



JÖNKÖPING UNIVERSITY

School of Engineering

COOKIES & SESSIONS

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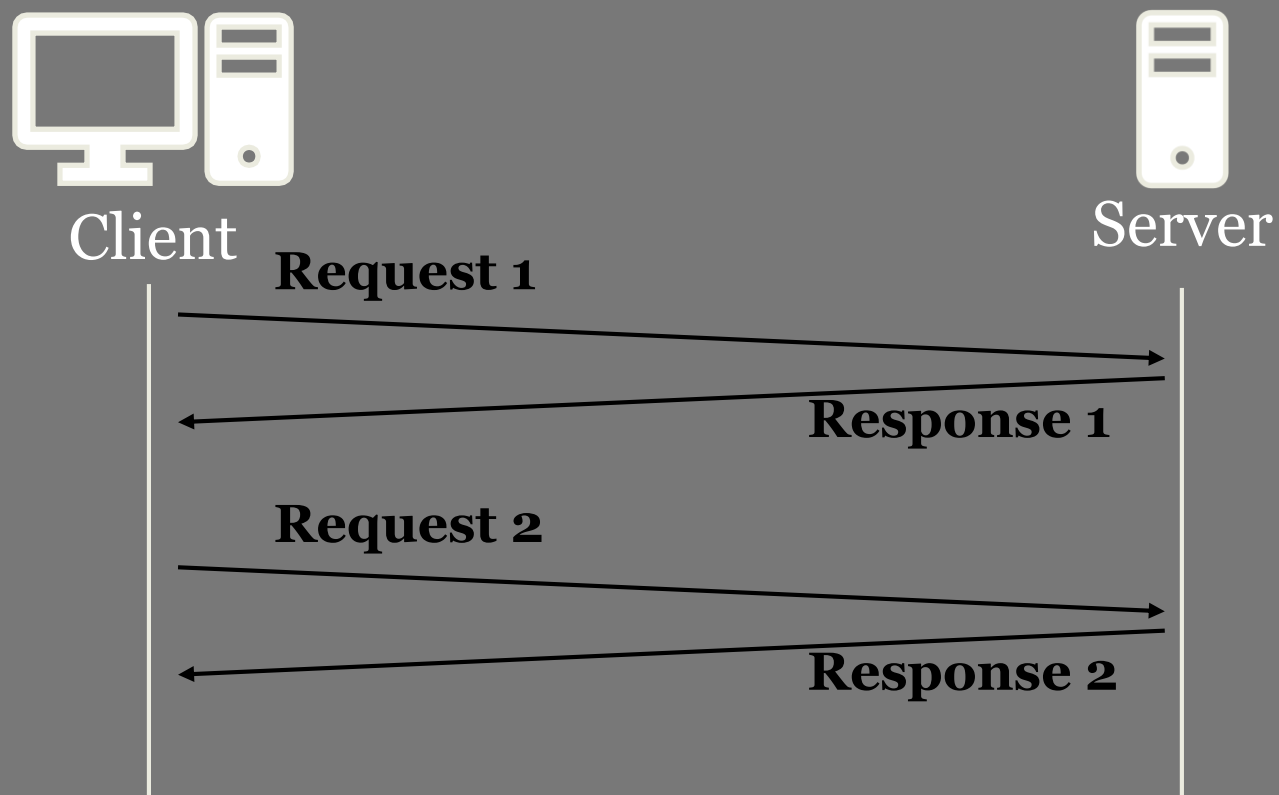
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WHY DO WE NEED COOKIES?

HTTP is stateless.

- Web application do not remember previous requests.



WHAT CAN WE USE COOKIES FOR?

Remembering the client's state between different request, e.g.:

- In a web shop, which items has the client put in the basket?
- On a search engine, what are the previous words the user has searched for?
- On a news site, which type of news are you interested in?

HOW DO COOKIES WORK?



Client



Server

Cookie

```
name: searches
value: -soccer
value: soccer,
       hockey
```

GET /search?query=soccer



200 Ok

Create cookie

```
name: searches
value: soccer
```

Search result...

GET /search?query=hockey

Cookie

```
name: searches
value: soccer
```



200 Ok

Create cookie

```
name: searches
value: soccer, hockey
```

Search result...

THE SPECIFICATION

HTTP State Management Mechanism:

- <https://tools.ietf.org/html/rfc6265>

THE DETAILS



Client



Server

HTTP Response



```
HTTP/1.1 200 OK
Content-Type: text/html
Content-Length: 28
Set-Cookie: searches=soccer

<html>The resource...</html>
```

THE DETAILS



Client



Server

HTTP Request

```
GET /search?query=hockey HTTP/1.1  
Accept: text/html  
Cookie: searches=soccer
```


EU COOKIE REGULATIONS

The ePrivacy Directive ("The Cookie Law"):

- http://ec.europa.eu/ipg/basics/legal/cookies/index_en.htm

General Data Protection Regulation (GDPR):

- <https://www.cookiebot.com/en/gdpr-cookies/>

Downsides with Cookies

Clients have access to cookies:

- Can read them.
- Can modify them.

SESSIONS



Client

POST /login

username: Alice

password: abc123



Server

Session

id: djshrksksjwh

loggedInAs: "Alice"

Cookie

name: sessionId

value: djshrksksjwh



200 Ok

Create cookie

name: sessionId

value: djshrksksjwh



GET /secret-page

Cookie:

name: sessionId

value: djshrksksjwh