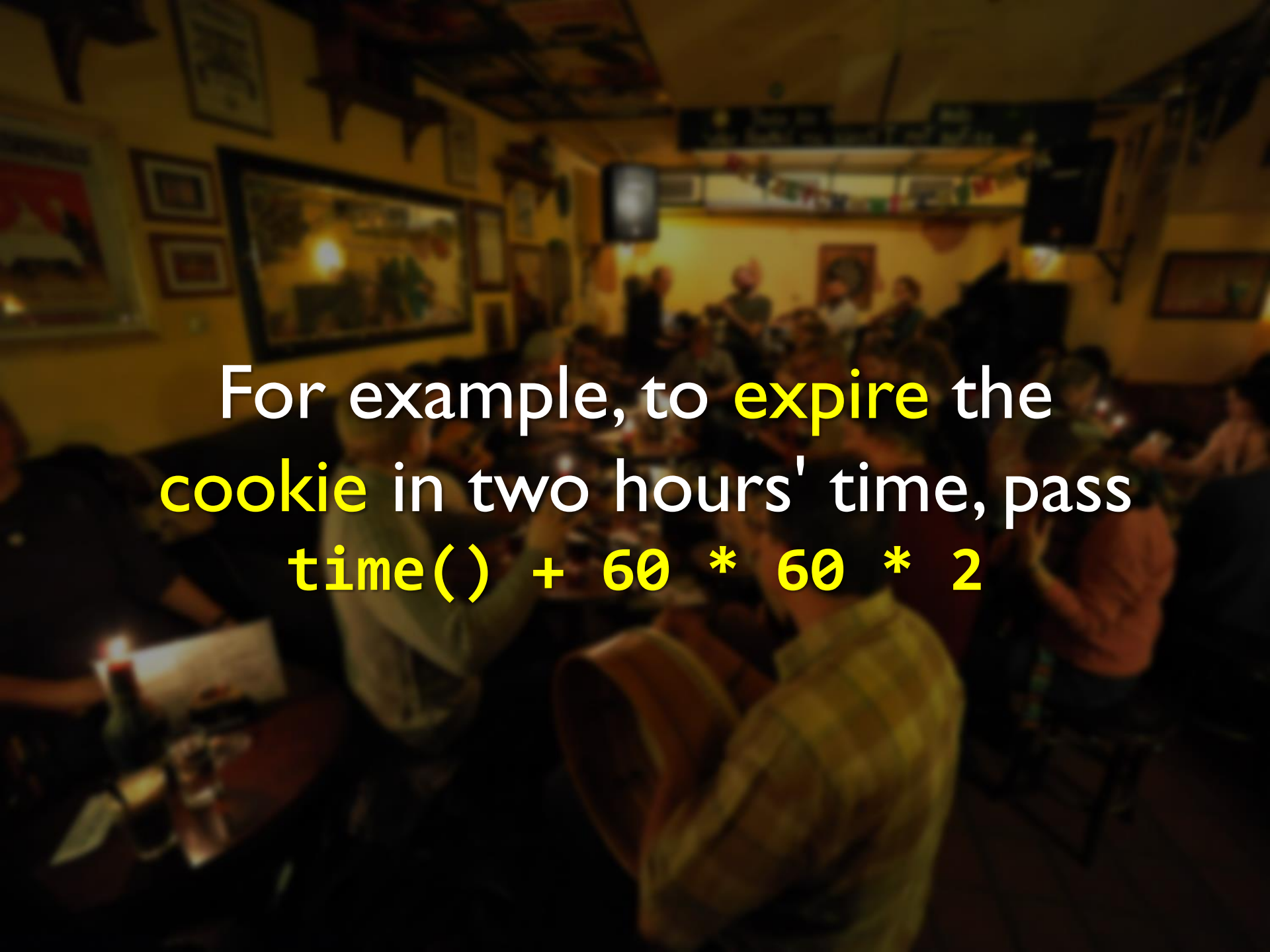
The original specification limited
the **total size** of a **cookie** to **4 KB**




expire is the expiration date
for this cookie



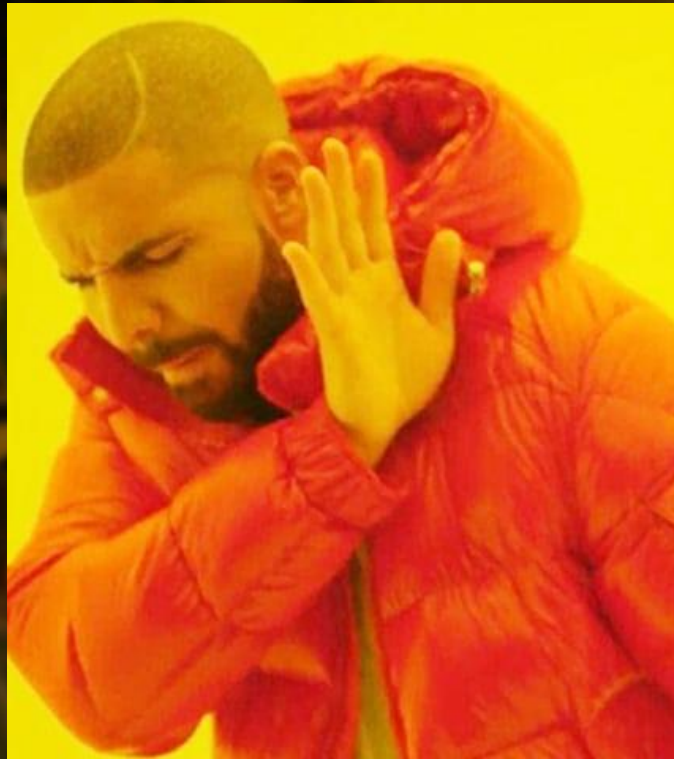
If not specified, the browser
saves the cookie in **memory**:
when the browser exits,
the cookie **disappears**



For example, to **expire** the **cookie** in two hours' time, pass
`time() + 60 * 60 * 2`



Because cookies are sent
as **headers** in the response,
setcookie() must be called
before any content is sent



```
<!DOCTYPE html>
```

```
<html>
```

```
<?php setcookie('userid', 4646); ?>
```

```
<head>
```

```
...
```




```
<?php setcookie('userid', 4646); ?>
```

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```


```
    ...
```

Cookies are automatically
sent to the web server
(and received/parsed by PHP)
each time a user visits a server



Cookies sent by clients
are available through the
\$_COOKIE array



The **key** is the **cookie name**,
and the **value** is the **cookie's**
value field



```
$lang = $_COOKIE['lang'];  
$color = $_COOKIE['color'];
```




Write this to `set_cookie.php`!

```
<?php setcookie('name', 'Supono'); ?>
<!DOCTYPE html>
<html>
<head></head>
<body>
    <h1>Cookies set!</h1>
    <a href="read_cookie.php">Check</a>
</body></html>
```

Write this to `read_cookie.php`!

```
<!DOCTYPE html>
<html>
<head></head>
<body>
    <h1>Hello,
        <?php
            echo isset($_COOKIE['name']) ?
                $_COOKIE['name'] :
                'guest';
        ?>
    !</h1>
    <a href="set_cookie.php">Set</a>
    <a href="remove_cookie.php">Remove</a>
</body></html>
```


Write this to **remove_cookie.php**!

```
<?php setcookie('name', ''); ?>
<!DOCTYPE html>
<html>
<head></head>
<body>
    <h1>Cookies removed!</h1>
    <a href="read_cookie.php">Check</a>
</body>
</html>
```

A dimly lit room, possibly a bar or a community hall, with people gathered around tables. The room is decorated with framed pictures on the walls and a large painting. The lighting is warm and low, creating a cozy atmosphere. The text "Sessions are similar to cookies" is overlaid in the center of the image.


Sessions
are similar to
cookies



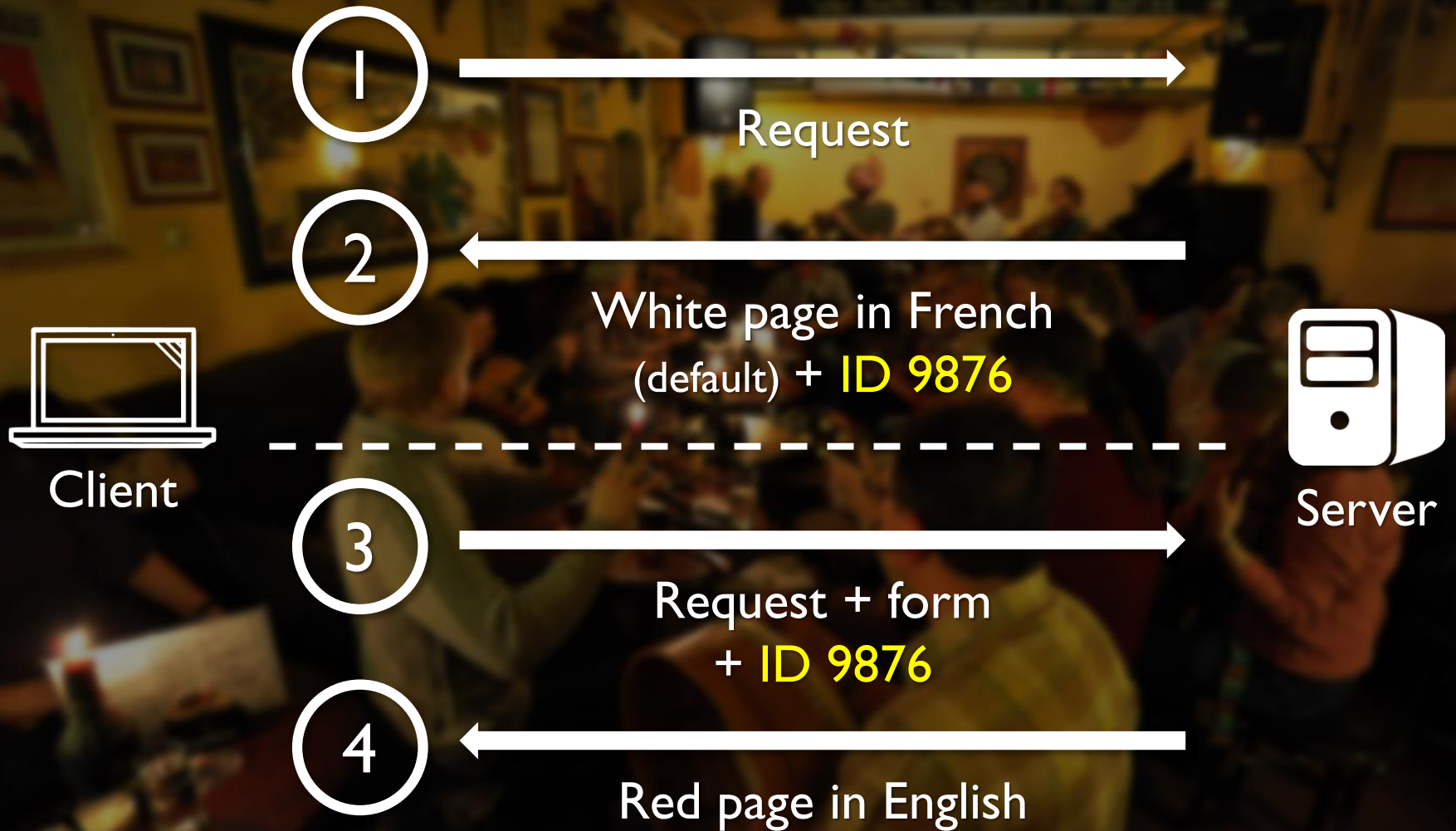
While **cookie data** are stored
on the **client**, **session data** are
stored on the **server**



It means **clients** do not have
access to the **session data**



It also means that, unlike cookies,
session data are not included
in HTTP **requests**





Client

5

Request + ID 9876

6

Red page in English

7

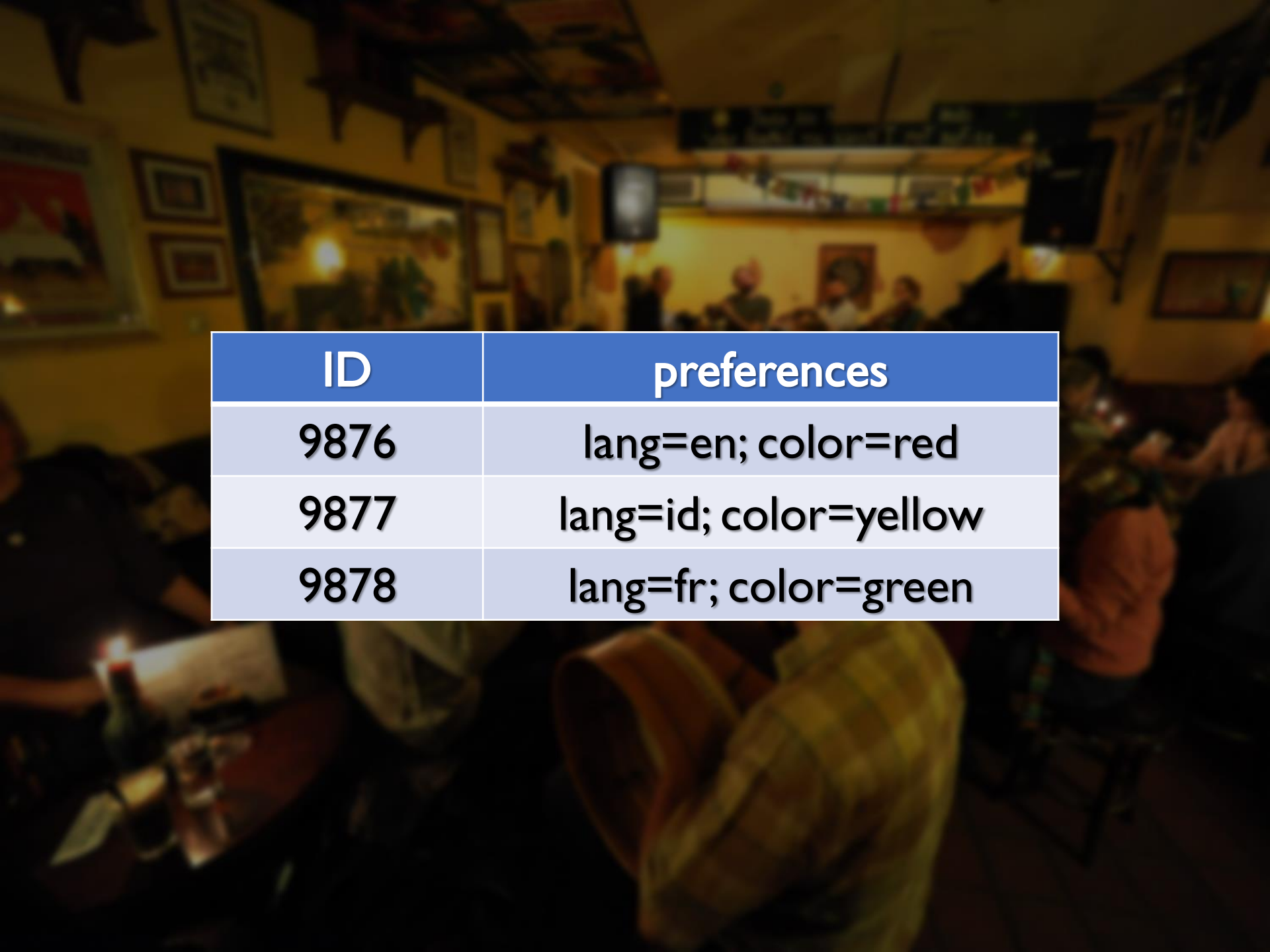
Request + ID 9876

8

Red page in English



Server



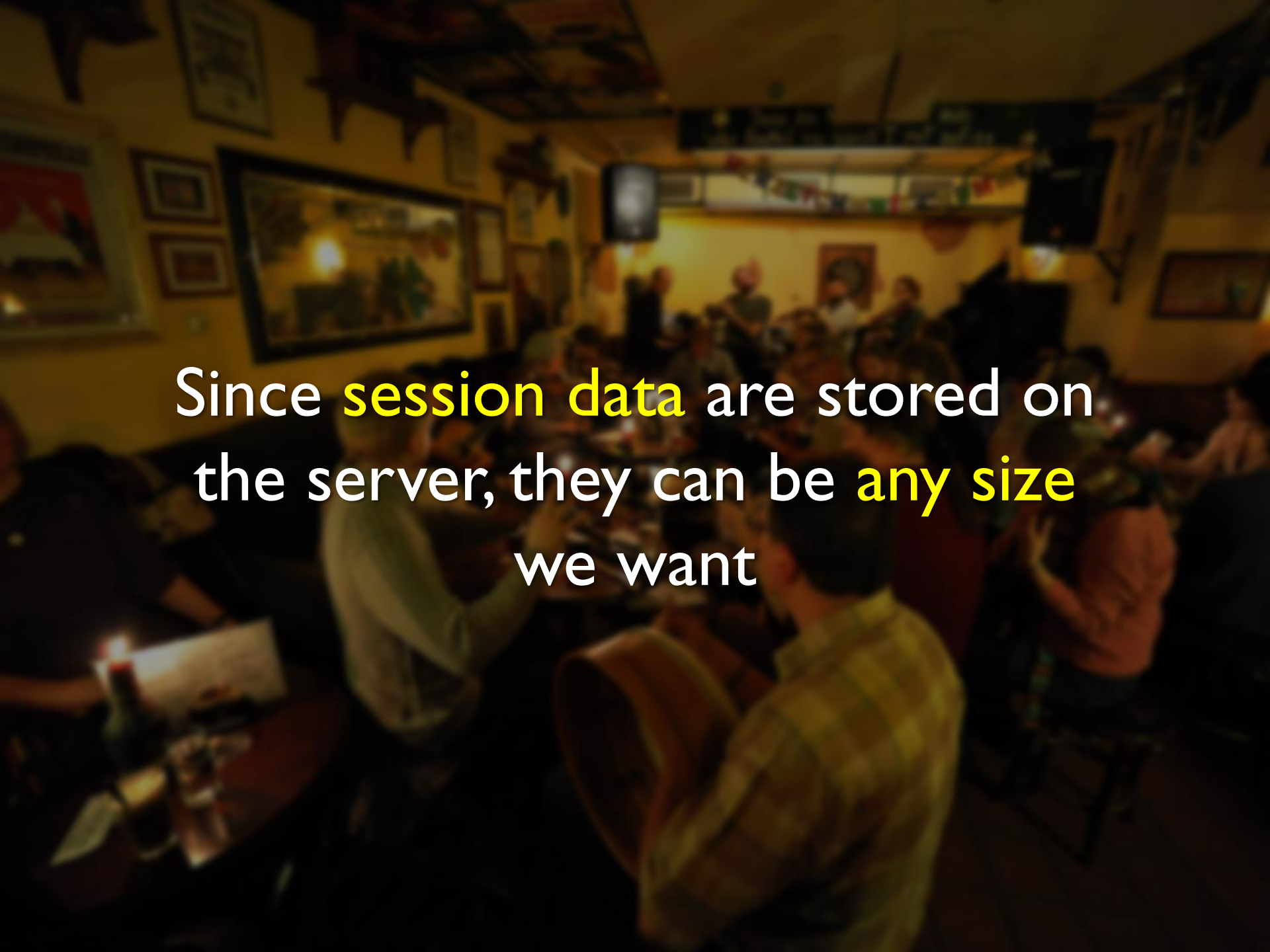
ID	preferences
9876	lang=en; color=red
9877	lang=id; color=yellow
9878	lang=fr; color=green



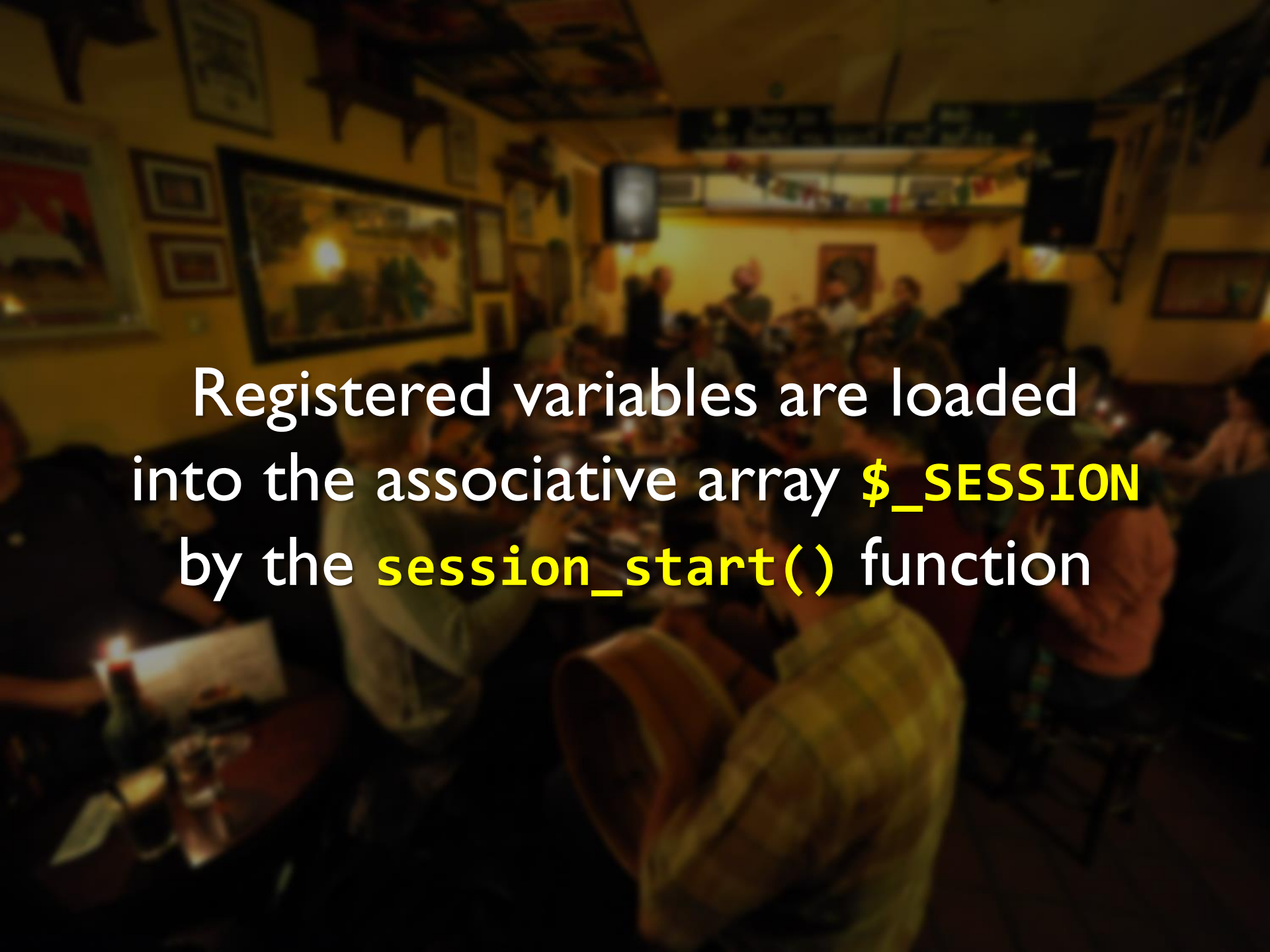
Each first-time visitor is issued
a unique **session ID**




By default, the **session ID** is stored
in a **cookie** called **PHPSESSID**



Since **session data** are stored on the server, they can be **any size** we want



Registered variables are loaded
into the associative array **\$_SESSION**
by the **session_start()** function

A dimly lit bar or pub interior. In the foreground, a man in a light-colored shirt is seated at a table, holding a drink. To his right, another man in a yellow plaid shirt is seated, also holding a drink. In the background, many other patrons are seated at tables, some holding drinks. The walls are decorated with framed pictures and a large painting. The lighting is warm and low, creating a cozy atmosphere.

```
session_start();  
$_SESSION['hits'] = $_SESSION['hits'] + 1;
```

A dimly lit room with people gathered around tables, possibly a workshop or meeting. The room has a warm, yellowish light and is decorated with framed pictures on the walls. In the foreground, a person is seen from the back, wearing a plaid shirt. To the left, a table has a lit candle and some papers. The background shows more people sitting at tables, and a small screen or monitor is visible on a stand in the center.

To end a session,
call **session_destroy()**



By default, PHP session ID cookies
expire when the **browser closes**

A dimly lit room, possibly a bar or a small theater, with people gathered around tables. The room is decorated with framed pictures on the walls and a large painting. The lighting is warm and low, creating a cozy atmosphere. In the foreground, a person is seen from the back, wearing a plaid shirt. To the left, a small table has a lit candle and some items on it. In the background, a group of people is standing and talking, and a small screen or stage is visible.

Sessions brings some
advantages over cookies:

A dimly lit room, possibly a restaurant or bar, with people seated at tables. The room has a warm, yellowish light and is decorated with framed pictures on the walls. The text "(1) Session can save large amount of data" is overlaid in the center of the image.

(1) Session can save large amount of data



(2) Since cookies are sent included in HTTP headers, sessions can save bandwidth

A dimly lit pub or bar with patrons seated at tables, some holding glasses, and a large painting on the wall.

(3) **Session** data is much
more secure

bye.

