

Membangun Web Server dengan Nginx + PHP-FPM

- Nginx (Engine X) adalah salah satu web server yang mempunyai performa tinggi dan dapat digunakan sebagai reverse proxy, load balancing, cache header, gzip dan masih banyak lagi.
- Nginx e dibangun untuk mengatasi masalah 10K atau 10.000 Concurrent Connection (koneksi bersamaan) oleh pengguna.

Step by step Web Server dengan Nginx + PHP-FPM

1. Instalasi **Debian 11**
2. Konfigurasi **Network (static/dhcp)**
3. Menambahkan **Repository Debian 11 Bullseye** menggunakan **server local sekolah**

nano /etc/apt/sources.list

```
deb [trusted=yes] http://10.233.233.2/ nnkrepo main  
deb-src [trusted=yes] http://10.233.233.2/ nnkrepo main
```

4. Setelah repository ditambahkan ketikkan:

```
# apt update  
# apt upgrade
```

5. Install **SSH Server** untuk remote server dari computer client

```
# apt install openssh-server
```

Letak File konfigurasi **ssh server**

```
# nano /etc/ssh/sshd_config
```

6. Install **FTP Server** untuk upload download ke server

```
# apt install proftpd
```

Letak File Konfigurasi **FTP Server**

```
# nano /etc/proftpd/proftpd.conf
```

7. Install Nginx / Web Server

```
# apt install nginx
```

Menjalankan, mengatur autostart, dan mengecek status service Nginx apakah sudah start (active/running) dan enable.

```
# systemctl start nginx  
# systemctl enable nginx  
# systemctl status nginx
```

Browse <http://IP-server> untuk menguji apakah Nginx web server sudah dapat diakses dan berjalan dengan baik.

8. Install PHP 7.4 dan extensionnya

Install PHP v7.4, extension PHP-FPM, beserta extension lain yang umumnya dibutuhkan oleh aplikasi berbasis PHP termasuk WordPress

```
# apt install php7.4 php7.4-fpm php7.4-mysql php7.4-cli php7.4-common php7.4-json  
php7.4-opcache php7.4-mbstring php7.4-zip php7.4-gd php7.4-curl php7.4-xml php7.4-  
bcmath php7.4-json
```

Memverifikasi hasil install PHP dengan menampilkan versi PHP

```
# php -v
```

Memeriksa status service PHP-FPM versi 7.4. Pastikan service harus active (running) dan enabled

```
# systemctl status php7.4-fpm
```

9. Konfigurasi nginx agar bekerja dengan PHP

Nginx harus menambahkan konfigurasi di server block agar dapat terhubung ke socket PHP-FPM.

Membuka file konfigurasi server block bawaan nginx, sebelum di edit di backup terlebih dahulu

```
# cp /etc/nginx/sites-available/default default-backup
```

Konfigurasi file nginx

```
# nano /etc/nginx/sites-available/default
```

```
server {
listen 80;
server_name www.domain domain;
root /var/www/html;
index index.php index.html index.htm;
location / {
try_files $uri $uri/ /index.php?$query_string;
}
location ~ \.php$ {
try_files $fastcgi_script_name =404;
include fastcgi_params;
fastcgi_pass unix:/run/php/php7.4-fpm.sock;
fastcgi_index index.php;
fastcgi_param DOCUMENT_ROOT $realpath_root;
fastcgi_param SCRIPT_FILENAME
$realpath_root$fastcgi_script_name;
}
access_log /var/log/nginx/domain_access.log;
error_log /var/log/nginx/domain_error.log;
}
```

Menguji apakah ada kesalahan syntax pada konfigurasi server block, restart service Nginx dan cek statusnya

```
# systemctl restart nginx
# nginx -t
# systemctl status nginx
```

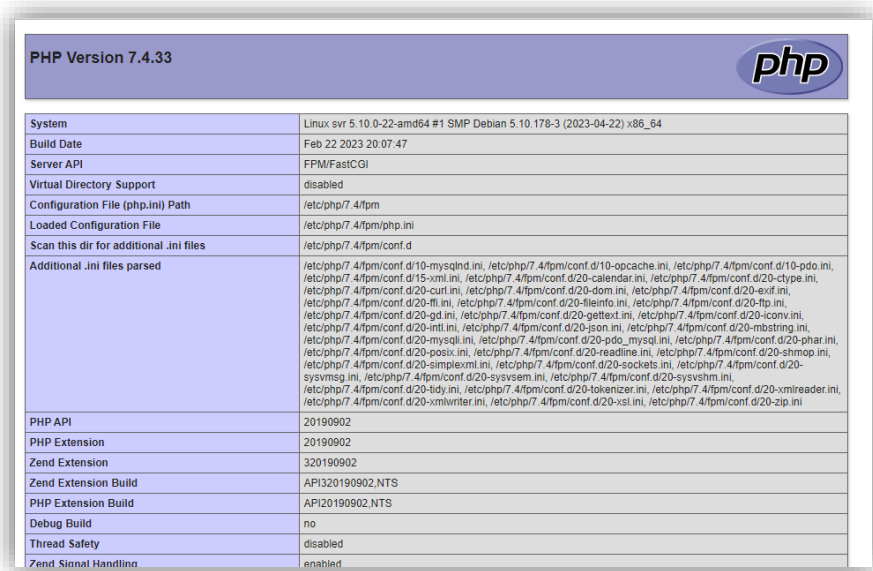
10. Pengujian PHP

```
# nano /var/www/html/phpinfo.php
```

ketikan atau isi kode php kemudian save

```
<?php phpinfo(); ?>
```

akses di browser cliet denga url http://ip_server/phpinfo.php (harus menampilkan halaman phpinfo.)



PHP Version 7.4.33	
System	Linux svr 5.10.0-22-amd64 #1 SMP Debian 5.10.178-3 (2023-04-22) x86_64
Build Date	Feb 22 2023 20:07:47
Server API	FPM/FastCGI
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php/7.4/fpm
Loaded Configuration File	/etc/php/7.4/fpm/php.ini
Scan this dir for additional .ini files	/etc/php/7.4/fpm/conf.d
Additional .ini files parsed	/etc/php/7.4/fpm/conf.d/10-mysqlnd.ini, /etc/php/7.4/fpm/conf.d/10-opcache.ini, /etc/php/7.4/fpm/conf.d/10-pdo.ini, /etc/php/7.4/fpm/conf.d/15-xsl.ini, /etc/php/7.4/fpm/conf.d/20-calendar.ini, /etc/php/7.4/fpm/conf.d/20-cyber.ini, /etc/php/7.4/fpm/conf.d/20-curl.ini, /etc/php/7.4/fpm/conf.d/20-dom.ini, /etc/php/7.4/fpm/conf.d/20-exif.ini, /etc/php/7.4/fpm/conf.d/20-ffi.ini, /etc/php/7.4/fpm/conf.d/20-fileinfo.ini, /etc/php/7.4/fpm/conf.d/20-ftp.ini, /etc/php/7.4/fpm/conf.d/20-gd.ini, /etc/php/7.4/fpm/conf.d/20-gettext.ini, /etc/php/7.4/fpm/conf.d/20-iconv.ini, /etc/php/7.4/fpm/conf.d/20-intl.ini, /etc/php/7.4/fpm/conf.d/20-json.ini, /etc/php/7.4/fpm/conf.d/20-mbstring.ini, /etc/php/7.4/fpm/conf.d/20-mysql.ini, /etc/php/7.4/fpm/conf.d/20-pdo_mysql.ini, /etc/php/7.4/fpm/conf.d/20-pgsql.ini, /etc/php/7.4/fpm/conf.d/20-posix.ini, /etc/php/7.4/fpm/conf.d/20-readline.ini, /etc/php/7.4/fpm/conf.d/20-shmop.ini, /etc/php/7.4/fpm/conf.d/20-simplexml.ini, /etc/php/7.4/fpm/conf.d/20-sockets.ini, /etc/php/7.4/fpm/conf.d/20-sysmsg.ini, /etc/php/7.4/fpm/conf.d/20-syssem.ini, /etc/php/7.4/fpm/conf.d/20-sysshm.ini, /etc/php/7.4/fpm/conf.d/20-ldap.ini, /etc/php/7.4/fpm/conf.d/20-tidy.ini, /etc/php/7.4/fpm/conf.d/20-tokenizer.ini, /etc/php/7.4/fpm/conf.d/20-xmlreader.ini, /etc/php/7.4/fpm/conf.d/20-xmlwriter.ini, /etc/php/7.4/fpm/conf.d/20-xsl.ini, /etc/php/7.4/fpm/conf.d/20-zip.ini
PHP API	20190902
PHP Extension	20190902
Zend Extension	320190902
Zend Extension Build	API320190902.NTS
PHP Extension Build	API20190902.NTS
Debug Build	no
Thread Safety	disabled
Zend Signal Handling	enabled

11. Konfigurasi php.ini untuk PHP-FPM

Membuka file konfigurasi php.ini v7.4 untuk PHP-FPM

```
# nano /etc/php/7.4/fpm/php.ini
```

Opsi variabel konfigurasi serta nilai yang diberikan, sesuaikan dengan kebutuhan

```
upload_max_filesize = 10M
post_max_size = 10M
max_execution_time = 300
max_input_time = 300
memory_limit = 128M
```

Restart service PHP-FPM, lalu browse kembali halaman phpinfo untuk melihat apakah konfigurasi PHP sudah berubah

```
# systemctl restart php7.4-fpm
```

```
# systemctl status php7.4-fpm
```

12. Download Web Bootstrap template di <https://bootstrapmade.com/>

13. **Mariadb Database** (Terlampir)
14. Install **Phpmyadmin** (Terlampir)
15. Instalasi **CMS Wordpress** (Terlampir)
16. Install **Tiny File Manager** (Terlampir)