Charsets & Encodings

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About us

- Kore Nordmann, <kore@php.net>
  - Long time PHP developer
  - Regular speaker, author, etc.
  - Active open source developer: eZ Components (Graph, WebDav, Document), Arbit, PHPUnit, Torii, *PHPillow*, KaForkL, Image 3D, WCV, ...
- Manuel Pichler, <mapi@pdepend.org>
  - Born 1978
  - Diplom in Computer Science
  - Active open source developer: PHP_Depend, phpUnderControl, PHPMD

Outline

The terms

abc

?

.:?!

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  - UTF-7, UCS2, UCS4, ...

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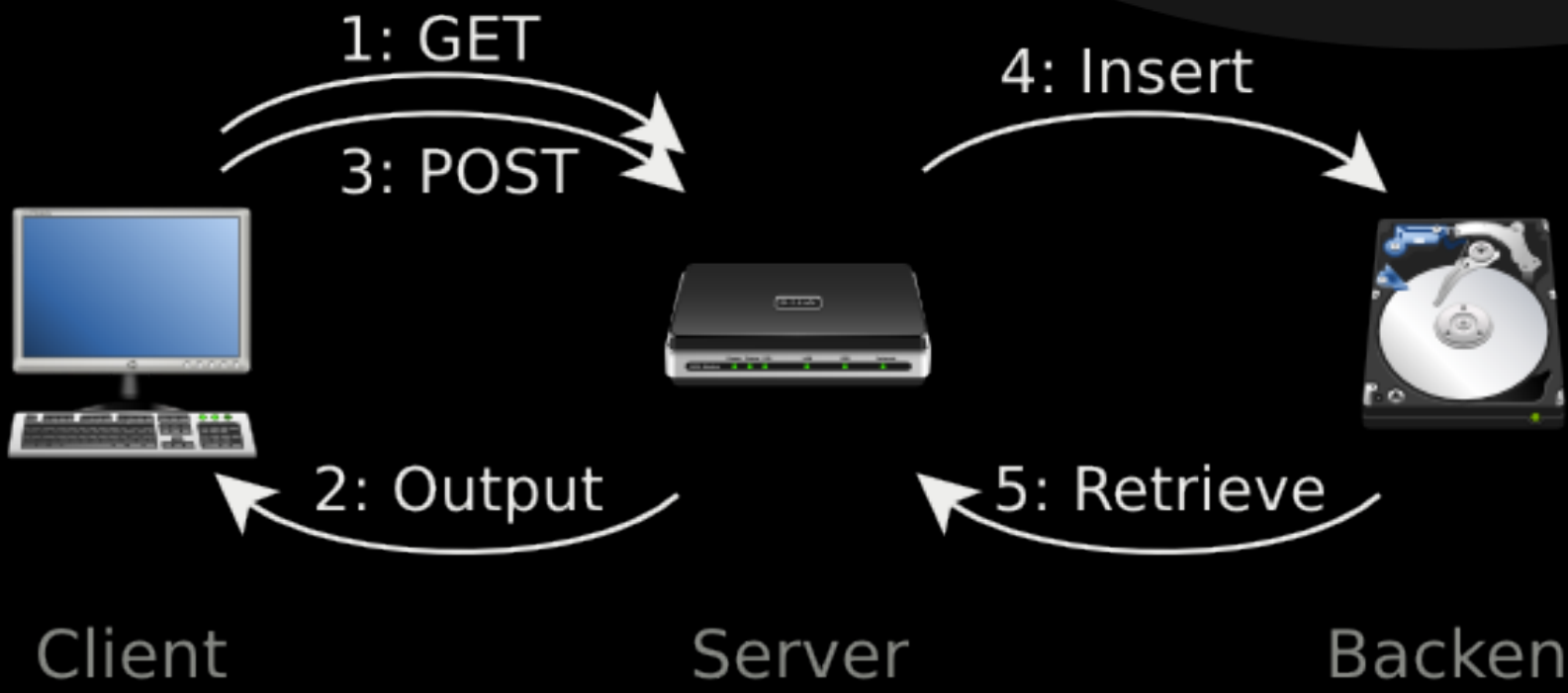
Common simplified request cycle



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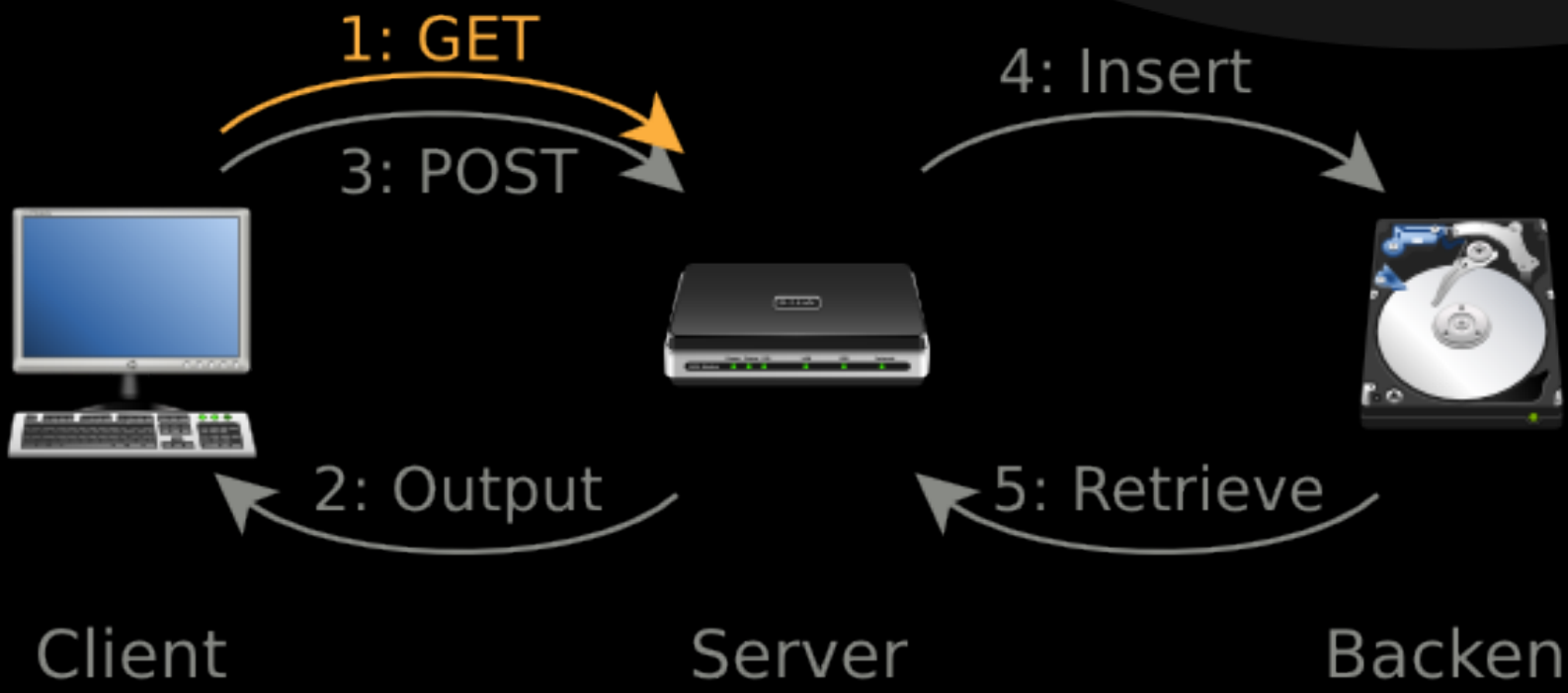

The browser request


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1 GET /path HTTP/1.1
2 Host:            example.com
3 User-Agent:      Mozilla/5.0 (X11; U; Linux x86_64; en-
      US; rv:1.9.1.5) Gecko/20091109 Firefox/3.5.5
4 Accept:          text/html,application/xhtml+xml,
      application/xml;q=0.9,*/*;q=0.8
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- Usage of charset vs. encoding: `http://kore-nordmann.de/blog/0082_charset_versus_encoding.html`

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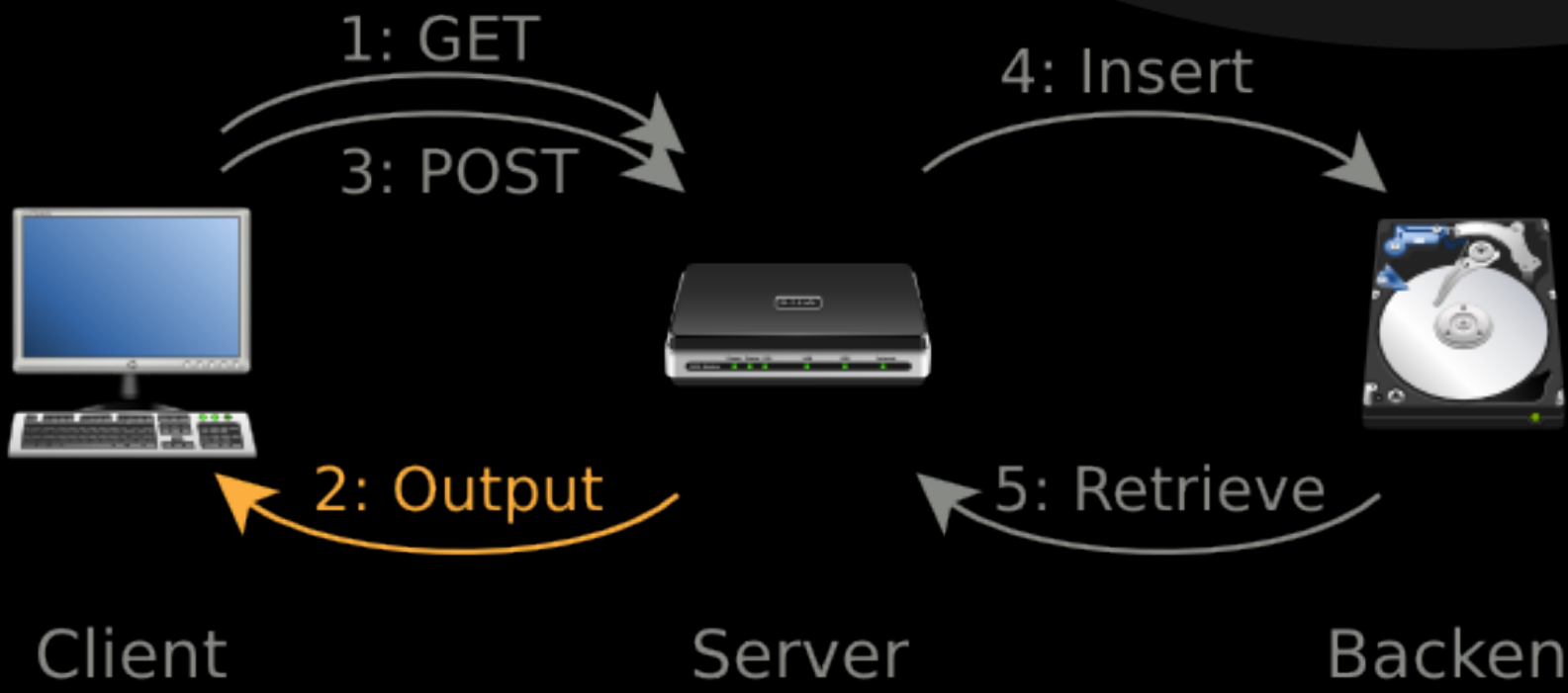

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  - Always using UTF-8 minimizes usage of Entities and necessary conversions

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  - Length of a string:

```
1 $ php -r 'var_dump(
2       strlen( öäü"" ),
3       iconv_strlen( öäü"", "UTF-8" )
4 );'
5 int(6)
6 int(3)
```

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- Should of course use the defined output encoding

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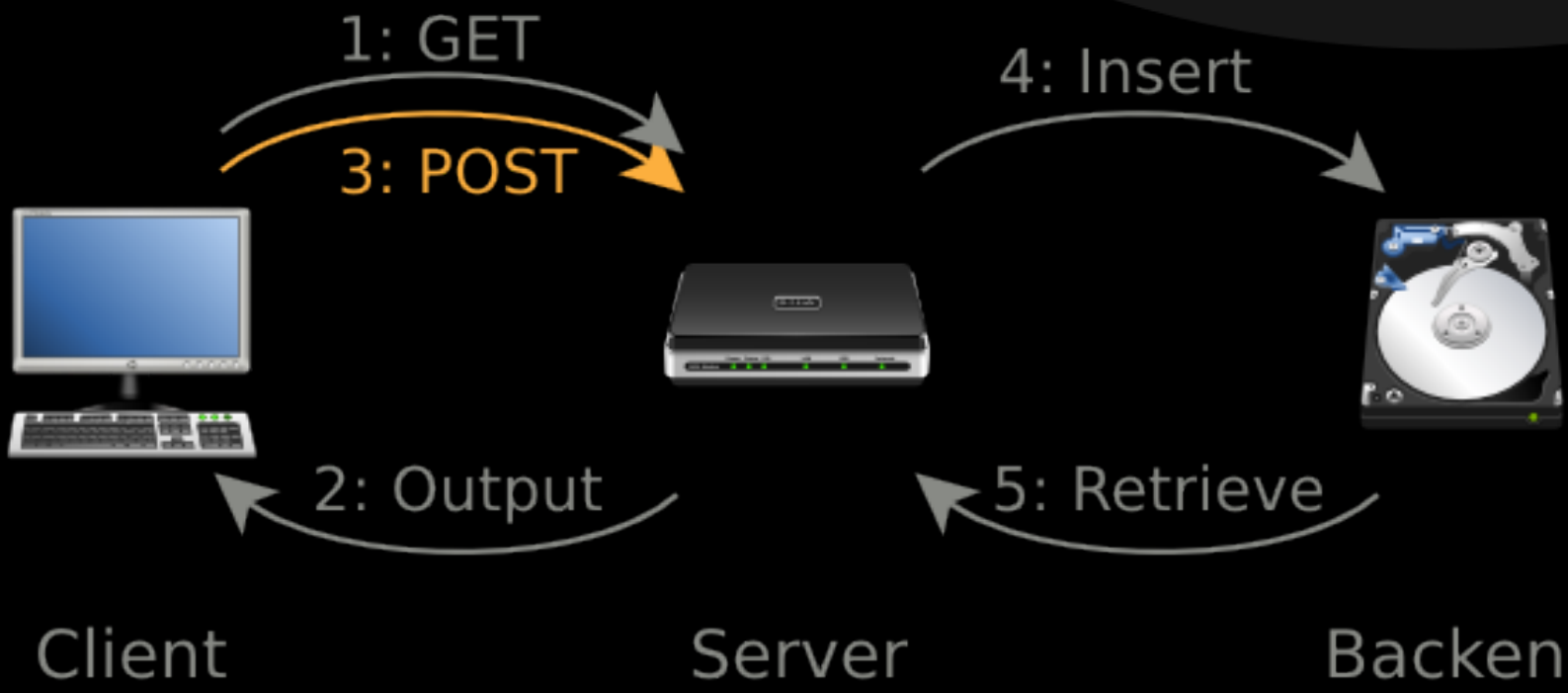

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- `<form ... accept-charset="$encoding">` does *not* help.
  - Won't hurt setting it to the site encoding value, though.
  - Setting it to something different, might seriously fuck up your data, though

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- Detect if a byte sequence could be interpreted as UTF-8:

```
1  (^(?:
2       [\x00-\x7f] |
3       [\xc0-\xdf][\x80-\xff] |
4       [\xe0-\xef][\x80-\xff]{2} |
5       [\xf0-\xf7][\x80-\xff]{3}
6  )*$)x
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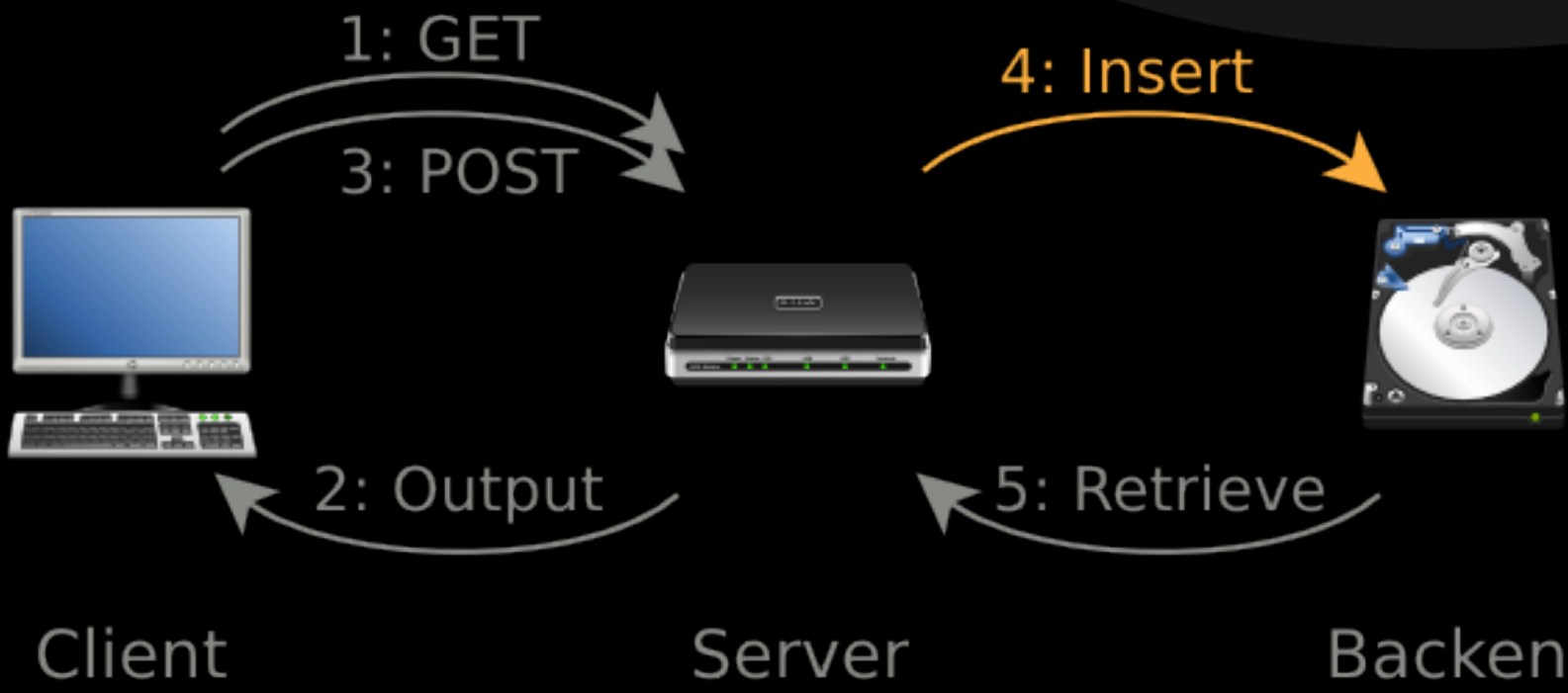

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  - Web-Services (REST, XMLRPC, SOAP, ...)

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  - varchar($n) allocates $\$n * 3$ bytes

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- XML declares the used encoding in the XML header `<?xml encoding="utf-8" ?>`

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- What encoding should I use in my application?
  - Use UTF-8 consistently, everywhere.
    - Except for some storage optimization reasons in the backend
- Proper encoding handling is not hard. Just stay consistent.

The end

- Open questions?
- Further remarks?
- Contact
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  - Twitter: `http://twitter.com/koredn` / `http://twitter.com/manuelp`
  - Web: `http://kore-nordmann.de/` (Slides will be available here soonish) / `http://manuel-pichler.de`
- More information
  - PHP Charset/Encding FAQ: `http://kore-nordmann.de/blog/php_charset_encoding_FAQ.html`