

State Handling

IF3110 – Web-based Application Development
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Reference

RFC 6265 – HTTP State Management

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

Task in Web Application

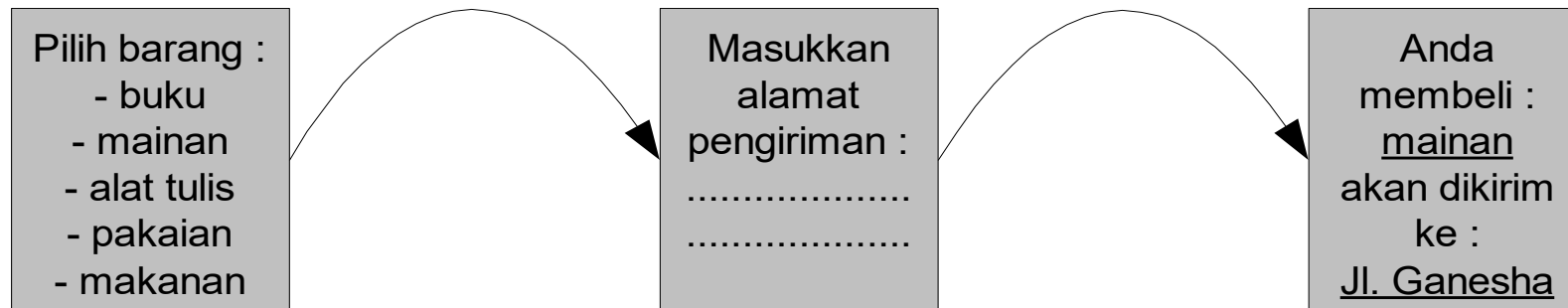
Application's features allow users to perform various tasks

To perform a task might involve one or more pages (as interface)

Example

1 page: read an article, add entry in a guestbook

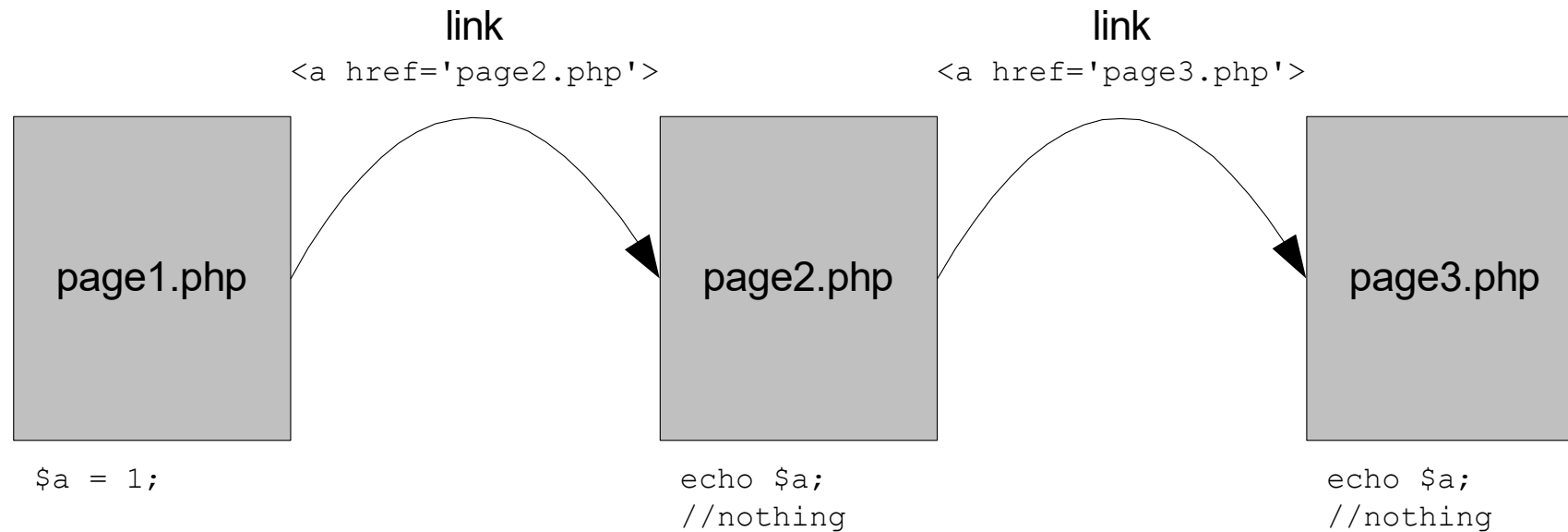
more pages: buying things online



Between pages should have a mechanism to manage the *state* of the task

Stateless HTTP

HTTP is *stateless*; no *state* is preserved between requests (at protocol level)

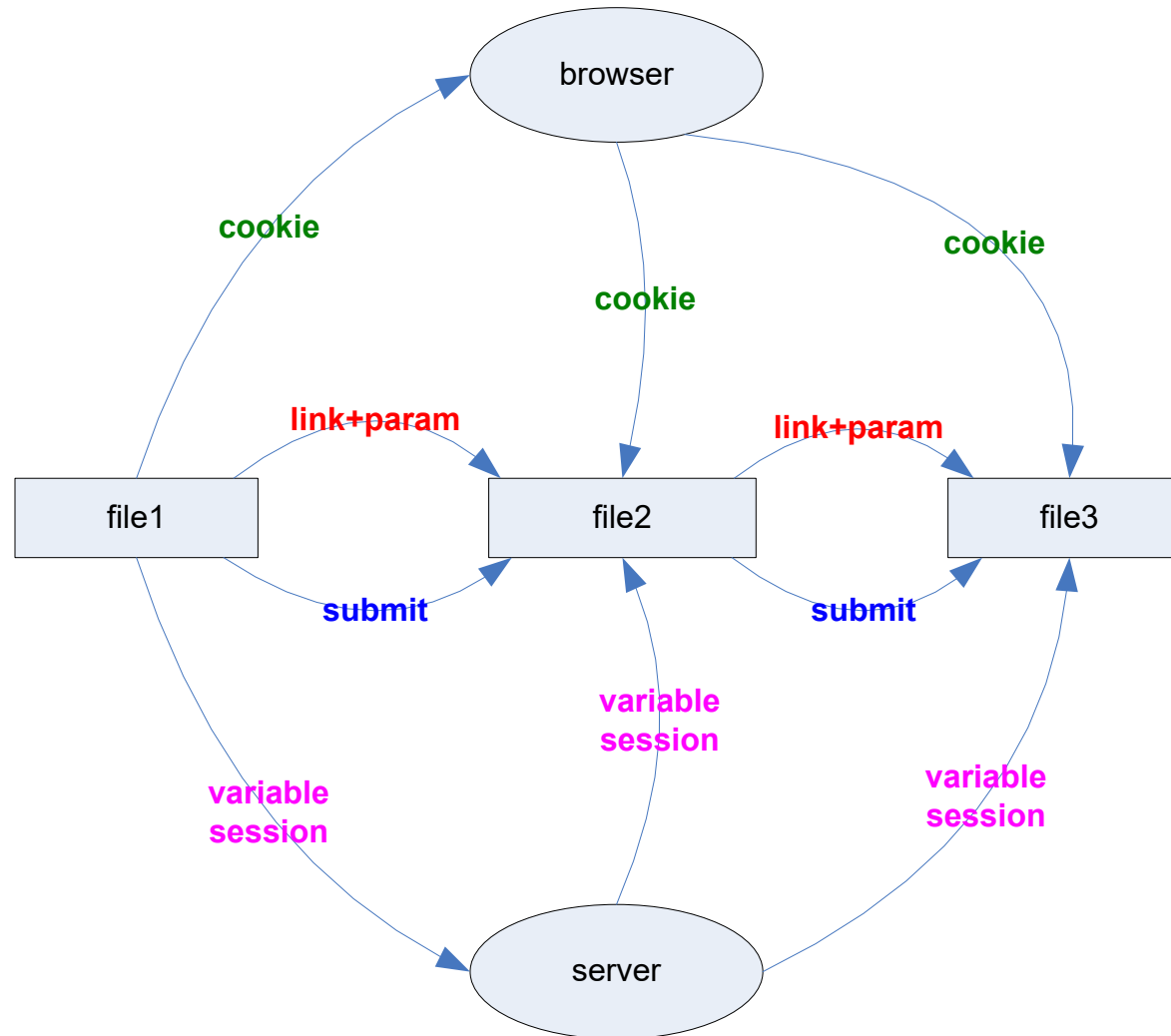


State Management

Definition

a process to maintain state and page information over multiple requests for the same/different pages

State Handling



Common Techniques

Technique to overcome this limitation

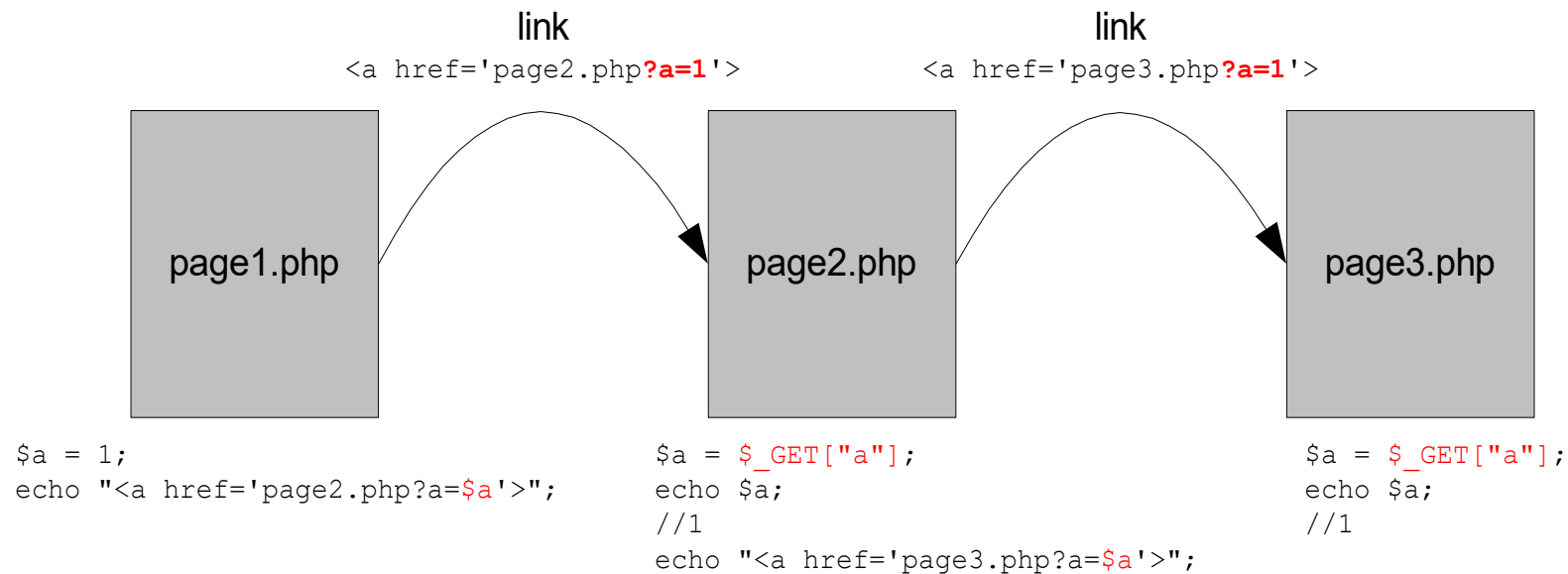
- message passing via URL/form
- Hidden field
- Cookie
- Session

Message Passing via URL

Variable is passed in the URL's parameter

Request: construct the parameter(s) in a URL

Response: access via `$_GET`



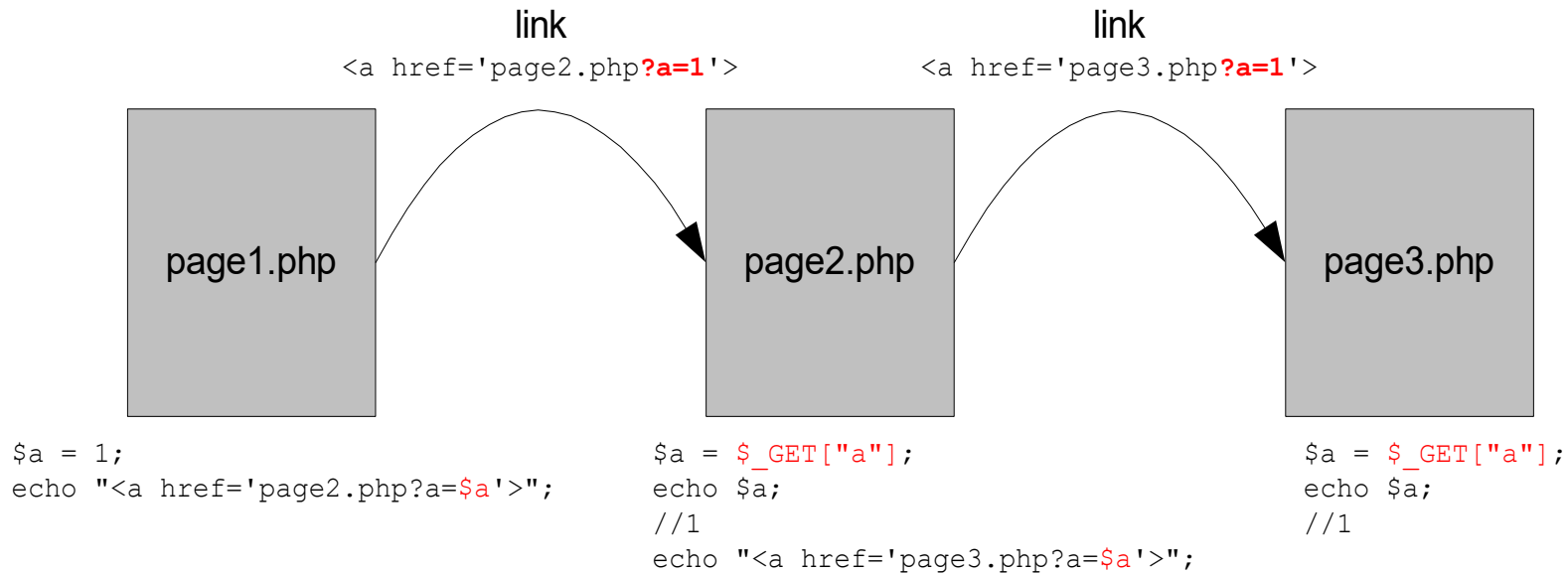
Hidden Field

Variable is passed in the hidden field

```
<input type="hidden" name="a" value="1">
```

Request: construct the parameter(s) in a URL or body

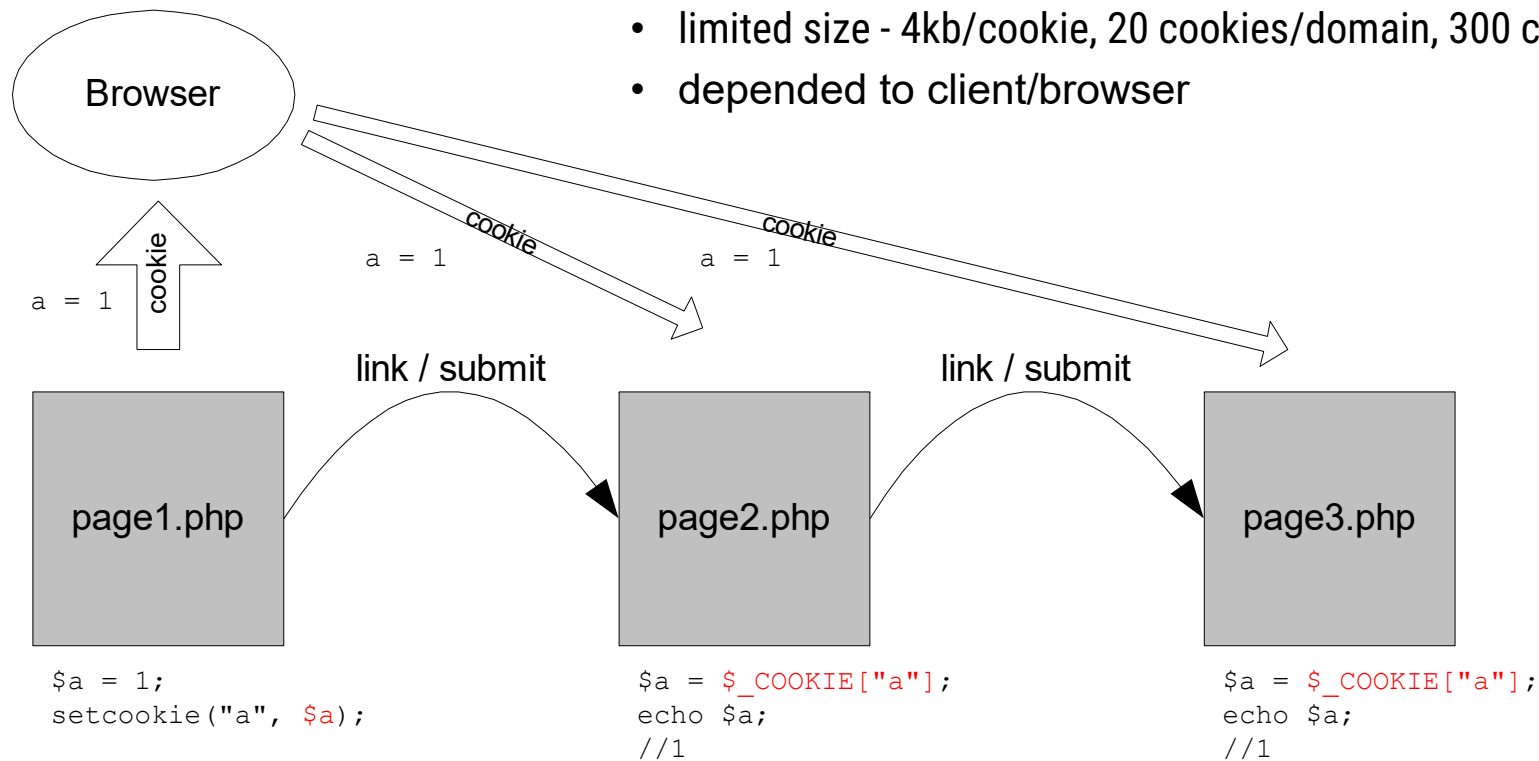
Response: access via `$_GET` or `$_POST`



Cookie

Variable is stored in the browser

- Request: `setcookie("name", "value")`
- Response: access via `$_COOKIE`
- Limitation:
 - limited size - 4kb/cookie, 20 cookies/domain, 300 cookies/client
 - depended to client/browser

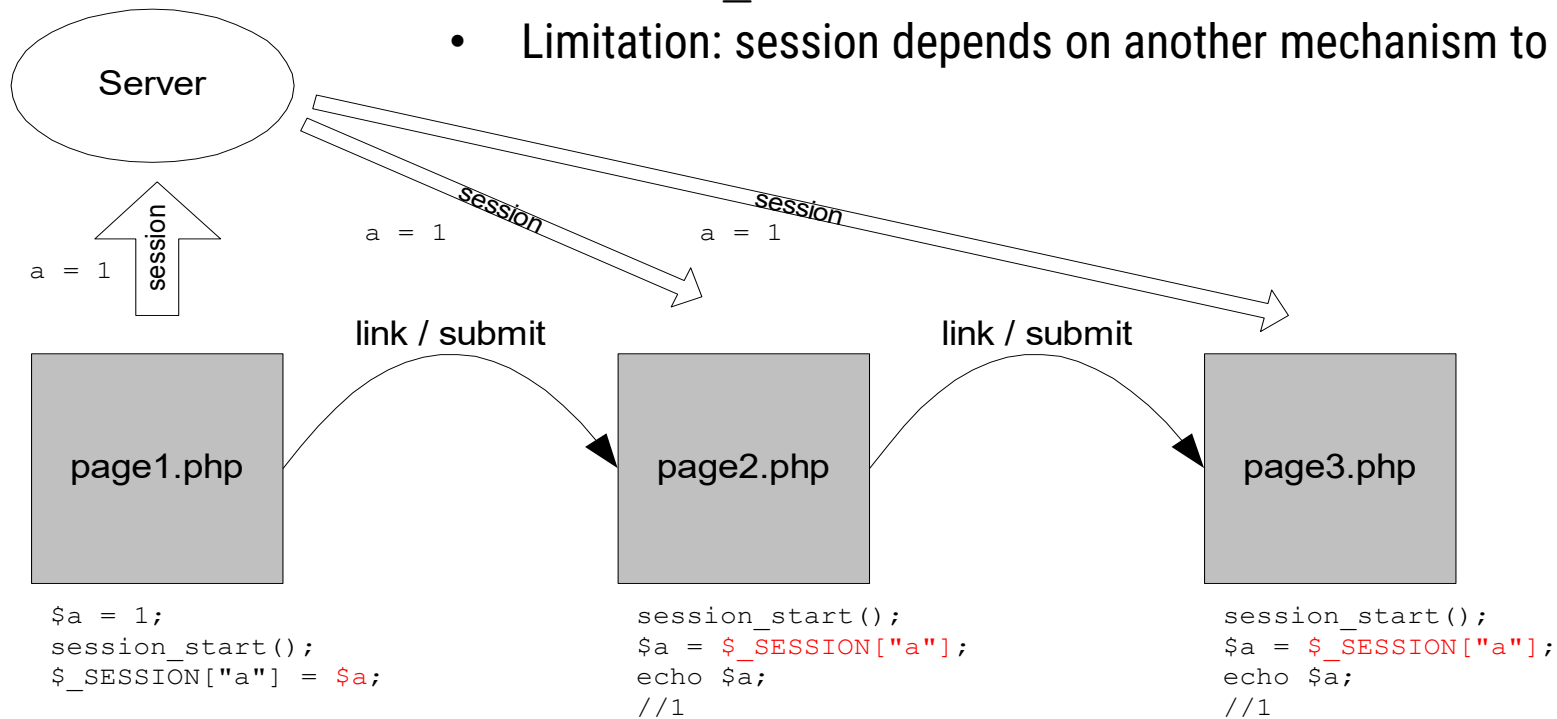


Session

Variable is stored in server

Request and Response via `$_SESSION`

- Function related to session handling: `session_start()`, `session_id()`, `session_destroy()`, etc
- Limitation: session depends on another mechanism to store session id



Short Question

Can you tell me the advantage & disadvantage of using

- cookies
- url
- hidden input
- session

Which one is the most secure?

Consideration

- Size of State Representation
- 3rd Party-Cookies
- User Access to State Representation