

Pemrograman Web Part 2

Pertemuan 7

MK Algoritma Pemrograman II

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Outline

- Pengenalan web server
- Static vs dinamic
- Pemrograman di sisi server (server side programming)
- Localhost

Background

- Pengembangan web adalah tentang komunikasi.
- Dalam hal ini, komunikasi antara dua (2) pihak, melalui protokol HTTP:
 1. **Server:** bertanggung jawab untuk melayani request client.
 2. **Client:** meminta layanan ke server dan ditampilkan dalam halaman.
Client disini adalah web browser.
 - **User:** menggunakan satu client untuk aktifitasnya seperti surfing web, mengisi formulir, menonton video online, dll

Web Server

- Perangkat lunak yang bertugas memberikan layanan berupa data.
- Tugas:
 - Menerima permintaan HTTP atau HTTPS dari klien melalui web browser (Chrome, Firefox).
 - Mengirimkan respon atas permintaan client dalam bentuk halaman web.
 - Menyediakan penyimpanan data
 - Membersihkan cache dan semua dokumen yang tidak terpakai lagi.
 - Memeriksa *system security* dari permintaan HTTP client.
 - Menjamin keamanan sistem agar berjalan dengan lancar.

What else does a web server do?

- **Authentication & encryption**
 - passwords, certificates, SSL
- **Web framework support**
 - Perl, PHP, python, ruby, etc
- **Other features**
 - Content negotiation
 - URL rewriting
 - Logging

Jenis-jenis Web Server

1. Web Server Apache
2. Web Server Nginx
3. Web Server IIS
4. Web Server Lighttpd



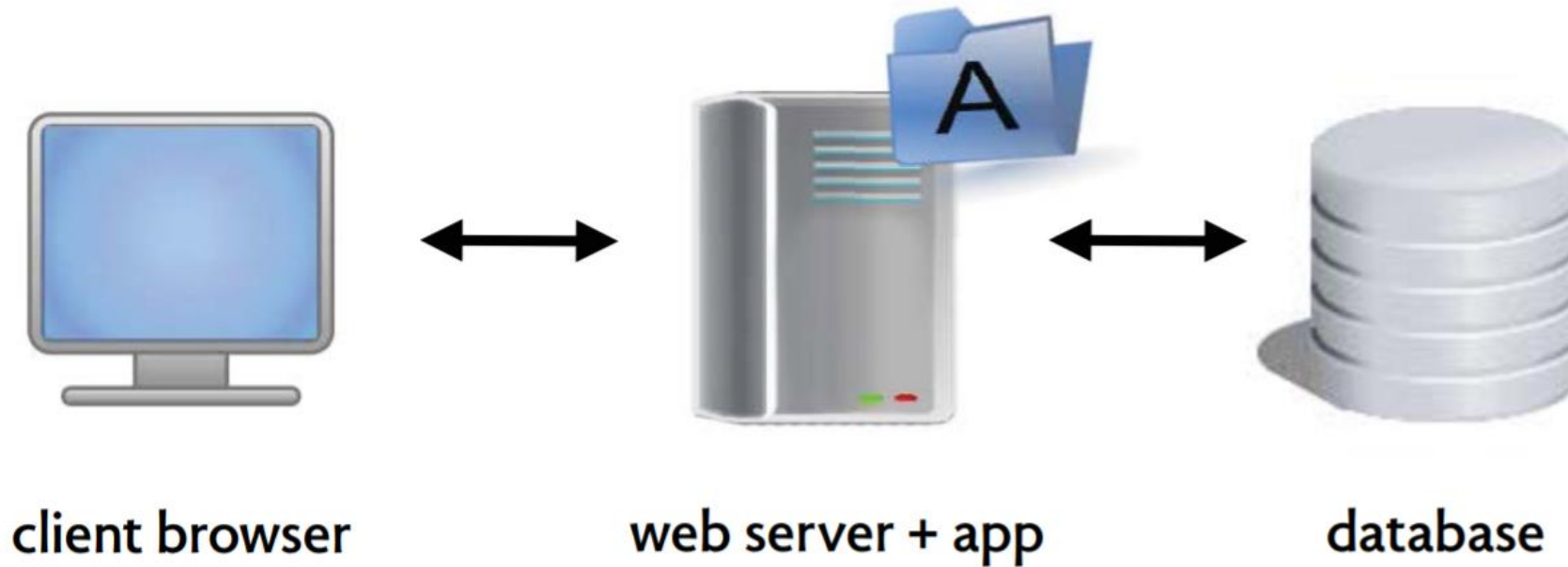
Simple web server: static resources



Request: HTTP GET

Response: HTML, CSS, JS, JPG, MP3, MP4, PDF, etc

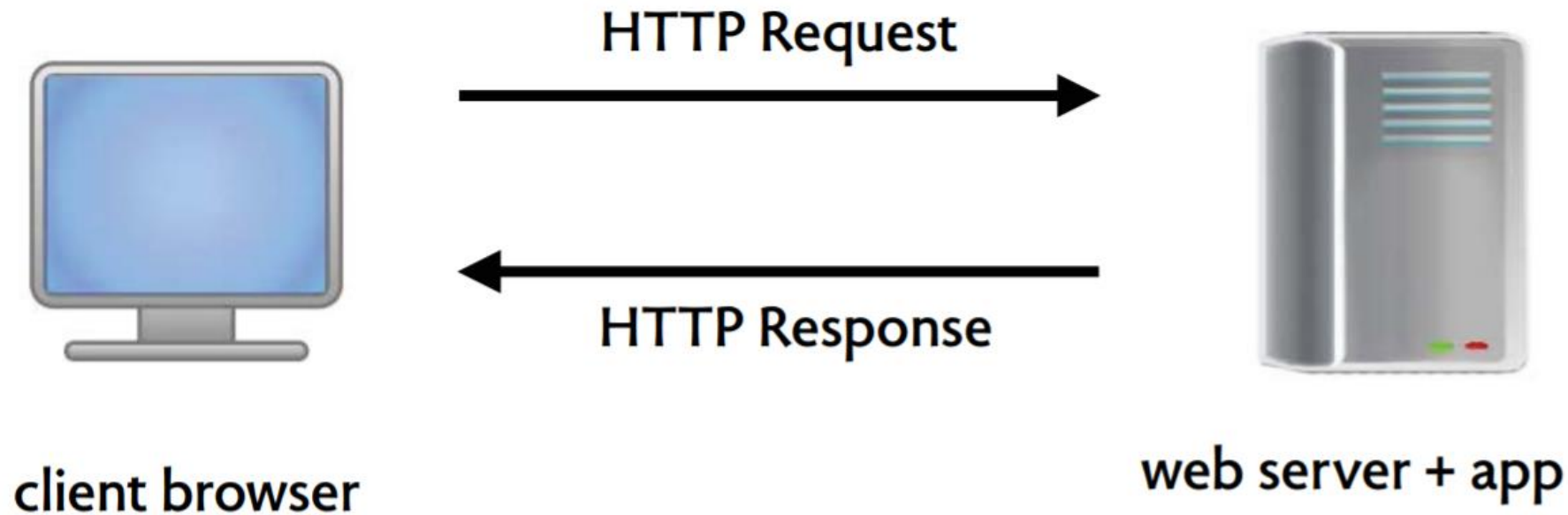
Web app: dynamic behavior



Request: HTTP GET, POST, etc

Response: HTML, CSS, JS, JSON, cookies, XML, JPG, etc

Generating programs as text



```
p = "alert('Hello!')"  
render :text => p
```

Web app = data conversion

update request



request.form

id	2
rating	5
content	yummy!

database table

reviews				
id	by	content	rating	about
1	3	yummy!	5	2
2	2	neat	4	1

show request



response

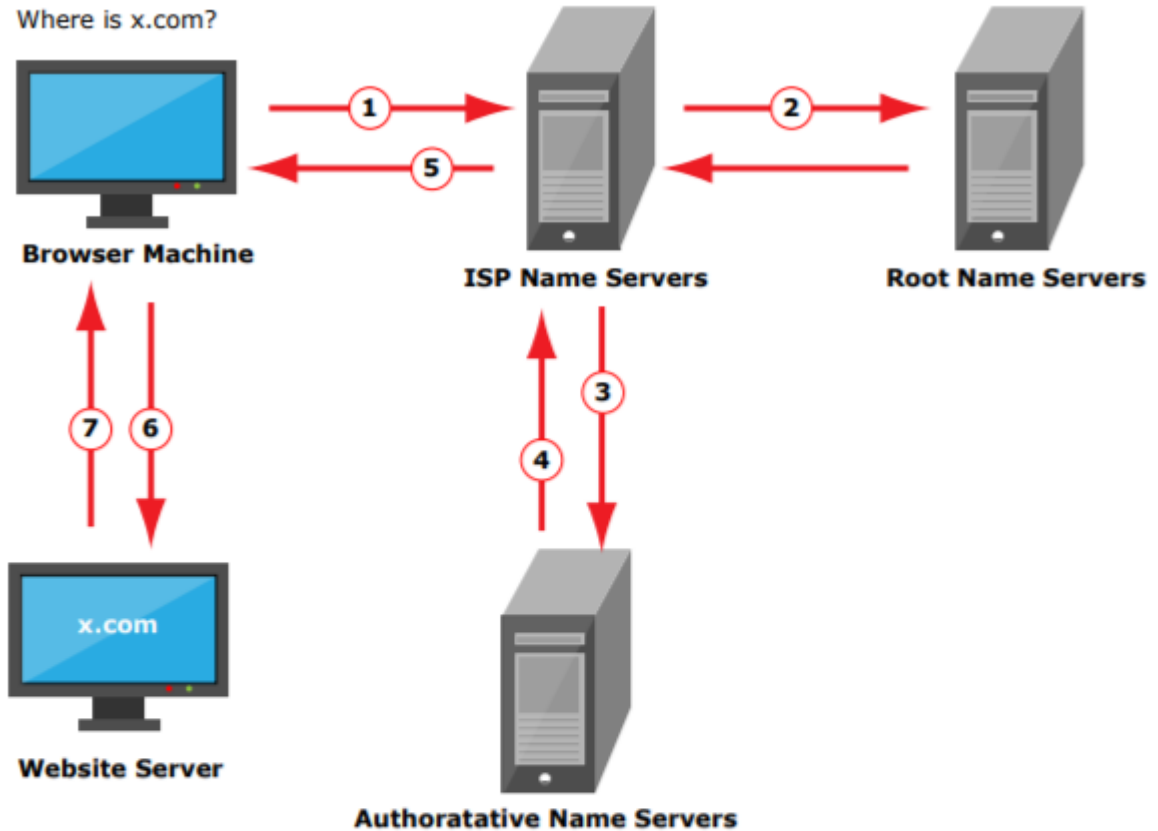
id	2
rating	5
content	yummy!

What does a web app do?

- **Routing**
 - › Translates urls to actions, and vice versa
- **Presentation**
 - › Uses HTML, CSS to display data
- **Interaction & control**
 - › Determines what user can do next
- **Data access & storage**
 - › Defines effect of operations on persistent state

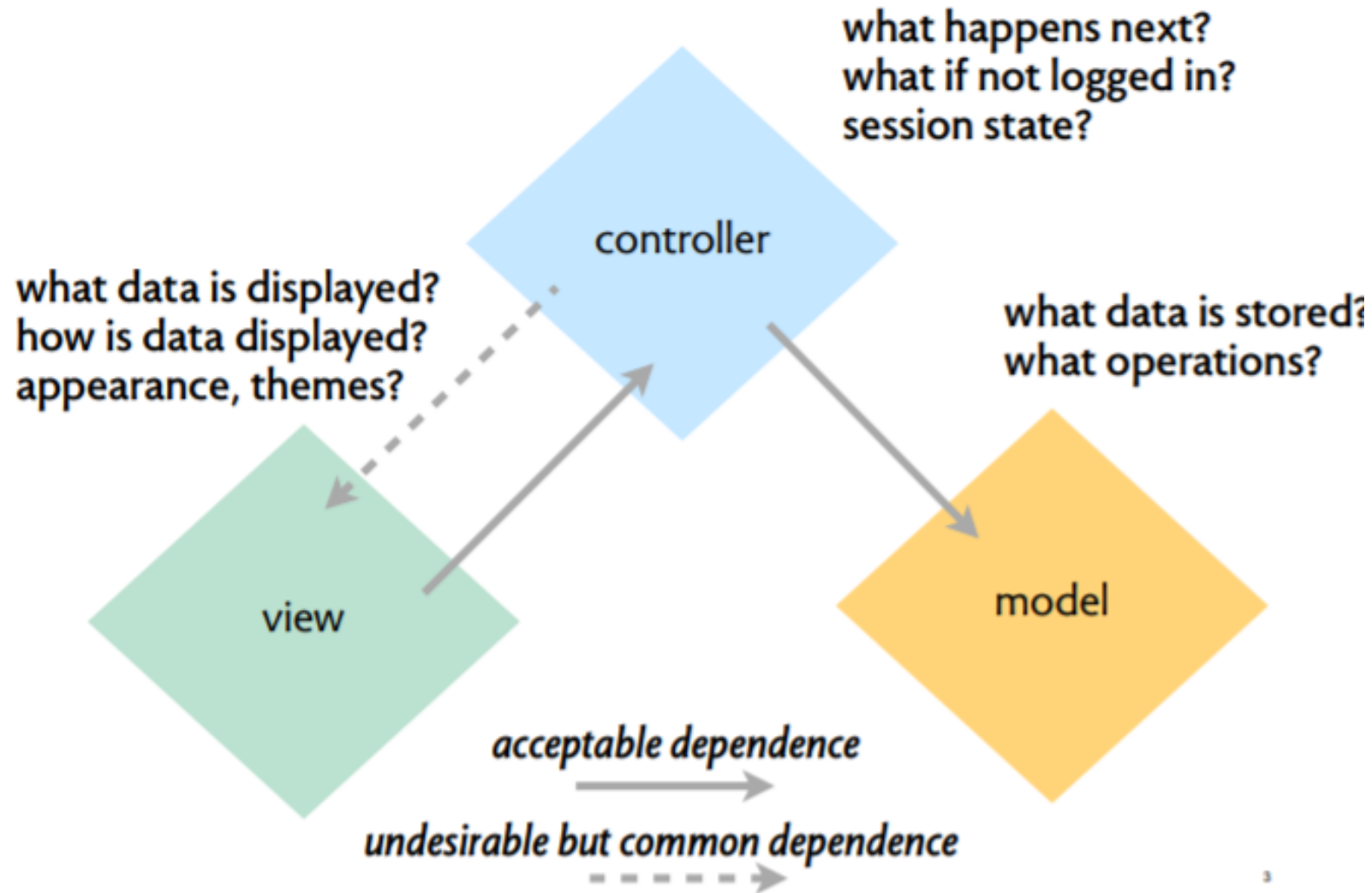
Distributed directory service model

Where is x.com?



1. Browser asks your ISP name server for the domain's IP address.
2. If your ISP name server doesn't know, it then asks the root name server where to find the authoritative name server for the domain.
3. The ISP name server then asks for the IP address from the authoritative name server.
4. The authoritative name server then sends the IP address back to the ISP name server.
5. The ISP name server then sends the IP address back to the browser.
6. Browser uses IP to request web page from x.com's website server.
7. x.com's website server sends web page to browser.

MVC Structure



Example: restaurant review app

- **In MVC, where to make these changes?**
 - › increase font size of reviews
 - › allow editing if logged in as author
 - › change rating of zero to mean no rating

Localhost

- **Server:** seperangkat komputer yang digunakan untuk menyimpan data, memiliki spesifikasi yang tinggi, dan diakses oleh banyak komputer lain.
- Komputer anda sebenarnya adalah server **tetapi bersifat local (localhost)** artinya tidak dapat diakses orang lain melalui jaringan internet.
- Localhost juga merupakan **nama domain**:
 - <http://localhost>
 - IP address: 127.0.0.1

Fungsi Localhost

1. Server local.
2. Uji coba web secara offline.
3. Meminimalisir kesalahan dalam proses develop website

Macam-macam server localhost

1. XAMPP

- Apache distribution containing MariaDB, PHP, and Perl.
- Tersedia untuk Windows, Linux, dan Mac OS X.
- Opensource

2. AMPPS

- Mirip XAMPP, server lokal open-source
- Ada Apache, MySQL, MongoDB, PHP, Perl, Python
- Tersedia untuk Windows, Linux, dan Mac OS X.

3. WampServer

- Apache, MySQL, dan PHP di server lokal
- Hanya untuk Windows

4. Server localhost lain: UWamp, EasyPHP, dll

Install XAMPP

Download: <https://www.apachefriends.org/download.html>

XAMPP for **Windows** 7.3.31, 7.4.24 & 8.0.11

Version		Checksum			Size
7.3.31 / PHP 7.3.31	What's Included?	md5	sha1	Download (64 bit)	158 Mb
7.4.24 / PHP 7.4.24	What's Included?	md5	sha1	Download (64 bit)	160 Mb
8.0.11 / PHP 8.0.11	What's Included?	md5	sha1	Download (64 bit)	161 Mb

[Requirements](#) [Add-ons](#) [More Downloads »](#)

Windows XP or 2003 are not supported. You can download a compatible version of XAMPP for these platforms [here](#).

XAMPP for **Linux** 7.3.31, 7.4.24 & 8.0.11

Version		Checksum			Size
7.3.31 / PHP 7.3.31	What's Included?	md5	sha1	Download (64 bit)	151 Mb
7.4.24 / PHP 7.4.24	What's Included?	md5	sha1	Download (64 bit)	154 Mb
8.0.11 / PHP 8.0.11	What's Included?	md5	sha1	Download (64 bit)	152 Mb

[Requirements](#) [Add-ons](#) [More Downloads »](#)

Fitur-Fitur XAMPP

1. HTDOCS

- Tempat menyimpan file-file PHP dan HTML yang akan dijalankan.

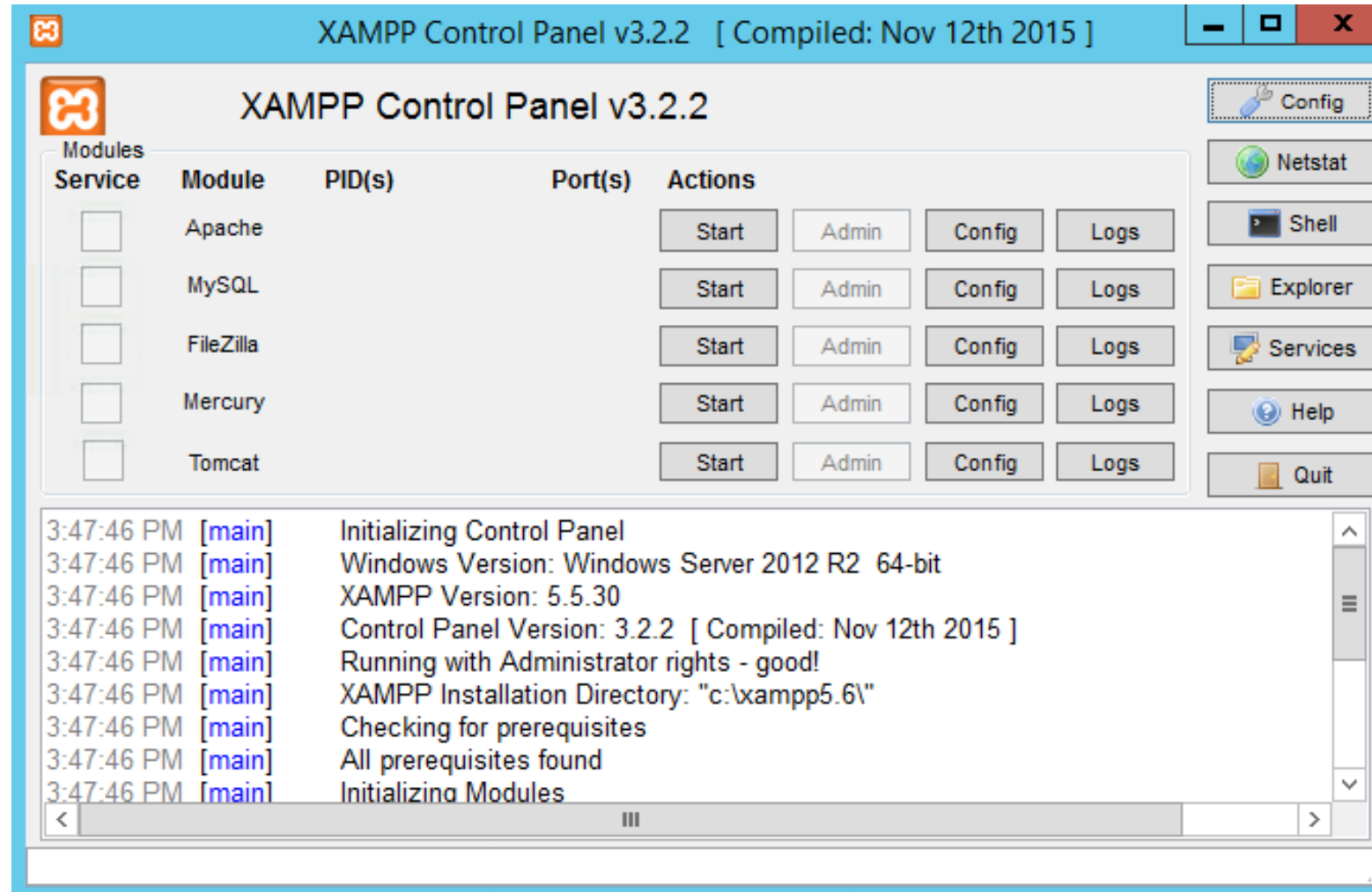
2. phpMyAdmin

- Free software yang memiliki user interface grafis dan berfungsi memudahkan anda dalam mengelola database MySQL
- Akses: <http://localhost/phpMyAdmin>

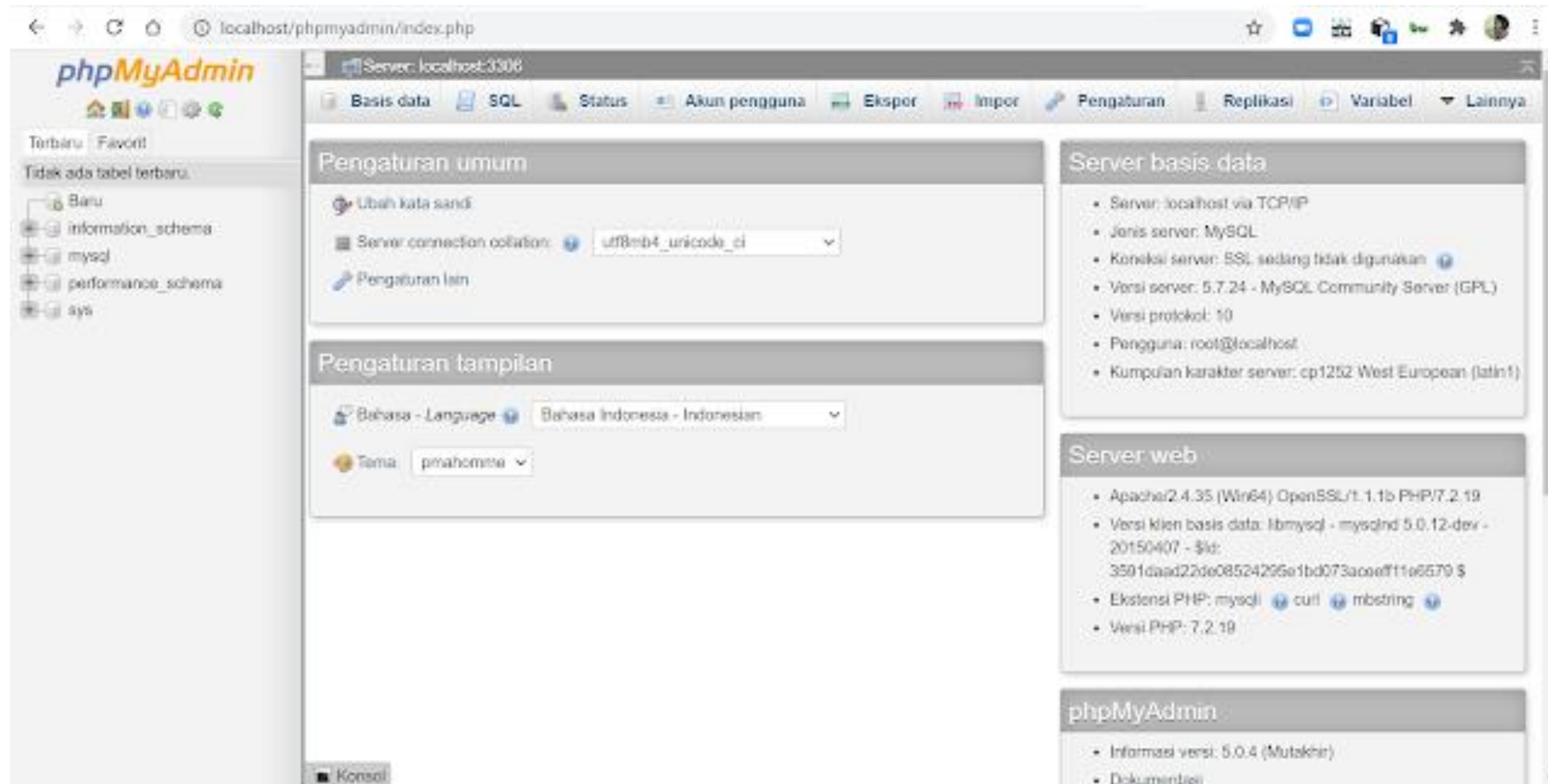
3. Control panel

- Mengelola layanan / management tools pada XAMPP, misalnya perintah untuk memulai dan menghentikan layanan.

Control Panel XAMPP



PhpMyAdmin



Fungsi Localhost

1. Server local.
2. Uji coba web secara offline.
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Percobaan

1. Install XAMPP
2. Jalankan XAMPP
3. Coba buka phpmyadmin
4. Buatlah halaman website dan letakkan di htdocs
5. Kemudian jalankan via localhost

Terima Kasih

Referensi:

<https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-170-software-studio-spring-2013/lecture-notes/>